Reference Framework for Implementing an Approach to Support Competency-based Education and Training

June 2021

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Colleges and Institutes Canada (CICan) is the voice of Canada's publicly-supported colleges, institutes, cegeps and polytechnics, and an international leader in education for employment with ongoing programs in over **25** countries.

CICan's members add over **$190B** to Canada's economy each year and contribute to inclusive economic growth by working with industry and community partners to offer more than **10,000** programs to learners in urban, rural, remote, and northern communities.

Colleges and Institutes Canada

1 Rideau Street, Suite 701
Ottawa, Ontario, Canada
K1N 8S7
Tel. 613-746-2222

collegesinstitutes.ca

Message from the President and CEO of CICan

For decades, CICan and its members have supported partners all around the world by exporting knowledge and expertise in technical and vocational education and training (TVET). Over the years, CICan has sought to refine its approach by applying the lessons learned from its experiences while working toward specific goals: meet the socioeconomic needs of the country; work systemically to ensure ownership at all levels, from ministries to institutions to the socioeconomic sector and the community; put the partner in the driver's seat; and finally, employ the fundamentals of the competency-based approach (CBA) while adapting it to the partner country.

We have often considered turning our efforts into a publication, and in 2012, for CICan's 40th anniversary, we introduced the first publication of our international work.

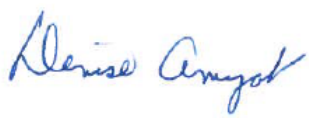
Today, due to COVID-19, we are proud to present this new publication, **"Reference Framework for Implementing an Approach to Support Competency-based Education and Training".** COVID-19 has brought its share of worries, sickness, and tragedy. It has also transformed the way we live. The pandemic has also been an opportunity for reinvention, specifically in the education sector. We have had to react rapidly and creatively to pursue our important mandate of offering quality education and training without significant interruption: we are preparing a qualified workforce for the future.

The idea for this reference framework was born at the beginning of the COVID-19 pandemic, as we and our members discussed how to support our international partners. This document explains the universal principles of CBET, while it reflects Canada's diversity and the differences between its provincial and territorial education systems.

I would like to offer my sincere thanks to Sonia Michaud at the Collège Communautaire du Nouveau-Brunswick (NB), Benoit Lanciault at Cégep Saint-Jean-sur-Richelieu (Québec) and the team from Humber College (Ontario), for their initiative and for the fruit of their efforts to create this reference framework. I would also like to acknowledge the work of Amy Ladouceur, Parishae Ali and Alex Husband, Humber College students that supported the final editing of the English language version of this publication. This was a joint endeavour between colleges from three provinces working in both of Canada's official languages.

We hope that this reference framework helps you learn about the Canadian system and the nuances between its provinces and territories. We also hope it will serve as a guide to all our members, partners, and members of the international community. We intend for this guide to evolve over time; we invite you to share your comments and inform us of the nuances present in your institution.

Enjoy!



Denise Amyot

Table of Contents

I – List of tables and figures

Tables

Figures

II – Acronyms

ACCC	Association of Canadian Community Colleges
GAC	Global Affairs Canada
CBA	Competency-based approach (CBA)
OA	Occupational analysis
Cégep	General and vocational college
CICan	Colleges and Institutes Canada
CMEC	Council of Ministers of Education (Canada)
DACUM	Developing A CUrriculuM
EFE	Education for Employment
RBM	Results-based management
PAG	Program advisory group
OIF	Organisation internationale de la Francophonie
CCPP	Canadian College Partnership Program
HR	Human resources
ICT	Information and communication technology
WEB	World electronic broadcast

III – Background

The economy that developed following the end of the Second World War prioritized direct, on-the-job training for apprentices and workers, which enabled many young people, primarily men, to join the labor market. In North America, this boom period saw the creation of many vocational schools which — though they lacked the prestige of preparatory schools or universities — developed the skills of a large share of blue- and white-collar workers at the time. Humanistic considerations increasingly shook up the traditional training models, and learners were supported by gaining greater freedom and involvement in the learning process. Largely unwittingly, application of the fundamentals of the competency-based approach (CBA) developed; training tailored itself to the needs of the labor market, and the labor market involved itself with training.

The CBA established itself in the Canadian educational milieu due to the desire to implement intrinsic Canadian values, and to meet Canada's particular socio-economic needs and the immediate and future needs of economic sectors. Most critical was the creation of a training system based on anticipatable, measurable, quantifiable results, and resulted in an overhaul of vocational and technical training curricula. The focus could no longer be solely on the subject matter; employer expectations prioritized skills development. The CBA also respected individual learners' pace of learning, which aligned with social constructivism paradigms.[1]

The CBA became an important pathway for the development of skills required by businesses. This the socioeconomic development of Canada and of key sectors of the economy.

Consequently, Colleges and Institutes Canada (CICan) integrated CBA principles when implementing their Canadian College Partnership Program (CCPP) projects. The importance of a pan-Canadian CBET framework incorporating the different nuances of the provinces and territories became clear as the framework evolved. When CICan, in collaboration with partner countries, later developed the Education for Employment (EFE) approach in its areas of intervention, the CBA was the recommended pedagogical approach for developing new training programs. CICan deconstructed and reworked the Competency-based Education and Training (CBET) to similarly ensure that projects can adapt to the socioeconomic realities on the ground in Africa, the Caribbean, and Latin America, without losing its basic tenets.

CICan's vision focuses on leveraging and developing local skills. The CBA has been deconstructed and reworked to adapt to circumstances and realities of other countries without losing its fundamental tenets.

This reference framework is intended as an orientation tool and a guide for CICan member colleges and institutes as they implement EFE (Education for Employment) projects. This document, and the methodological principles presented within, support the CBA philosophy of

[1] From JOANNERT, Philippe (2009). *Competencies and socio-constructivism: a theoretical framework*

pan-Canadian diversity and its values, including gender awareness, results-based management (RBM), and respect for the environment. It also considers our new global reality, in which remote working has gained favour since the COVID-19 crisis began.

As a result of the pandemic, the need to re-imagine traditional on-site teaching and transition to remote education (whether wholly or in part) is greater than ever. Many colleges and institutes working on EFE programs expressed concern about their ability to continue internationally training the CBA framework to teachers, and fears about preserving the CBA-related gains already made with international partners, given the COVID-related travel difficulties. These fears and concerns are directly related to CiCan's results-based management approach (RBM), which is the monitoring tool used by Global Affairs Canada (GAC), and other actors regarding international projects and programs.

When COVID-19 restrictions prompted reflection and reorganization, Canadian and international partners focused on the achievement of anticipated results, the adaptation of performance measurements to new situations, the maintenance of learning standards, the need to adapt and be flexible, and the maintenance of rigorous accountability practices (including the analysis of performance reports). This management system approach integrates strategies, people, resources, processes, and measurement tools to improve decision-making, transparency, and accountability.

CICan decided to establish universal, transferable CBA parameters and principles for all members that work on EFE projects. Overall, discussions with Canadian institutions confirmed that visions of the CBA sometimes differ, both among Canadian institutional actors and international partners. Therefore, it was necessary to establish parameters for intervention that provide flexibility and agility to account for distinct CBA models across provinces and territories. The decision not to impose a single model is due to multiple variables: the degree of centralization of educational systems, the number of years of experience with the CBA, the presence of a CBA model with specific processes and terminology in a given country, etc.

The fundamentals and principles retained by CICan for the implementation of EFE programs and related projects are detailed herein. The eight (8) sections of this document provide an orientation/framework and will focus on examples and practices (including neutral vocabulary) that support easy translation and tailoring to the country of intervention. It will not deal with all specific terms or implementation schema.

As a result, the content of this document rests on the following tenets: active participation by the learner, employer involvement, flexible entrepreneurial management, updating of pedagogical practices, an iterative process centred on learner success, etc. This reference framework does not cover the particularities encountered in specific countries or the engineering and implementation process for a territory-specific approach.

The principles, values, and fundamentals presented in this document constitute the reference framework for the CBA — and any other approach based on skills development — regardless of the term used or the country of intervention. This document can be used as a reference to spur reflection and engage partners to share expertise in countries that utilize the CBA. Similarly, it is integral that this framework is respected when implementing or updating the CBA in countries that have not yet fully adopted its methodology. **The goal is not to impose a change in process or practice but to propose a reference framework to support reflection by Canadian and international partners**.

IV – Summary

The primary anticipated result of this reference framework is to create a tool that is flexible and easy to use. Section 1 presents regional differences in education management in Canada. Sections 2 and 3 present several fundamentals and parameters that are referred to in the five subsequent sections. The benchmarks in the first three sections of the document are also framework elements that guide CICan in the implementation of its institutional support projects. The definitions provided should also serve as a reference for readers who wish to understand CICan's vision and familiarize themselves with the concepts presented in this framework document. These sections define the meaning of principles and vocabulary to enable comprehensive understanding.

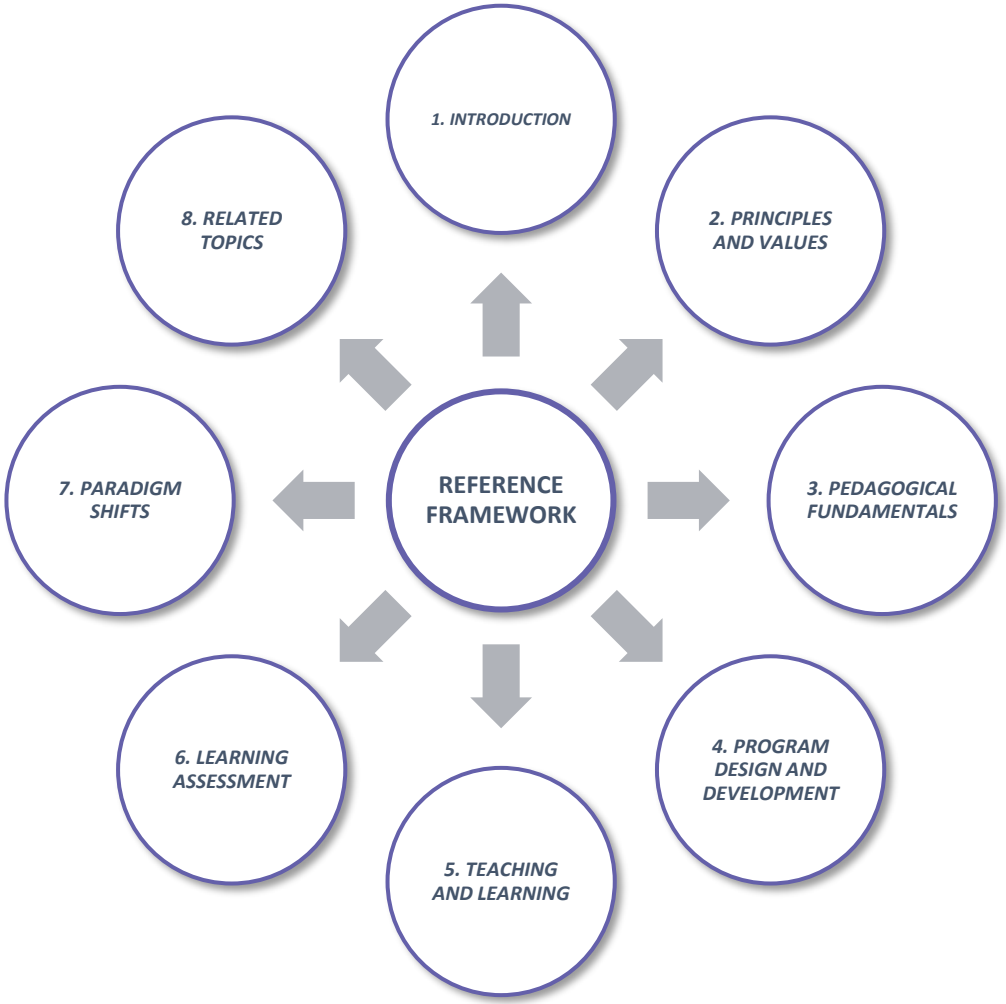
Note that the most inclusive terminology possible has been used to encompass all projects and countries of intervention.

Sections 4, 5 and 6 cover the CBA cycle from the development to the implementation of programs in training institutions, including learning assessment. Section 7 focuses specifically on the paradigm shifts that result from CBA implementation. Though the paradigm shifts for given topics are presented throughout each section, it was important to highlight the most important points and the requirements these shifts entail. Finally, Section 8 deals with the cross-cutting aspects of the CBA, which are also covered within each section due to their importance.

Note that in this document, for the purposes of brevity and terminological consistency, the term "competency-based approach" (CBA) will be used, except when precision is necessary or particularities need to be emphasized. **The term "competency-based approach" (CBA), when used in this document, thus denotes "all approaches or methodologies" that support the development of skills, regardless of procedural or methodological differences.** Therefore, the CBA refers to the development of skills both in educational institutions and in the process of engineering and developing competency-based programs.

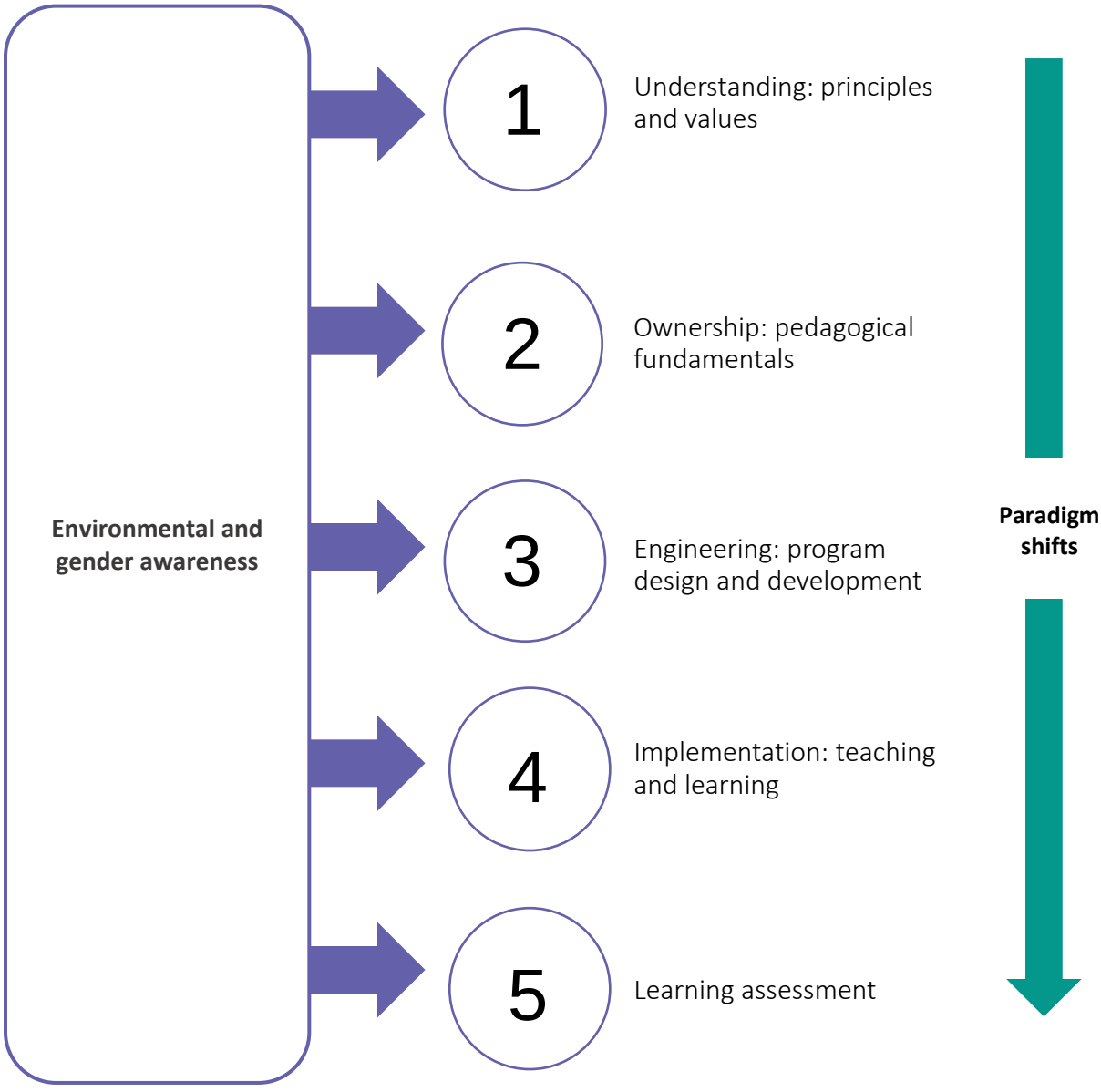
THE REFERENCE FRAMEWORK FOR IMPLEMENTING A SKILLS DEVELOPMENT APPROACH IS ORGANIZED INTO EIGHT INTERCONNECTED SECTIONS.

Figure – 1 – Reference Framework Graphic



The reference framework is presented in accordance with the CBA establishment and the implementation cycle and each section of the document refers to a stage in this cycle. The reader can therefore use the reference framework to reflect upon and better understand how each stage of the CBA cycle is interconnected.

Figure – 2 – Interrelationships between the sections of the reference framework



1. INTRODUCTION

1.1 Approaches that support skills development

Skills and skills development approaches are referred to in many ways in the literature, including renewed learning, the co-operative approach, the CBA, essential skills development, or DACUM (*Developing A CUrriculuM*), which can confuse the process of shifting towards skills-based training. These approaches all share the desire to perform an in-depth overhaul of training to increase preparation for employment outcomes, including supporting the employability of trainees and, more generally, the effectiveness of training systems. There is consensus around these concepts in the skills development field. Each of these approaches utilizes active teaching, dependant on the particular context of that training.

Within a broad vision of “an approach that supports skills development,’’ it is agreed that the learner must be active and situated at the center of their learning process. The learner must select, mobilize and combine a wide array of internal resources (knowledge, capacities, attitudes, know-how, experience, and qualities). External resources are resources in the environment that are often crucial to skills development (professional networks, documentary networks, databases, reference documents, the internet, software, etc.). They also comprise the interpersonal component (relationships with peers, the teacher, etc.).

A skills development approach is dependent on the contribution of the working world.

An approach that supports skills development aims to mobilize the learner's internal resources in combination with the appropriate use of external resources. External resources are present in the workplace and when utilizing skills. Programs that develop the learner's skills, rather than a "teaching by objectives" approach, require pedagogical changes detailed in this document. This document also showcases the principles of *active* (as opposed to traditional) teaching, wherein the learner becomes more autonomous while remaining in a structured environment. Collaboration and group work are also strongly encouraged.

With this in mind, this document presents the goals and objectives of CICan's vocational and technical training and how these align with CBA principles. They clearly illustrate the vision of this approach and the process used to develop skills, detailed in Section 4.

1.2 Goals and objectives of vocational and technical training[2]

The main objectives of vocational and technical training systems can vary significantly from country to country, but fundamentally, they are closely related to the CBA.

[2] From ORGANISATION INTERNATIONALE DE LA FRANCOPHONIE (2009). *Methodological guides to support the implementation of the competency-based approach in vocational training.*

Vocational and technical training should support and aim for the learner to acquire skills to facilitate stepping into the workforce and participating in the labor market; this is why many learners have chosen this type of training. This training must therefore consider the needs of the labour market primarily, taking into consideration socio-economic structure, workforce development policies, the realities specific to women, and individual profession and occupation characteristics, especially to do with self-employment. Finally, vocational and technical training should enable the learner, who is a future worker, to contribute to their community's technological development and socio-economic growth.

Vocational and technical training must be inclusive, meaning it considers issues that affect the participation of women.

The general goals of vocational training are:

- *To enable the learner to be effective in their occupations:*
  - To allow the learner to fulfil the roles, perform the functions, and carry out the tasks and activities of their occupation upon entering the workforce
  - To allow the learner to perform adequately in a workplace. This includes communication (interpersonal or remote technology), problem-solving, decision-making, ethics, health and safety, etc.

- *To promote the integration of the learner into professional life:*
  - To familiarize the learner with the labour market in general and as it relates to their occupation
  - To inform the learner of their rights and responsibilities as a worker

- *To promote the learner's occupational advancement and the development of work-related knowledge:*
  - To allow the learner to develop self-reliance and their capacity to learn and acquire working methods
  - To enable the learner to understand the underlying principles of techniques and technologies used
  - To allow the learner to develop creativity, initiative, entrepreneurship, and the ability to express themselves
  - To enable the learner to adopt attitudes that are essential to occupational success, develop their sense of responsibility, and aim for excellence

- *To ensure future job mobility:*
  - To promote a positive attitude in the face of change
  - To develop the learner's ability to manage their career, notably by developing interpersonal and teamwork skills, and the capacity to manage their responsibilities within a team

These goals and objectives are the cornerstones of Canadian training models. The values they support are intrinsic to skills development training practices, and are present in traditional training, continuing education (professional development), or to assess and recognize prior learning (educational or work experience) and skills.

1.3 Canadian educational models

1.3.1 Educational governance in Canada

In Canada, there is no federal ministry of education or integrated national technical and vocational education system. Under Canada's federal power-sharing system, the *Constitution Act* of 1867[3] stipulates that "*each Province the Legislature may exclusively make Laws in relation to Education*." Canada's 13 jurisdictions (ten provinces and three territories) each have ministries of education (in the general sense) that are responsible for the organization, delivery and assessment of primary and secondary education, technical and vocational training, and post-secondary education. Certain provinces and territories have two or more ministries with complementary authority and responsibilities regarding education.

For example:

- One ministry can oversee primary and secondary education and another in charge of post-secondary education and vocational training
- One ministry can oversee primary and secondary education (including vocational training) and another in charge of post-secondary education (including technical training)
- A single ministry can be in charge of all levels of education, from primary to post-secondary

The precise names of these ministries differ from one province or territory to another, and vary in accordance with the management systems in place and relations with related ministries such as ministries of employment, labour, training, skills and training, etc.

For example:

- Northwest Territories: Ministry of Education, Culture and Employment
- Ontario: Ministry of Colleges and Universities
- Newfoundland and Labrador: Department of Education (all levels)
- Manitoba: Ministry of Economic Development and Jobs

[3] From Government of Canada (2020). Constitution Act, 1867

1.3.2 Jurisdictional differences

Although there are many similarities between the educational systems across Canada, there are also differences between programs of study (in nature, name, duration, etc.), assessments, and accountability policies. This is due to many variables such as geography, history, language, culture, socioeconomic conditions, urbanization and rurality, and the specific needs of populations served by educational institutions. The vast, diverse, and largely accessible nature of Canadian education is a testament to the importance accorded to both education and labour market participation. Figure 1 presents the differences and similarities of education systems in Canada.

Council of Ministers of Education (CMEC)

The CMEC was established in 1967 to ensure dialogue between provincial and territorial ministries while respecting the management systems in place. The CMEC is an intergovernmental body founded[4] by ministers of education to serve as:

- a forum to discuss strategic issues;
- a pathway to undertake activities, projects, and initiatives in areas of mutual interest;
- a means by which to consult and cooperate with national education organizations and the federal government; and
- an instrument to defend the educational interests of the provinces and territories on the international stage.

The CMEC provides leadership in education at the pan-Canadian and international levels and contributes to the exclusive jurisdiction of provinces and territories over education.

Colleges and Institutes Canada (CICan)

Colleges and Institutes Canada (CICan) is a national, voluntary membership[5] organization representing publicly supported colleges, institutes, cégeps and polytechnics in Canada and internationally.

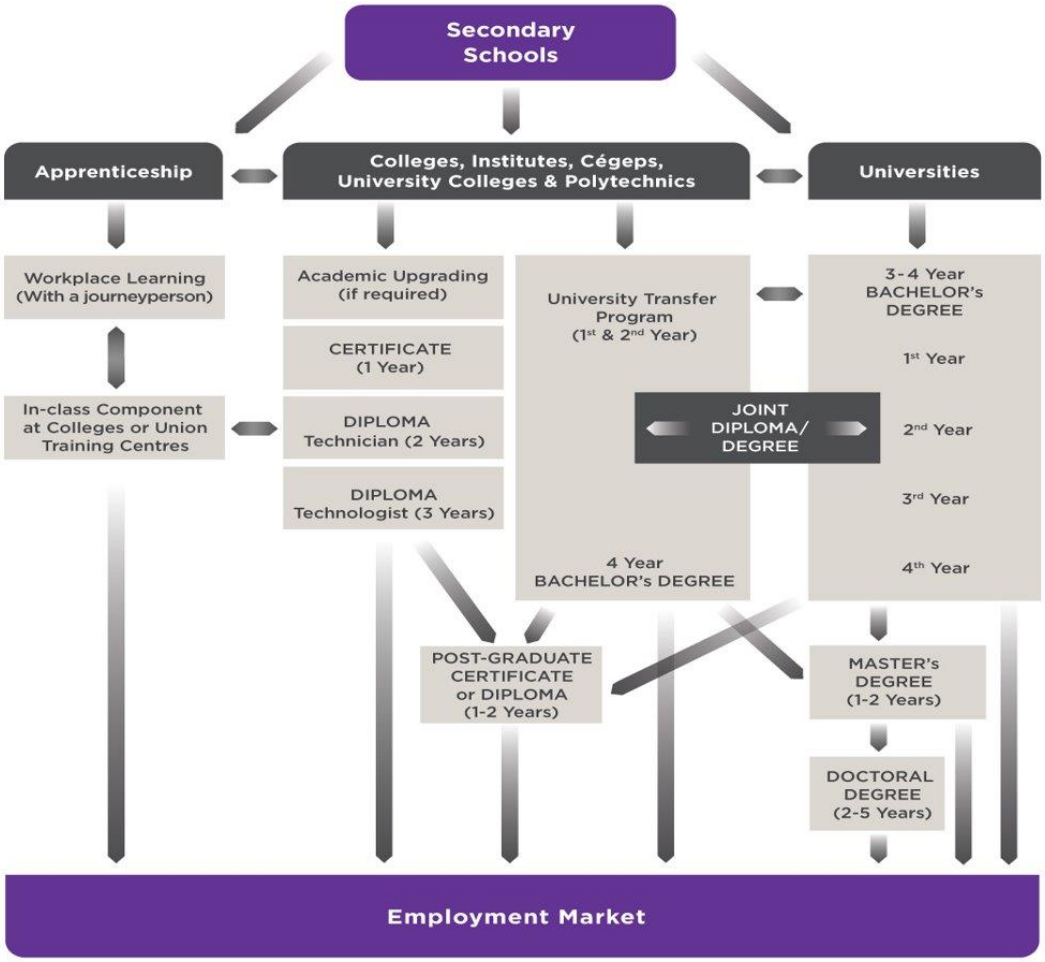
Known until 2014 as the Association of Canadian Community Colleges (ACCC), CICan continues to champion innovation, applied research, international development, and the employment and entrepreneurial opportunities that are created by its partners and member institutions, both in Canada and abroad.

CICan and its members work with actors in the economic and community sectors to train learners of all ages and backgrounds at over 670 locations serving urban, rural,

[4] From the CMEC website – https://www.cmec.ca/11/About_Us.html
[5] From the CICan website – https://www.collegesinstitutes.ca/what-we-do/about/

and remote communities across Canada. The association is committed to quality education and skills development opportunities for all Canadians as a crucial means to maximize labour market participation and support prosperity in Canada.

Figure – 3 – Education systems in Canada[6]



CICan serves as a federation of members that is committed to defending their interests and expanding their capabilities while advancing knowledge, thereby further strengthening the Canadian college and institute system and building a better country.

1.3.3 Management of colleges and institutes[7]

In publicly funded colleges and institutes, government involvement varies from macro interventions to interventions at the operational level. Some governments simply contribute financially, while others are involved in admissions policies,

[6] Model proposed by CICan
[7] Information in this section from the CMEC – https://www.cmec.ca/299/Education_in_Canada__An_Overview.html

program approval, determining programs of study, institutional planning, and working conditions. The level of government intervention is linked to the mode of centralized or decentralized education management implemented in the various Canadian territories and provinces.

Most colleges have an office, board of governors, or board of directors made up of members who represent the public, members representing the economic sector, students, and faculty. Certain provincial and territorial governments appoint the members of these boards of governors/directors. Close relations with the economic sector are also maintained through advisory or steering committees (terminology may vary by province or territory). These committees include representatives of business, industry, and labour unions (this also varies by province or territory); they help institutions with strategic planning, among other tasks.

Due to Canada's heterogeneous system, there are thousands of public and private colleges and institutes in the country[8]. The names of these institutions and establishments vary depending on the level of vocational, technical, or technological training they provide. They may be referred to by the CMEC as vocational training centres, public colleges, specialized institutes, cégeps, community colleges, institutes of technology, colleges of applied arts and technology, etc. Terms used by CICan include colleges, institutes, cégeps, and public polytechnics.

1.3.4 Management of program offerings

All of these institutions offer a wide range of vocational, technical, technological, and applied university programs in a variety of fields, such as business, health, mechanics and maintenance, construction and engineering, applied arts, technology, social services, etc. Depending on the standards in place in the province or territory, a single institution may offer multiple levels of education, such as vocational-technical-technological OR technical-technological-pre-university. Some institutions are specialized and provide training in a single field, such as fisheries, arts, aircraft manufacturing, or agriculture. The program offerings of a given institution are determined based on the local economy and the needs of businesses present in the community.

Specific colleges also provide literacy and academic upgrading programs, pre-employment and pre-apprenticeship programs, and the in-class portions of registered apprenticeship programs. **Many different workshops, short programs, retraining programs, and customized workplace training courses are made available** to support the professional development of the workforce and to make businesses more competitive.

Thus, public polytechnics, colleges, institutes and cégeps work extremely closely with business, industry, labour unions, and the public sector to deliver professional development services and specialized programs. They also work with their communities to design programs that meet local needs.

[8] (CMEC dat

1.3.5 Management of CBA implementation

There are many different models and techniques for supporting skill development, given the variety of training systems, governance models, and levels of management centralization. This section contains a table comparing two approaches for implementing the CBA in Canada: a centralized system led by a ministry vs. a decentralized system within training institutions. Here, decentralization[9] is defined by the decision-making power of local institutions according to ministry-approved operating budgets.

The percentage of funding provided to public institutions by territorial or provincial ministries varies; it may be anywhere from slightly over 50% to over 80%[10]-[11] of the total revenue of an institution. The remaining funds needed to run the institution may come from a variety of sources such as tuition fees (from Canadian and international students), sales of services to businesses (research, continuing education, etc.), and exporting expertise internationally, etc. This example illustrates the jurisdictional differences in the management of training offerings.

The decentralized educational model presented here is based on trust among the many actors present within the system. Central actors delegate decisions about program offerings, the organization of infrastructure, and the implementation of training curricula. In a centralized system, local actors must place their trust in a central authority and in the soundness of its decisions and the changes it makes to curricula and laws.

In a decentralized system, institutions are responsible for spending their budgets based on priorities (infrastructure, research, training, personnel, development projects, etc.), for designing training programs tailored to regional specificities, and for developing and implementing pedagogical activities and strategies. Regardless of whether a centralized or decentralized model is used, accountability remains important for all training institutions.

Institutions are evaluated based on data-driven performance indicators such as graduate employment, employer satisfaction, learner satisfaction, etc. These indicators are directly linked to CBA and RBM principles and values: the learner is

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[9] From GÉRIN-LAJOIE, Fanny (2015). *Éducation décentralisée: idéal inatteignable ou réalité pratique ?*

[10] From Statistics Canada Table 37-10-0028-01 Revenues of community colleges and vocational schools (x 1,000)

[11] From *Le financement des collèges* (CEGEPS) – http://lescegeps.com/fichiers/pdf/20090519_les_allocations_de_fonctionnement_chapitre_5.pdf

made the top priority and the program offering is aligned with labour market needs, and accountability principles are based on the achievement of targeted results.

Table – 1 – Comparison of CBA implementation stages in centralized vs. decentralized models

CBA IMPLEMENTATION		
	CENTRALIZED MODEL	**DECENTRALIZED MODEL**
Market analysis / sector analysis	Conducted by a team or department from the provincial or territorial education ministry.	Conducted by external agencies; sectoral analysis can be conducted by the training institution (resource-dependant).
Identification of program to develop	Decision is made by the training institution, often in collaboration with a regional institutional committee.	Decision is made by the training institution following the approval of recommendations by the ministry.
Employer consultation	Consultation is conducted by a team or department from the provincial or territorial education ministry.	The training institution oversees consultation (perhaps utilizing a program advisory committee – PAC).[12]
Training program development	Skills are determined by a team from the ministry. The training institution manages the development of modules.	The development process is led and managed by the training institution.
Training program review	The review and updating process is led and managed by the training institution.	The review and updating process is led and managed by the training institution.
Learning assessment policy/procedure	The learning assessment policy/procedure is implemented and managed by the training institution.	The learning assessment policy/procedure is put in place and managed by the training institution.
Graduate employment survey	The survey is conducted by an outside firm. Certain institutions also conduct their own surveys.	The survey is conducted by an outside firm. Internal surveys are conducted for specific programs on an ad-hoc basis.
Accountability mechanism (indicators)	Indicators are determined in the strategic plan of the institution (the strategic plan is approved by the ministry in both the centralized and de-centralized example). The strategic plan includes a success plan.	An accountability mechanism is set out in the regulatory documents that led to the founding of the institution. Indicators are determined in the strategic plan of the institution.
Funding of institutions	A major part of funding is provided by the ministry according to a chosen model. The shortfall must be covered by the revenue of the institution (tuition fees, sales of training and services, etc.).	Funding is provided in part by the ministry in accordance with a submitted and approved institutional budget. The shortfall must be covered by the revenue of the institution (tuition fees, sales of training and services, etc.).

[12] COLLÈEGES ET INSTITUTS CANADA (2017). *Academic Employer Connections in Colleges and Institutes: The Role of Program Advisory Committees.*

2. PRINCIPLES AND VALUES[13]

As illustrated in the previous section, CBA management and implementation models vary from one Canadian province or territory to another. While management and certain environmental variables differ, the vision of ministries, training institutions, and organizations involved in the development and revision of programs remains the same. This vision encompasses the general principles and values that support the CBA's efficient implementation.

The special relationship between the educational milieu and the world of work is an opportunity to develop gender awareness. Beginning in the prospecting stage, one can determine the percentage of positions held by women in each occupation. Subsequently, the occupational analysis (OA) enables consultation with businesses. Programs are then developed to accommodate the experiences of, and differences between, women and men.

These principles and values demonstrate that the CBA creates a true connection between the world of training and the world of work, one that goes beyond pedagogy and teaching material development. The CBA's paradigm shifts are first seen in the prospecting and strategic monitoring stages, thereby enabling the targeting of priority economic sectors. These shifts are also present in the entire cycle of training, engineering, and the training program implementation process, as well as the management of attributed resources. Note that the CBA aims to achieve observable results (skills) in learners, thereby demonstrating its alignment with certain RBM principles.

2.1 Principles

A) Taking the labour market reality into account to support the training-employment match:

In the CBA, programs must be developed in accordance with the labour market's current and future realities. Omitting this principle and its stakeholders may result in a serious disconnect between the training program and the labour market. The programs must take the following into account: the economic situation, the structure of occupations, the changes to occupations, the outlooks, the factors that influence a given sector or job, the environmental awareness, the self-employment in a given sector, gender awareness, etc.

[13] From ORGANISATION INTERNATIONALE DE LA FRANCOPHONIE (2009). *Guides méthodologiques d'appui à la mise en œuvre de l'approche par compétences en formation professionnelle.*

The labour market's macroanalysis is conducted using sectoral analyses and labour market analyses. It provides a better understanding of changes and jobs in a certain sector, as well as of social factors such as employee profiles (age, gender, etc.), technological changes and environmental impacts on the nature of the work.

Meeting the labour market's needs is impossible without analyzing it in-depth, and without having the tools to track labour market changes. Information is gathered through sectoral analyses, market analyses, or economic studies. It is used as the basis for planning, prioritizing, and carrying out the development and upgrading of training programs implemented according to the CBA. This results in a training offering that is both inspired by and geared to the labour market.

Examining the labour market's realities aids the connection between the training environment and the working world. Thus, the training environment can better meet the labour market's needs in terms of skill availability and upgrading sought to support the economic sector's product and service offerings.

B) Involvement of businesses and employers:

The first principle is based in macroanalysis. It takes into account the socioeconomic factors in a given geographical area, economic system, or occupational sector. It enables planning and strategic sectoral monitoring, which guide the priorities for the training programs' development. However, it does not enable one to determine the skills sought, nor to create content for new or updated training programs, whether they be standard training programs or continuing education programs for professional development. Instead, the first principle necessitates a close study of the labour market, which then identifies skills.

The second principle takes businesses and employers' detailed experiences into account. It may involve occupational analyses (OA), sectoral tables for a given sector (e.g. construction), cluster-style working groups (businesses from different sectors but for the same occupation), advisory groups or committees, program committees created by institutions, etc. The primary objective is to develop an accurate and current description of the labour market to determine which skills to develop.

Consultation initiatives also allow for gender and environmental awareness. They go beyond the technical aspects of a given occupation, and consider the conditions, challenges and experiences of women.

The CBA implements a variety of employer consultation methods. They focus on the importance of supporting businesses to define the nature of the work, including workplace tasks, working conditions (working environment, standards and regulations in effect, necessary accreditations, etc.), and expected employee behaviours. It is also possible to establish the differences between employers (depending on the size and sector of the business), regarding the tasks performed by employees in a given role. Employer consultation initiatives also allow employers to provide feedback on training delivery options: alternating work and study periods, workplace training, and internships (including duration). These initiatives are an opportunity for institutions to ask employers to contribute by taking on interns, helping deliver training, loaning materials and/or equipment, etc.

C) Training engineering, including the development and review of programs, based on the identified skills:

The second principle established the importance of employer involvement through various communication channels (OA, sectoral table, advisory committee, etc.), and of developing a true partnership approach. The third principle is a continuation thereof. It recognizes that identifying tasks — and the precise context in which they are carried out in the workplace — is the starting point from which to define skills, which in turn form the starting point for engineering training programs.

When engineered training programs are based on identified skills, soliciting the involvement of businesses and employers impacts both the creation of new programs, and the regular review and updating of programs and skills. Businesses involved within the CBA framework benefit standard training, continuing education, and professional development activities offered by training institutions. It is important that teachers and former students be involved in business consultations. This way, they can stay up-to-date on the labour market and the desired skills.

Training offerings can stay relevant to the productive sector's needs by focusing on the skills necessary to meet businesses' occupational requirements. Skills developed in training programs should mirror the occupational functions found in businesses. Teaching and learning activities should consider performance expectations and the context in which functions are performed. Consequently, skills that are not deemed relevant to the performance of occupational functions or tasks should not be included in training programs. To keep including such skills in programs would indicate a vision based solely on the training offering rather than the reality of the labour market.

The female experience is also taken into account when engineering training programs. Skills, and the occupational contexts in which they are applied, must be established in a gender-aware manner. Doing so will impact the teaching strategies used to develop the skills.

D) Development of pedagogical and instructional materials tailored to identified skills:

The CBA is comprised of a series of interrelated and intertwined steps: from consultation with businesses, to the determination of skills, to the confirmation of skills as cornerstones of training engineering. The next logical step in the process is to create pedagogical and instructional materials for learners' skills development. Keeping the employer consultation process in mind, the materials must be consistent with the skills that were determined and prepared in a way that enables learners to develop these skills. Therefore, knowledge acquisition and anticipated attitudes and abilities must be incorporated into materials and pedagogical strategies deployed by training institutions.

Pedagogical material must take the female experience into account by employing inclusive vocabulary and learning activities that are respectful of women. Any protective or safety equipment must be suitable for women (e.g. gloves that fit women's hand sizes).

E) Development of learning assessment tools based on program skills:

Choosing to implement the CBA means choosing to adapt training strategies to develop skills, to rely upon appropriate equipment and pedagogical materials, and to match skills assessments with established learning objectives.

As such, developing skills-based learning assessment tools is fundamental to the CBA. Learning assessment must be aligned with program skills: This is true for the learner's performance requirements, the classifications chosen to describe skills and their components, and the context in which skills are demonstrated. Additionally, assessment tool content must take into account, and be based on, the labour market.

Business consultation mechanisms enable information collection about performance expectations in a given occupational function. This information is crucial for developing training strategies, and for learning assessment.

Performance expectations, and the context in which an assessment takes place, should be based on what happens in actual workplaces. Assessments should incorporate female-specific workplace considerations. If adapted equipment (e.g. lighter) is available in the workplace, it should also be available for the training environment's learning assessment.

F) Adaptation of strategies and practices to support skills development

CBA implementation involves pedagogical practices and strategies that promote active learner participation, a training environment inspired by the work environment, and the use of performance standards that meet labour market expectations when validating or assessing learning. These three variables are interconnected and cannot be separated. They ensure that the educational sector's training and assessment match the occupational sector's expectations.

The pedagogical paradigm shift — that is, the transition from traditional to active teaching — looks simple but cannot be achieved without the authentic buy-in of all actors involved in training learners. **This shift requires a true transformation of teaching culture**. Necessary resources of all types must be available and managed in accordance with RBM-related principles, ones which also require major shifts in thinking. In the CBA, exchange between training delivery and management is essential.

A cultural shift is also necessary to ensure women do not face cultural or social obstacles that limit their learning or their access to training. The choice of pedagogical strategies that do not discriminate against women, the display of respectful behaviour by teachers, the use of appropriate vocabulary, and the fostering of a climate of trust by teachers are all examples of how to make pedagogical strategies and practices gender-aware.

G) Availability and accessibility to resources (human, material, physical and financial)

So far, this guide has covered principles involving the private sector and pedagogy (engineering, training, pedagogical materials, assessment, etc.). The principle addressed in this section is administrative — it deals with operational management. The availability and accessibility of human, material, physical and financial resources is crucial to CBA training implementation. Even if programs are developed with the workplace in mind and based on identified skills, and even if there is use of appropriate instructional materials and consistent learning assessment, skills development remains intimately linked to resource availability and accessibility.

The following actors must therefore play an important role in planning: training institution managers, managers who oversee pedagogy (dean, department head, program coordinator, etc.), teachers, related personnel members who help implement training, and educational advisers. At their respective levels of decision-making power within the institution, these actors must plan for the use of resources at their disposal.

Institution managers must have a comprehensive and accurate view of necessary resources: a sufficient number of teachers with the necessary skills; appropriate spaces for training (class, laboratory, practice spaces, etc.) with the necessary materials and equipment; development of partnerships with businesses or outside organizations to support access to equipment not available at the training institution; and budgetary planning for programs that take into account the number of learners, the anticipated results, the learning activities, the skills to develop, etc. These are just a few examples of the paradigm shifts that must be made by institution managers implementing the CBA.

These paradigm shifts must trickle down to middle managers and executives as well as teachers, who must also play a role in planning. Beginning in the program development stage, teachers must establish teaching and learning support activities and identify the associated resources (material, physical, etc.) for each skill in the training program. Managers need this information to distribute resources within the institution and establish associated priorities in accordance with RBM-related principles.

To apply the principle discussed in this section, it is very important to establish relationships between teaching staff and management. Administrators and teaching staff must work hand-in-hand and develop a shared vision. This vision should focus on learners' skills development, program skills, and the skills required in the labour market. If actors do not work together, resource distribution will not match the CBA vision of making learner success the top priority.

> *Female learners' success is also a top priority. This means that female learners' initiatives must be planned and budgeted. These initiatives may include mentorship for women, scholarship programs for women in non-traditional careers, daycare in educational settings, etc.*

H) Flexible, decentralized management — the active role of training institutions:

Closely linked to the previous principle, this principle prioritizes flexible, decentralized management, thereby giving an active role to training institutions. Many of the principles in this section cannot be easily implemented without giving institutions a certain amount of flexibility to act and make decisions. They must be able to interact freely within their milieus and communities, and with local businesses/employers. They must play an active role in implementing training that meets labour market needs. They must also be able to

adapt rapidly, demonstrate flexibility, diversify their service offerings, and create revenue-generating opportunities.

Activities that generate revenue by selling services to businesses or to the community must be learning opportunities that allow learners to better connect to the world of work. The generated revenue offers additional financial flexibility to institutions, notably by allowing them to invest in updating materials, equipment, infrastructure, or teachers' skills. These management principles must be incorporated into training institutions and their managers' mandates.

The resulting changes must be accompanied by training for managers so that they can adequately fulfil their leadership roles. They must develop an entrepreneurial vision and a dynamic of interaction with their social environment and community. The role of training institutions should not simply be to train; instead, institutions must progressively become pillars of socioeconomic development in their communities. This role is made possible by responding to the skills needs of the labour market, in accordance with available jobs and associated functions.

Managers are expected to be leaders who support change in institutional management practices, entrepreneurial culture, and organizational culture. The institution must implement policies that demonstrate its commitment to eliminating violence and harassment towards female students and staff. Managers play a crucial role in developing and applying such policies by way of organizational culture change and gender equality incorporation.

The principles presented here illustrate the importance of a comprehensive and accurate view of the CBA. Too often, the CBA and its associated changes are discussed only in terms of pedagogy, or an approach that outlines an occupation's required skills and translates them into program objectives. However, the changes in practice, and paradigm shifts inherent to the CBA, are much more complex, profound, and interdependent than they may seem. As such, anyone who wishes to implement the CBA should prepare for a major change of direction.

2.2 Values

CBA principles are supported by adopting certain values. These values must be promoted within the institution's culture to achieve changes in practice and paradigm shifts.

A) Accessibility: Accessible training

In CBA implementation, it is important to reimagine training to make it more accessible. Accessibility is defined broadly here — it invites managers and personnel to reflect upon all involuntary barriers and obstacles that significantly restrict learner access. This reflection must **also focus on barriers specific to female learners**, especially barriers such as education devaluation, and limits imposed by social or discriminatory criteria.

The pursuit of a diploma, continuing education, or training to meet individual needs indicates a desire to acquire new occupational skills. As such, increasing accessibility may entail: 1) reflecting upon prerequisites and their relevance; 2) offering flexible training schedules; 3) reviewing learners' backgrounds and increasing the opportunities for people with learning deficits, or temporary or permanent disabilities; 4) focusing on a personalized, differentiated training offering; 5) considering separating skills in order to certify specific elements rather than an entire skill (micro-certification); 6) limiting the learner's cost; 7) reducing the distance between the learner and the training location (in rural areas, in communities, in businesses, online, etc.); 8) **considering gender-related differences when choosing equipment, materials, or training schedules**; 9) opening doors to businesses for the training offering, etc.

B) Versatility and flexibility: Functional and versatile training

Versatility and flexibility are closely linked to accessibility; making institutions and training offerings adopt these values increases learners' ability to access training. Focusing on versatility and flexibility means offering a customized and efficient approach that promotes the development of individuals and/or businesses, while building a strong foundation for their future. Better meeting learners' needs increases their employability.

Training is designed to be tailored to the objectives of people and businesses. It reaches its full potential when realistic learning situations are used to fulfil each learner's true needs and interests. This type of training is called functional training, as it ensures the sustainable development of the workforce. It must offer flexible options to respond to new needs created as a result of changes faced by businesses and workers. **An example of flexibility that could be offered within training institutions is offering daycare in workplace settings.**

C) Lifelong learning: Training paired with continuing education

Often, initial training and continuing education are treated as two different categories that must evolve separately. However, CBA implementation means challenging this idea. These two types of training should be seen as two connected entities that are in dialogue with each other to support lifelong learning. Training that focuses on skills to develop, or existing skills, is part of a continuing education process. Training that prepares individuals for lifelong learning — and makes them aware of its importance — is essential for businesses to grow and be competitive, as it allows them to rely on a competent, proactive workforce.

D) Learner success: Training that promotes educational success[14]

Training vision no longer focuses solely on the offering. Instead, greater attention is paid to learner success, which is a top priority for institutional actors. Broadly speaking, training — whether in standard or continuing education — must allow the learner to discover various ways to learn and develop efficient learning strategies that are directly applicable to work and everyday life.

> *One must consider the gendered aspect of success, as factors that affect the success of girls can be very different than those that affect the success of boys.*

The CBA's training is concrete as it supports the acquisition of skills that are sustainable and transferable to numerous situations. As a result, it promotes the development of self-reliance, motivation, and a desire to learn. All these characteristics are intimately linked to the learner's success, or at least to their support so they can experience success. In addition to actions taken by teachers, there must be a consideration of services to support success within the training institution **and gender-related elements**.

The failure to demonstrate a skill or a component thereof during an assessment is no longer the end of the story. Rather, it is an opportunity to try again or reflect upon how to succeed the next time. Training should allow the learner to situate themselves in relation to objectives, and thereby play a more active role in their own progression. It is also an opportunity for the teacher to reflect on the activities put in place to help students develop skills. In addition, it involves a major paradigm shift in assessment design.

E) Partnership: Training in collaboration with different partners

Partnerships come in many different forms depending on their nature, and on the roles and responsibilities of the involved actors. One must establish the functions, processes, and extent of the partnership. To do so, outside partners should be informed, or better — consulted, cooperated with, or asked to contribute. A partnership must be win-win to be successful.

The variety of partnerships available reflects a broad range of situations and practices. However, the main focus must always be synergy. It is important to collaborate so that each partner brings added value and draws benefits. This requires consensual arrangements that are satisfactory to both stakeholders.

To build efficient and fruitful partnerships between the training sector and employers, there must be a culture of partnership in place at multiple levels. This takes effort, investment from various actors, and the thorough discussion and definition of roles and

[14] Inspired by PERRENOUD, Phillipe (2004). *Qu'est-ce qu'apprendre ? (What is learning?)*

responsibilities. The partnership culture shared by the institution and the business can also extend into a multi-dimensional partnership culture. In this case, it will offer additional opportunities for resource pooling and sharing. For example, human resources with specific expertise may be shared amongst partners that would not be able to access these resources by themselves.

F) Active learning pedagogy: The learner at the centre of the process

Active learning pedagogy proposes a different framework than "traditional" teaching pedagogy, which is based on "the program to follow and the objectives to cover." In active learning pedagogy, self-reliance (within a structured environment) is the foundation of the learner's approach. Teaching and learning are geared towards the learner's active participation. The objectives of the process and the assessment criteria must be clearly presented to the learner, as they are expected to be self-reliant and responsible for their learning.

Active learning pedagogy includes teaching and learning activities that allow the learner to experience and overcome difficulties; solve problems; understand, define, retain, and reuse content; and develop and implement outcomes. In this way, the traditional learning sequence changes from a class – exercises – assessment model to an encountering-a-problem – searching-for-information – proposing-a-solution model. The learner is assessed on the entire process (including self-management) rather than solely on their knowledge.

G) Collaborative approach

The CBA encourages collaboration through teaching and learning strategies. Group work, work in pairs, and group interaction-enabling activities all centre on the principle of working and contributing with peers. The CBA focuses on sharing information, communicating expectations, and fostering mutual responsibility among actors in the learning and teaching relationship.

A collaborative approach is also expected from teachers. Implementing a program with the CBA means taking a program-based approach rather than focusing on teachers' individual work (course-based approach). Teachers need to value teamwork as the program vision must be holistic and multidisciplinary.

H) Promoting essential skills

Essential skills are core competencies needed to live, learn, work, and support a person's occupational journey. They form the foundation for learning all other skills and enable workers to evolve alongside their occupations and adapt to changes in the workplace. The nine essential skills recognized in Canada[15] are as follows: reading text, writing, document

[15] Taken from Skills/Compétences Canada – https://www.skillscompetencescanada.com/en/essential-skills/what-are-the-nine-essential-skills/

use, numeracy, digital skills, thinking, oral communication, working with others, and continuous learning. Each skill is separated into several levels, from simple to complex, in accordance with the expectations for a given occupational function. Essential skills are therefore foundational and common to many training programs.

3. PEDAGOGICAL FUNDAMENTALS[16]

The CBA uses specific concepts and definitions to allow readers to appreciate the scope, limits, and philosophy of this reference framework. These concepts guide the pedagogical strategies implemented in the training context, the roles expected from the teacher, and the variables to consider when assessing learning. All the pedagogical fundamentals presented and summarized here support the CBA and are found in each section of the reference framework.

3.1 Concepts and definitions

3.1.1 Concepts

- ***Knowledge construction***[17]

Skills can only be developed by placing the learner at the centre of the training process and recognizing that they are responsible for their own learning. Implementing an approach such as the CBA means taking inspiration from constructivist and social constructivist learning models. The learner actively constructs knowledge as they experience it, either firsthand or by watching and copying another person.

- ***The learner is at the centre of the process***

In a constructivist model, the learner acquires knowledge through a meaningful activity. Learning takes place through the interactions the learner has with their immediate environment. The nature and types of interactions depend on the learner's perception. As the learner plays an active role, they become the primary person responsible for learning: the centre of the process.

- ***Learning is directly influenced by its context***

Skills development is only possible if the environment and circumstances enable it. CBA training environments have the goal to train learners into qualified workers that meet the needs of the current industry and employers. The learner must develop new skills that have been dictated by industry requirements. Teachers use their knowledge and expertise to create meaningful and relevant interactions within the training environment. Interactions between the teacher and current industry practices will affect the training environment and the learner's skill development.

In the CBA training program, the learner's environment is designed specifically to promote skill acquisition. Access to technology, materials, reference works, technical experts and appropriate spaces add clarity to the learner's experiences. Contact with guides or role models who have occupational expertise allows the

[16] Inspired by Legendre, Renald (2005). *Dictionnaire actuel de l'éducation.*
[17] Inspired by TARDIF, Jacques (1997). *Pour un enseignement stratégique – L'apport de la psychologie cognitive*

learner to progress towards fulfilling labour market expectations and needs. Additionally, the learning experience enriches the learner and their peers. This collegial, supportive network is an undeniable asset for skills development.

OVERVIEW

To develop skills, the learner must be proactive, motivated and committed. They must become aware of their existing knowledge, potential, and the resources at their disposal. In learning situations, the learner participates in a variety of activities and performs various tasks in association with a given skill or future occupation. These activities allow the learner to consolidate, connect, and retain what they learn, while adding to their individual knowledge. When encountering a task or problem in an occupation or in daily life, the learner must utilize what they know, who they are, and what they can do. The learner is called upon to make informed decisions, act independently, and gear their actions towards an expected level of performance. Being skilled means orchestrating a multitude of resources and information to intervene in varied and complex contexts.

3.1.2 Definitions

- ***Learning:*** A set of mechanisms that result in the acquisition and integration of know-how, knowledge, or attitudes by the learner.

- ***Dichotomous approach:*** A skill is either achieved or not achieved; it cannot be partially achieved. Development of skills and subsequent learning assessment are based in a pass/fail approach.

- ***Skill:*** An integrated set of knowledge, abilities and attitudes that manifests as an observable and measurable behaviour when carrying out an occupational activity or task to a pre-established standard of performance (threshold for labour market entry by graduates).

- ***General skill:*** A skill that corresponds to a broad range of activities that go beyond the tasks in a specific occupation but contribute to their execution. These activities are generally common to many tasks and transferable to many occupational situations.

    - General skills are often called ***cross-cutting skills*** and can be applied in many different occupations or work situations. Cross-cutting skills are distinct from specific skills, which are shared by workers in a specific occupation.

- ***Specific (technical) skill:*** A skill that is directly related to the execution of tasks and the worker's appropriate performance in the work context. It relates to concrete, practical and established aspects directly connected to the carrying out of an occupation.

- ***Conditions of execution of a task:*** The context in which a task is carried out and the materials and equipment are used. Conditions of execution also determine whether a task is carried out individually or in a team, the environment of execution (indoor, outdoor, in a laboratory, etc.), whether the task involves meeting clients or stakeholders, and finally, the materials and/or equipment used to perform the task.

  The conditions of execution of a task also reveal the challenges and situations encountered by workers, especially female workers, and the specific obstacles they may face.

- ***Cognitive conflict:*** A cognitive conflict arises when the effects observed during the execution of an activity do not correspond to the learner's current schema. What the learner observes in the current learning environment conflicts with the learner's previous knowledge. Learning is retained more because the learner goes through a self-reflection.

- ***Socio-cognitive conflict:*** The confrontation of an issue between several learners. The conflict is a learning experience as it makes the learner aware of another point of view and allows an adjustment in their point of view. The learner can make an informed, refined judgement based on this renewed perspective.

- ***Constructivism:*** A learning theory developed by Jean Piaget and others in response to behaviourism. Constructivism posits that each learner's knowledge is not simply a copy of reality, but rather a reconstruction and is relative to the learner. The understanding of a subject is constantly being refreshed and is influenced by older impressions of past events that the person has "stored" during their life. The person restructures (reconceptualizes) information based on previous conceptions and experiences.

  If a learner's past learning experiences were negative, the learner's mental representations could affect their self-confidence.

- ***Performance criterion:*** The requirements that determine whether the learner achieved the components of the skill (and thereby the skill itself) at the standard established for labour market entry.

- ***Task performance criteria:*** Criteria established in the occupational environment allowing a judgement on the work completed. These criteria determine whether a task was very well executed by an employee, or if there are gaps.

- ***Teaching:*** Teaching is a practice carried out by a teacher that involves choosing and implementing pedagogical strategies.

- ***Formative assessment:*** Assessment that aims to improve learning-in-progress by detecting the learner's difficulties. The goal is to use the results to provide remedial instruction by modifying the situation or pace of learning, and make appropriate corrections or improvements to the course, if applicable.

- ***Summative assessment:*** Summative assessment is used to confirm skill acquisition at the end of training. For this reason, it is also known as certification evaluation. It has an official, administrative, and social purpose, whereas the purpose of formative assessment is primarily to inform instructors about the learner's knowledge.

- ***Metacognition:*** The phenomenon in which a learner is no longer concentrated on an action, but rather on self-reflection of the process. This allows the learner to become aware of the procedures, the methods, and intellectual processes used to solve a problem, thereby improving knowledge acquisition.

- ***Assessment in an authentic situation (authentic assessment):*** An assessment that directly examines the learner's performance in relevant tasks. Through authentic assessment, the learner can demonstrate their mastery of skills by using them in a realistic context.

This form of assessment contrasts sharply with traditional forms of assessment, in which learners demonstrate that they recall information or demonstrate applied skills in an artificial environment.

- ***Operations:*** Actions that describe the steps needed to carry out a task. They enable each task to be described as the learner will encounter them in the workplace. Operations are formulated as objectives and always start with an action verb in the infinitive tense.

- ***Knowledge:*** Refers specifically to things that one knows. They are items of information or skills that are acquired through study or experience and can be reproduced.

- ***Soft-skills:*** Refers to how a person expresses personality, personal qualities, ways of doing things, attitudes, and behaviours. Some aspects of good self-management are working thoroughly, knowing how to adapt to different

situations, and being innovative. It also refers to the quality of relationships with others, communication skills, diligence, and environmental awareness.

- ***Know-how:*** The mastery of one or more techniques that are crucial to an occupation or task. Refers primarily to the technical aspects of a skill. Generally, it implies a person has practical experience that they can demonstrate by applying their skills to show technical mastery in a specific area.

- ***Knowing how to act***: The intentional, effective combination of acquired, integrated, mobilized, and utilized knowledge in a specific situation. This winning combination enables an individual to perform their role and responsibilities effectively.

- ***Meaning:*** Creating meaning for the learner involves creating situations that lend significance to what they learn. This is known as meaningful learning.

- ***Social constructivism:*** A theory based in constructivism that places value on the role of many different social interactions in the construction of knowledge.

- ***Suboperations:*** Actions that describe the steps taken to conduct an operation. Suboperations enable the detailed description of each operation. Similar to an operation, they are formulated as objectives and always begin with an action verb in the infinitive tense.

- ***Tasks:*** The primary activities performed in the occupation or job. Small tasks may be grouped into a larger task to avoid their segmentation into vague components. Tasks are formulated as objectives, and always begin with an action verb in the infinitive tense.

- ***Transfer:*** Transfer refers to the learner's capacity to apply their knowledge, learning, abilities, skills, etc. in a variety of situations.

3.2 Skill

3.2.1 Definition[18]

There are multiple definitions for the word "skill". While it has evolved over time, the concept remains focused on certain fundamental principles. The definition in Section 3.1.2 refers to an integrated set of knowledge, abilities (know-how), and attitudes (self-management). It manifests in the learner's observable and measurable behaviour when performing an occupational activity or task to a pre-established standard of performance. Being able to show competency in that skill is required from a graduate upon labour market entry.

[18] From TARDIF, Jacques (2006, 2017). *Compétence.*

*This definition emphasizes the concept of **an integrated set** of knowledge, abilities, and attitudes **rather than** the demonstration of their individual acquisition. A learner may know all the steps needed to repair a motor without ever having done so, but there is no guarantee that the learner will be able to perform the work with the appropriate safe behaviour and attitudes. **For the definition to be complete, instructors should consider the interconnected nature of the three components of a skill.***

Other definitions emphasize the utilization of learning and the progression of the skill over time (lifelong learning). **Under these definitions, the skill, or rather the person who possesses the skill, has the power to act, succeed, and progress.** While somewhat different, these definitions share foundational elements with the definition presented here.

A skilled person can adequately conduct tasks and activities at work or in their personal lives by accessing an organized set of knowledge, abilities, and attitudes.

While technical skills are crucial in an occupation, they are not enough to allow an individual to successfully join the labour force.

Remember that **know-how** refers specifically to the technical aspects of a given field or occupation. Know-how is not permanent, and all forms of know-how must be constantly updated and adapted to the changes and progress of an occupation or industry. **Self-management** concerns behaviour. It involves personality, ways of doing things, attitudes and conduct. Working thoroughly, knowing how to adapt to different situations, and being innovative are examples of self-management. Self-management also concerns the quality of relationships with others, communication, diligence, and environmentally aware and safety-conscious behaviour.

Finally, a skill can be defined as being demonstrated when the learner uses internal resources (knowledge, abilities, and attitudes) effectively to act in complex situations and successfully accomplish a job or task and adapt to novel situations that have not been taught.

In the CBA, it is therefore crucial to develop proficiency in both the specific and general skills involved in occupational function. This will help the learner successfully join the labour force and provide them with optimal tools to progress as a worker, be an active citizen, and become more self-reliant in their personal life.

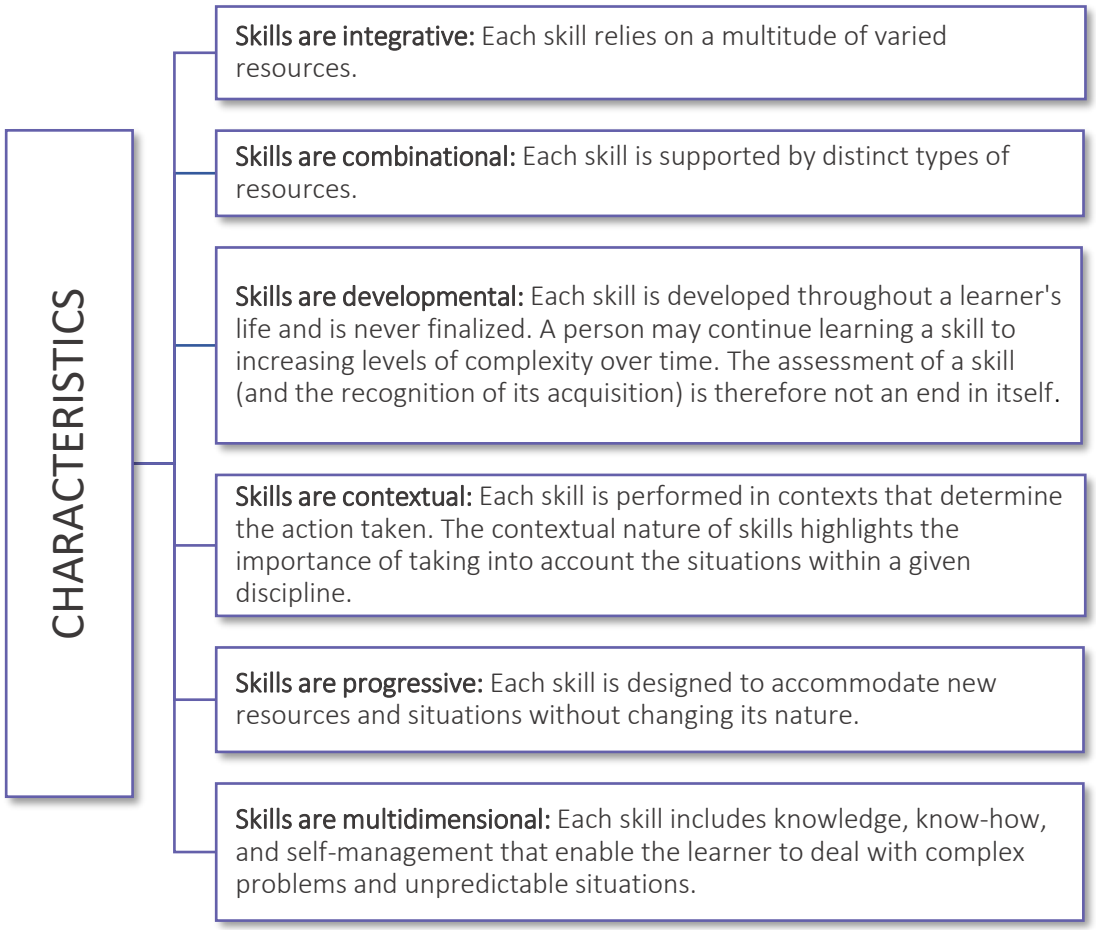
The ability to successfully reproduce a task does not necessarily demonstrate that a skill has been achieved. The learner may simply reproduce a technique without being able to transfer their knowledge to various application contexts.

3.2.2 Characteristics

Implementation of the CBA is directly related to the characteristics of skills. The skills presented here are partially taken from remarks by Tardif (2006, 2017) and complement the information presented in previous sections. These characteristics will also guide the paradigm shifts imposed by the CBA, and the range of strategies associated with teaching and assessment. These topics will be addressed again in dedicated sections.

The primary characteristics of skills are presented in Figure 4.

Figure – 4 – Primary characteristics of skills[19]



[19] From ORGANISATION INTERNATIONALE DE LA FRANCOPHONIE (2009). *Guides méthodologiques d'appui à la mise en œuvre de l'approche par compétences en formation professionnelle.*

3.2.3 Types of skills

The concept of a skill has many meanings that change from one instance, culture, or educational model to another. The definition of a skill used in this document takes a more general, consensual approach (see Section 3.2.1) that focuses on the integration of knowledge, know-how, and self-management, and on how they are implemented in a variety of situations in accordance with determined performance standards. This dynamic vision of a skill, which is based in cognitivism, constructivism, and social constructivism, can describe both specific skills and general skills.

Under this definition, the two types of skills are:
- *Specific skills*
- *General skills*

Other terms are sometimes used to describe these two types of skills. They include "operational skills," which refer to specific skills in a discipline. General skills are sometimes called cross-cutting skills or soft skills.

The term "essential skills" is also used in Canada. Essential skills are necessary to live, learn and work. They are used in the community and in the labour market in various forms and at various levels of complexity.

Whatever terms are used, the concept of a general skill often relates to the behaviour and qualities of the learner. For example, the ability to deal with people, or a flexible and positive attitude does not depend on acquired technical knowledge but rather the development of attitudes and interpersonal skills through experience in a particular role at work.

There is a tendency to present two types of skills: skills that are specific to a particular field and skills seen as general for that field.

CBA training programs are developed based on skills required by employers. These skills may not always correspond directly to the actual skills of each learner. Each learner develops their skills individually according to their motivations, frame of reference, how the learning was meaningful to their unique life experiences, and how they interacted with the learning resources used by the instructor and the learner. This vision and definition of a skill refers to "individual differences" or "individual learner differences".

For decades, businesses were mainly concerned with the development of individual skills. Increasingly, given the complexity of occupational situations, economic development, and challenges (e.g., the COVID-19 pandemic), there is a trend towards developing teamwork and collaborative skills. These skills are developed through

environments that promote knowledge and information sharing, teamwork, interdisciplinary approaches, networking, and the creation of communities of practice, generally supported by modern technology.

The principles and values of the CBA are important components of this shift in the concept of collective skills. The CBA is the ideal tool to support the development of these skills.

3.3 Teaching and learning support strategies[20]

A variety of teaching and learning support strategies must be deployed to support skills development in learners. Section 5 of this document deals specifically with teaching and learning with the CBA, both in-person and remotely. This section is a brief introduction and summary of the most important principles.

Remember that the CBA is based on cognitivism, constructivism, and social constructivism. As a result, the pedagogical strategies employed to teach and support the learner should also be inspired by these schools of thought. These pedagogical strategies are indispensable tools for the teacher, allowing effective intervention to promote learning.

It is important to use strategies that incorporate gender equality. Teachers must be equipped with the knowledge, skills, and attitudes to adequately respond to learning needs while using gender-responsive processes and practices in class, in workshops, in labs, etc. Teaching quality has a major impact on the access, retention, and educational performance of women. Inadvertently, teachers sometimes use teaching methods that do not offer women an equal chance to participate.

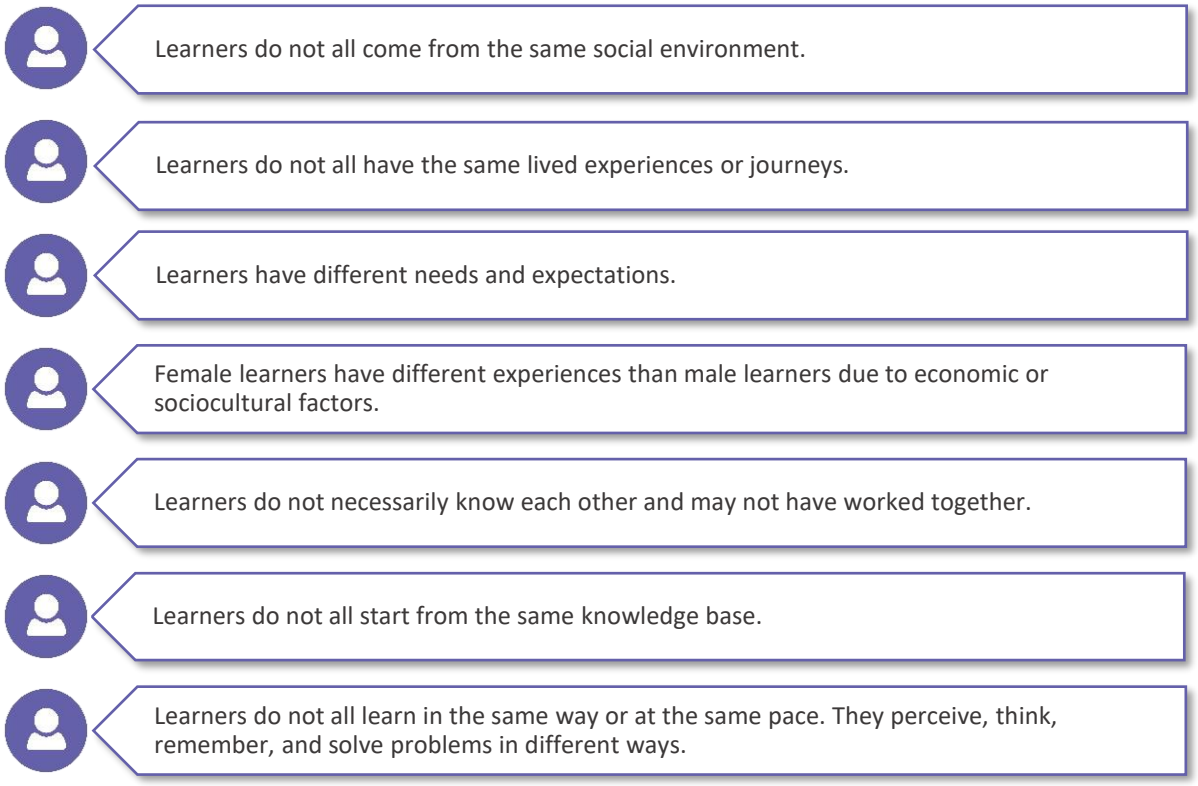
These methods do not take into account the individual needs of learners, especially women. It is important to develop teaching methods that facilitate the equal treatment and participation of women in training.

Learners' profile backgrounds

The choice of strategies is not solely dependent on the nature of the skill to be developed or the context in which it is performed. The profile, characteristics, realities, and prior knowledge of learners are also important considerations, especially as the CBA places the learner at the centre of the learning process. Teachers are continually placed in front of heterogenous groups of learners with diverse learning styles. Figure 5 presents the learners' profile encountered.

[20] Adapted from AYLWIN, Ulric (1992), *Les principes d'une bonne stratégie pédagogique*

Figure – 5 – Learners' profile



By taking all this information into account and referring to the preceding principles, values and concepts, teachers can teach in a way that goes beyond memorization and imitation. They should focus on activities in which it is important to understand, summarize, assess situations, use judgement, and make discoveries.

Different learners have different learning styles determined by characteristics such as their personalities, how they process information, how they interact socially, and their preferences for certain teaching methods and learning activities, etc. There are therefore a multitude of strategies and activities that can be used by teachers, especially as the training environment is shifting from in-person to hybrid or remote delivery.

A variety of strategies[21] are presented as examples. Some are specifically for in-person teaching, others for remote teaching, while many can be used regardless of the method of delivery used. The adaptation of strategies is directly connected to the process of planning lessons and learning activities.

[21] From HAMBERLAND, G. LAVOIE, L. MARQUIS, D. (1995). *20 formules pédagogiques.*

Examples of strategies

Assisted self-study, self-assessment, lectures (presentations, talks, etc.), debate, guided discovery, demonstration, team teaching, one-on-one teaching, interview, case study, peer review, application exercise, discussion group (colloquium, plenary, webinar, brainstorming), simulation game, role-play, laboratory, directed reading, traditional and digital portfolio, multimedia production, synthesis or application project, research (web, database, etc.), problem solving, simulation, internship, teleconferencing, peer tutoring, teamwork, etc.,

In-person strategies

In-person training refers to situations in which everyone receiving the training is physically together with the teacher in the same place in real time. Unlike remote training, in-person training is entirely based on the physical encounter between the learner and the teacher. In-person training may be individual or collective. It focuses on a specific topic and lasts for a time determined in advance. In-person training is done in dedicated physical training facilities (classrooms, laboratories, workshops, etc.), on a precise, regular schedule with teachers who have been chosen specifically. The training may also take place in businesses, as the in-person model is applicable in both standard and continuing education contexts.

In-person training features the direct and constant presence of teachers. Because they are physically present, teachers can answer learners' questions directly and see their non-verbal reactions. In-person delivery allows teachers to use their physical proximity to learners to adapt the strategies they use. The educational relationship presented in the next section is directly affected by the proximity of learners and teachers, which also influences how the teacher chooses strategies.

Transition from in-person to remote training

To manage the remote/in-person dynamic, a variety of teaching models can be used to allow learners to choose the remote teaching approaches they prefer, especially regarding delivery methods and the technologies used. There are three main ways in which remote training can be delivered. Each offers distinct features for learners and for teaching. They are:

1) Synchronous delivery, which requires a live connection to class sessions
2) Asynchronous delivery, which is designed to facilitate self-study
3) Hybrid delivery, which combines synchronous and asynchronous teaching

These modes of delivery modify the teacher's traditional role, as they give learners more say over how to organize their learning. As a result, monitoring from the teacher must adapt to help learners feel that they are "present."

Figure 6 presents additional information on remote training in dual-mode and hybrid-flexible training contexts.

Figure – 6 – Definition of dual-mode and hybrid-flexible training

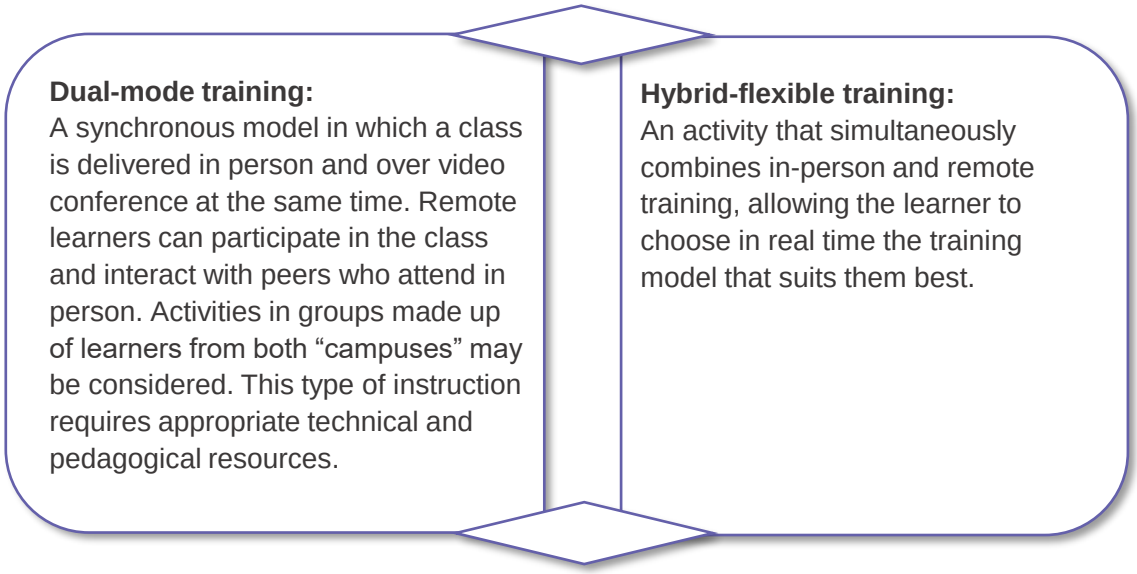
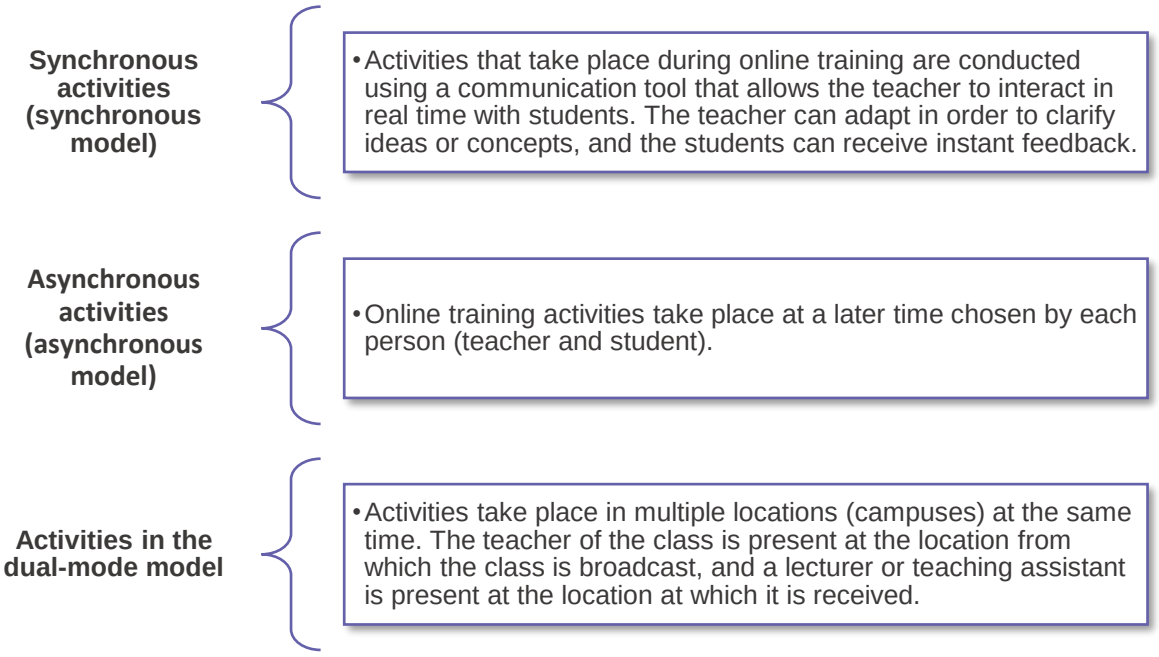


Figure – 7 contains details on the nature of activities in different models.

Figure – 7 – Implementation of activities in synchronous, asynchronous, and dual-mode models[22] [23]



Remote strategies[24] [25]

For some learners, remote training is the ideal solution for balancing familial, geographical, occupational, and financial constraints. Of course, this flexibility alone does not fulfil all of these learners' expectations and is important to consider when creating course models. In a remote model, there are key factors that influence success. It is important to motivate learners, enable good time management, and provide sufficient planning while taking into account certain variables that are hard to control remotely compared to in-person.

Remote training takes place on the Internet on dedicated platforms or using digital tools. Learners may use multiple devices to attend the training, including smartphones, tablets, and computers. As mentioned in the previous section, there are many different types of remote training programs and virtual "classes." The benefit of remote training is that it offers increased flexibility: learners have access the devices through which training is

[22] From UNIVERSITÉ DE MONTRÉAL (2020). *Bureau du registraire.* https://registraire.umontreal.ca/etudes-et-services/horaire-des-cours/modes-denseignement/

[23] From UNIVERSITÉ DE MONTREAL (2010). *Conception et enseignement en ligne* https://wiki.umontreal.ca/display/benatest/Conception+et+Enseignement+en+ligne

[24] From UNIVERSITÉ DE MONTREAL (2010). *Conception et enseignement en ligne* https://wiki.umontreal.ca/display/benatest/Conception+et+Enseignement+en+ligne

[25] Inspired by REFAD. *Des stratégies pédagogiques basées sur l'interactivité.*

delivered anywhere and at any time. Learners no longer need to travel to training institutions, which modifies nature of the traditional educational relationship.

> *To motivate learners in a remote teaching context, the teacher can, for example, answer questions quickly, open the floor to discussions and comments, show interest in not only those asking questions but the entire group, reframe remarks when necessary and emphasize positive aspects, provide personal and concrete examples, etc. The teacher attempts to create the "feeling" of being present and fosters an educational relationship with learners. The teacher also attempts to foster relationships between learners.*

To promote good time management, the teacher may establish a specific schedule to allow learners to pace themselves and establish goals and a timeline. It is essential for the teacher to distribute the different activities over time and organize them so that the learners can create a work routine. In addition to setting a timeline, the teacher could also provide sustained support to mitigate the feeling of isolation that remote learners may experience. Frequent communication from the teacher increases the feeling of inclusion and belonging and helps with learner persistence.

> *The quality of support is very important to help learners succeed and persevere, but mainly for learners who have additional difficulties related to the accessibility of training.*

In summary

Learning strategies vary from one learner to another. They may be influenced by how the training is delivered (in person or remotely). Teachers must have a good understanding of learning styles and take them into account when choosing pedagogical strategies. This way, they can help learners become conscious of how they learn, which creates more efficient learning, an ability to learn more independently, and an increased ability to adapt to a team or new learning conditions.

> *Using a variety of teaching and learning support strategies allows teachers to reach more learners and help motivate them so they can succeed. However, these strategies must take the country's cultural and technological situation into account. This may include Internet connection, accessibility, etc.*

3.4 Educational relationship[26]

Creating a learning environment that is positive, respectful, and dynamic is the cornerstone of the CBA. The educational relationship is created by implementing effective teaching and learning practices and strategies that support the learner's active involvement in a variety of educational contexts. The educational relationship comprises strategies that promote and maintain a positive physical, pedagogical, and psychological atmosphere for learning. It is an ideal opportunity for the teacher to promote an inclusive culture and a vision that takes everyone's experiences into account.

Teachers must take a gender-aware approach in order to create a respectful and egalitarian educational relationship.

A reciprocal relationship: give and take

The teacher helps learners by supporting them, accompanying them on their journeys, and learning from them. With an approach based in the active role of the learner, the teacher must remain open to the idea that the learner can add value to the learning situation.

In traditional teaching, the teacher is a subject matter expert, and the learners simply adhere, listen, and obediently repeat what has been taught. This style of teaching is not appropriate for the CBA. The learner is at the centre of the learning process. They must take responsibility and play an active role. For this to be possible, a pedagogical relationship must be established. This relationship entails reciprocity, a positive influence between the parties, and the creation of a positive learning environment that allows a relationship to develop on a solid, respectful, and sustainable foundation.

The pedagogical triangle

The pedagogical triangle is an image that illustrates a balanced relationship between the teacher, the learner, and the skill to be developed. Each of these elements represents a point of the triangle. The teacher is not considered the primary actor in charge of all learning activities, but rather the actor who creates situations that support learning. In the CBA, the situations experienced by learners must allow them to intervene, discuss, and interact with the components of the skill to be developed.

[26] Adapted from ARCHAMBAULT, Guy (2001). *47 façons pratiques de conjuguer enseigner avec apprendre.*

Figure – 8 – The pedagogical triangle

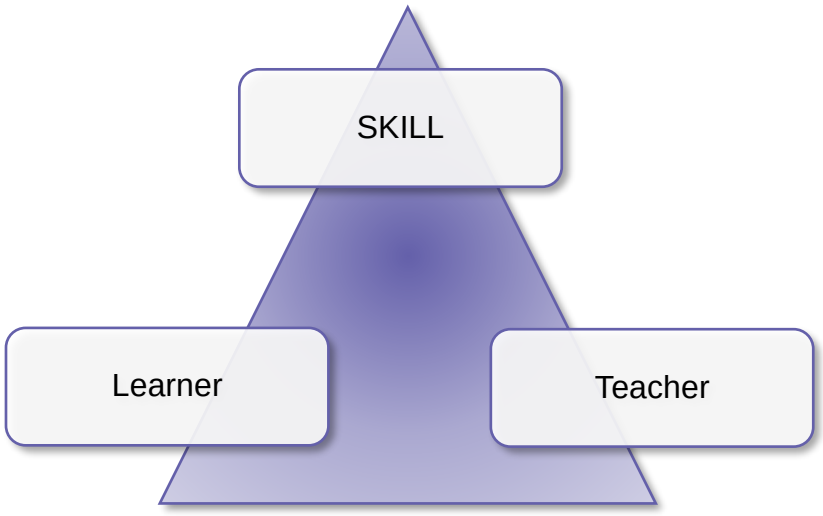
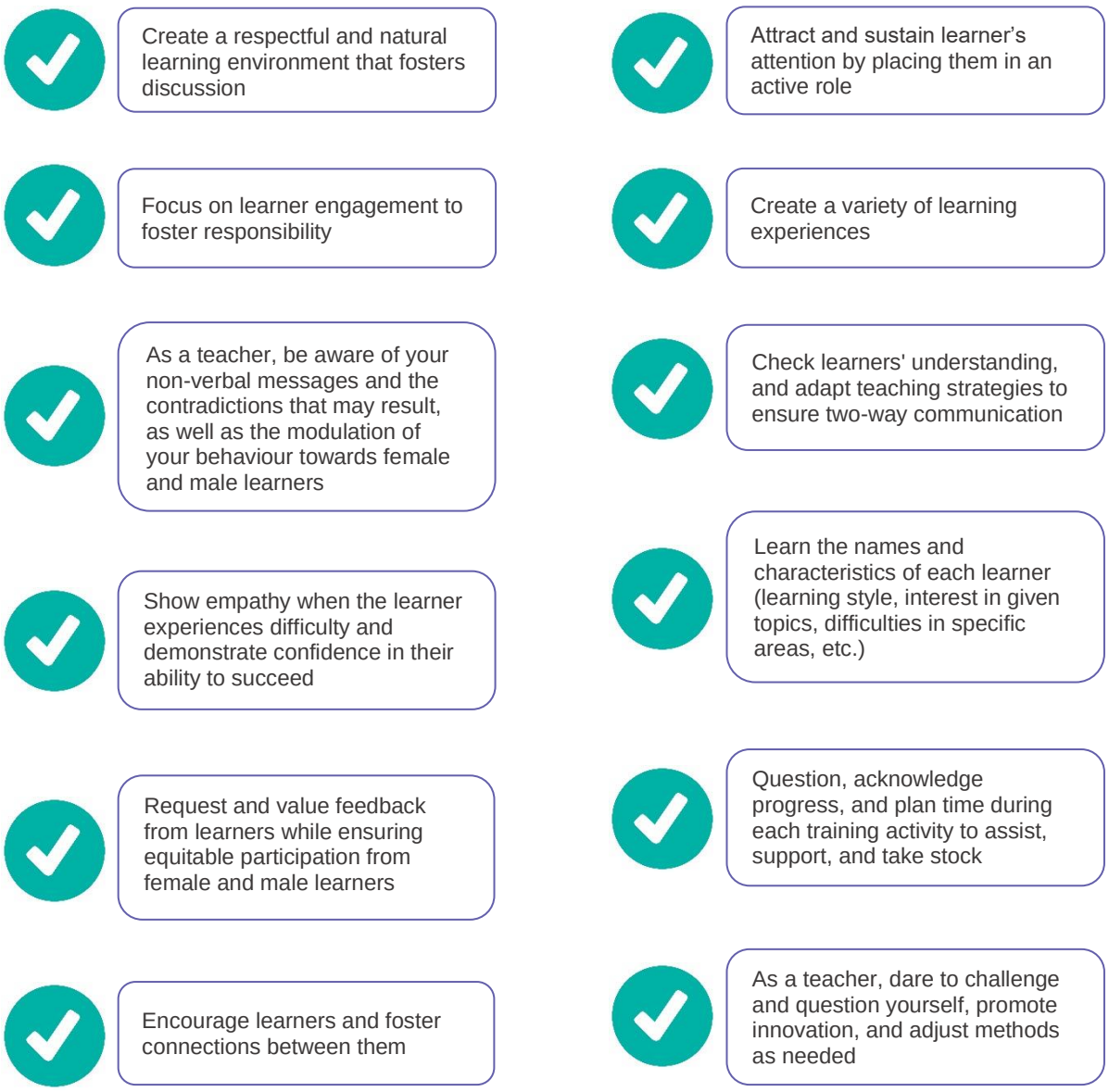


Figure 9 presents a few simple ways to support the development of a positive relationships and a positive learning environment.

Figure – 9 – Ways to support the development of a positive educational relationship



3.5 Roles and responsibilities of the teacher[27]

In an CBA training dynamic, teaching is a matter of *facilitating learning*. The teacher will adapt their training preparation and planning strategies, as well as their implementation, and ultimately the associated learning. Teachers have three major responsibilities: planning, teaching/facilitating, and assessing. However, they are human above all else. They have qualities and attitudes that make them more effective in certain situations but uncomfortable in others. Before going into detail on the roles and responsibilities of the teacher, it seems relevant to briefly discuss their profile.

3.5.1 The teacher's personality

Firstly, a teacher is an expert who has specialized knowledge in a field, usually due to academic and/or professional experience. A teacher's responsibility is not limited to possessing and communicating knowledge or demonstrating skills; the teacher must implement strategies and establish contexts that enable learners to be active and develop their skills. The teacher must also check what the learner has understood and learned. Learners must adapt pedagogical strategies when needed. Above all, the teacher remains a human being who enters into a relationship with the learner.

In the paradigm shift imposed by the CBA, the key role of the teacher is to facilitate learning.

First and foremost, the teacher is a human being who is:

- ✓ Curious — enjoys learning and sharing.
- ✓ Perceptive to subtleties and situations.
- ✓ Rational — able to use logic and objective reasoning.
- ✓ Engaged professionally — performs to a high standard of quality and efficacy while showing respect to all.
- ✓ Human-focused — focuses on the development of the individual and society. Ensures that the different experiences of female and male learners are considered in an equitable manner.
- ✓ Confident — displays positive self-image, knowledge, and a command of resources.
- ✓ Effective communicator — positive and empathetic.
- ✓ Effective leaders — persuasive and exerts positive influence.
- ✓ Innovative — Stays up to date on new developments and finds new and exciting ways of doing things.
- ✓ Committed — constantly improves.

[27] Inspired by PERRENOUD, Philippe. (1999). *Dix nouvelles compétences pour enseigner.*

In an approach that centres the learner in the learning process, the behaviour and attitudes of the teacher are just as important as their knowledge.

The teacher's duties

- ✓ **Be a role model**
  As agents of change and skills development, coaches and teachers must demonstrate exemplary respect, thoroughness, organization, diligence, safety, etc. "*Do what I say and what I do.*" This variation on an adage reflects what is expected from a teacher.
- ✓ **Be prepared**
  No one would build a house without a plan. The same rule applies to teaching. The teacher must accompany learners in their learning. Teachers know what to expect from learners, the order in which to deploy teaching strategies, how to get learners to participate, how to intervene, etc.
- ✓ **Ensure quality**
  The teacher must transmit knowledge and support the development of practical, occupation-focused abilities and behaviours while taking care to develop learners' skills to a high level. The teacher will value high-quality work and encourage learners to work diligently and professionally. The teacher's skills must be constantly upgraded, with an eye on labour market evolution.
- ✓ **Be innovative**
  The teacher must deliberately evolve and stay up to date on all new developments, be they technical, pedagogical, or curricular. They must develop new information and practices and be willing and able to be adaptable to a changing world to sustainably improve academic success of learners.
- ✓ **Be fair and objective**
  The teacher must be fair and impartial with all learners. Every learner deserves the same degree of effort, attention, encouragement, and equitable assessment. Being fair and objective also means considering the situations or the differences that can exist between female and male learners.

The teacher possesses and develops pedagogical knowledge and abilities

- ✓ Knows the steps to take to adequately prepare. Teachers take care of preparing the training activities by providing structure, preparing materials, and demonstrating creativity, flexibility, and openness.
- ✓ A skillful teacher does not only talk; silence can be as effective as words. They foster discussions, listen, encourage questions, utilize silence, and stimulate thought. The teacher attempts to engage in fruitful discussions with learners (individually and as a group), as there are benefits from fostering trust with a

positive pedagogical relationship. Teachers know how to clearly communicate requirements, expectations, and feedback.

- ✓ The teacher has high expectations: thoroughness, quality, diligence, timeliness, respect of learners, respect of gender disparities, and respect for different styles and paces of learning. The diversity of the group is a benefit, not a source of frustration.
- ✓ The teacher uses appropriate strategies to facilitate learning and related activities and adapts to the method of delivery (in-person or remote). The teacher uses innovative practices to support learners' success regardless of the delivery method or context. The teacher is patient, as repetition is a necessary part of teaching.

In the CBA, the teacher's main role is to create situations that are conducive to learning. In this philosophy, the art of teaching is firstly to encourage learners to speak, think, analyze, summarize and apply their learning to various contexts and scenarios.

The teacher's responsibility is to be sensitive to the experiences of female learners and to make sure they participate as much as male learners in discussions and in practical and theoretical activities.

3.5.2 Teaching takes planning

Planning as a teacher is multi-levelled and multi-situational. It may involve logistics and technical aspects. It can involve comprehensive overarching views of skills to develop, or, in the short term, work on the courses and training programs to offer. Three categories of planning are covered in this document as they are common to many different teaching contexts and transcend cultures and fields.

Training planning: The long term

Long-term planning of training means deciding what will be taught over the entirety of the program and is based on the skills that learners are expected to develop. While the teacher is not solely responsible for this type of planning, they contribute by being part of pedagogical or professorial teams involved in planning and implementing a program. A training calendar or schedule is prepared by taking into account situations, contexts, and time management. This comprehensive vision of the program will allow each teacher to better understand how skills are interconnected and to plan their teaching activities with greater precision.

Long-term planning involves distributing the skills that need to be developed in a given time frame according to a logical learning sequence that takes prerequisites and other considerations into account.

Everyday planning: The short term

When implementing training with the CBA, **the teacher should not focus on planning course presentations**, but rather on **planning how the learners will spend their time** before, during and after class. Before starting, the teacher should review the material and master implementation strategies, ensuring that:

- The topic and learning objectives are clear.
- A lesson plan has been prepared and identifies strategies that are tailored to the topics and objectives.
- The teacher is prepared to explain things clearly, do demonstrations, put learners to work, etc. A clear plan of how the training scenario will unfold is established.
- Logistical and organizational details are clear and incorporated into strategies.
- Strategies are tailored to the group and to the needs and differences of female and male learners.

Logistical and organizational preparation

Good short-term planning saves time and energy. Here is a list of elements for the teacher to remember and check:

- The setup of the classroom or space in accordance with identified strategies.
- The learners' profile, the group dynamic, and the specific traits of female and male learners.
- Instructional materials, tools, equipment, consumable goods, etc. needed by the teacher and learners and tailored to learners' specific needs (e.g. adapted to female learners and learners with disabilities, etc.).
- Available and accessible manuals and documents.
- Projector, presentation, blackboard, flip chart, Internet connection, etc. needed to support teaching strategies and learning.
- Involvement of outside experts or educational trips, trips to specialized organizations or businesses, etc.

IN SUMMARY, PLANNING IN THE CBA IS:

a)Organizing training over the long term

b) Preparing the lesson over the short term (daily)

c) Taking logistical and organizational considerations into account

3.5.3 Teaching involves facilitating, accompanying and coaching

Thinking ahead and imagining oneself in action allows teachers to envision the teaching/learning sequence that will be implemented.

Planning lets the teacher visualize and conceptualize the training session to be delivered. It also allows for reflection on strategies and method efficacy.

When training begins, the teacher greets the learners and establishes an atmosphere that is favourable to learning, including all educational elements. They also establish the elements needed for an educational relationship. Depending on the planned teaching and learning strategies, the teacher may briefly go over what has been covered or ask the learners refresher questions. By going over past learning, the teacher can assess learners' understanding and progress and adjust strategies accordingly as training continues.

The teacher then applies the planned strategies and adjusts them to the current context in accordance with learning objectives and established expectations for learners. While being mindful of the equal participation of women, the teacher opts for various types of work: individual work, work in pairs, group work, etc.

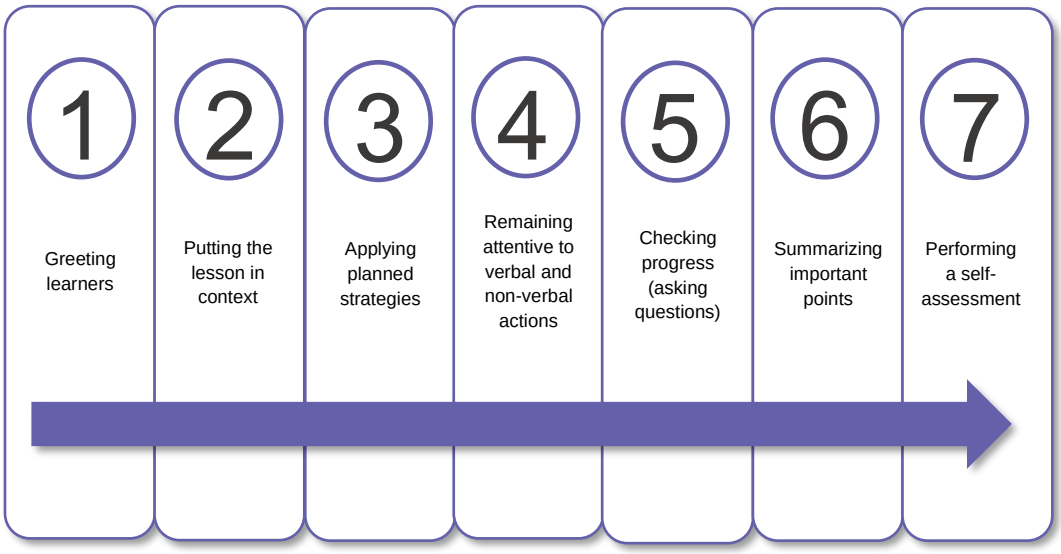
The teacher's objective is to maximize learner participation while ensuring the active participation of women and accompanying them as they learn.

The teacher also remains attentive to learner feedback and listens actively when learners are working in teams. During applied and hands-on exercises, the teacher remains attentive to gender dynamics in group work teams and takes the opportunity to support learners, guide them and assess their progress. Instructors assess interpersonal dynamics and communication between female and male learners on an ongoing basis. The teacher can thereby confirm whether learners are progressing, identify learners who are experiencing difficulties, pinpoint challenges and tailor interventions.

Finally, towards the end of the training session, the teacher summarizes what has been learned and repeats the most important concepts. The teacher may ask questions to make sure learners have integrated the information and provide a preview of what will be taught in the next session.

Following the course, the teacher reflects on the training. Were the anticipated results achieved? What strategies worked well? What strategies did not work well? What changes should be made for the next training session? This exercise allows the teacher to analyze their choices and what was absorbed: what worked and did not work. In all occupations, the expert is called upon to verify the effectiveness of intervention: the same is true for the teacher.

IN SUMMARY, TEACHING – COACHING – ACCOMPANYING INVOLVES:



3.5.4 Teaching is assessing

In its plainest definition, an assessment is a check that supports the adaptation of the teacher's strategies and the appropriate level of learning. It enables a teacher to appropriately judge their approach.

As such, assessment supports learning in two ways:

- *Firstly, it lets the teacher know whether their approach is appropriate or requires adjustments.*
- *Secondly, it lets learners know how they have progressed, whether they have reached the skill level required, and whether they should modify their learning approach.*

As a result, there are mainly two types of assessment:

Summative assessment (certification evaluation): A formal verification of learning. This form of assessment is official. It features established criteria and a recorded grade. It determines whether or not a skill has been achieved and leads to the certification of studies.

Formative assessment: A continuous process that assures the teacher of the effectiveness of teaching and of the pathway to learning. Formative assessment can be thought of as a teaching activity that supports learning. It does not affect the learner's final grade.

What are the primary impacts on teaching?

Assessment can improve teaching as well as assessment practices overall. In the CBA, the teacher focuses on the formative function of assessment and on the learner's metacognition. When the skill will be acquired, assessment will then be used for summative and monitoring purposes.

Defined broadly, the assessment process has the following impacts on teaching:

- It gives the teacher a better understanding of individual differences so that they can adapt their teaching to both female and male learners.
- When the teacher establishes an atmosphere of trust, formative assessment can lead to authentic communication between the teacher and the learners and improve cooperation.
- The results of learners' work and reflection allow the teacher to reflect on their pedagogical practices and make adjustments or reconsider their strategies and approaches towards accommodating the specific experiences of female learners, if necessary.
- It allows the teacher to engage in innovative pedagogical approaches centered on the learner.

What are the primary impacts on learning?

The primary benefits of using assessment in learning are:

- The learner needs to comment on and justify their knowledge, which fosters reflective learning. In this way, learners become aware of their own learning strategies.
- Learners develop self-assessment skills.
- Motivation is stimulated for various reasons, including commitment to the learning process and visible learning progression over time.
- Learners develop a better understanding of the anticipated learning outcomes.
- Learners develop a positive attitude towards critique.
- In certain cases, the use of assessment strengthens cooperation between peers, between female and male learners and between learners and teachers.

GENDER-RESPONSIVE TEACHING

As explained in this section, teaching involves PLANNING, FACILITATING-COACHING-ACCOMPANYING and ASSESSING. Teachers play a central role in the learning process. These professionals must apply a gender-equal pedagogy and be able to develop practices that respect gender equality in order to respond effectively to the specific needs of female and male participants. To further promote inclusivity, special effort should be made to make course content and teaching material as neutral as possible. This may involve giving examples in class that allow both women and men to identify with situations.

Often, women are underrepresented in the teaching of science, technology, engineering, and mathematics. Women experience discrimination or cultural biases that impact the recognition of their potential for success. As a result, low participation, poor grades and high drop-out rates have been observed in these fields. This gender gap limits the number of women who take up careers in these fields, which perpetuates the cycle of female underrepresentation and the lack of female role models for future generations of women.

Gender bias remains widespread among teachers. It is one of the main obstacles to gender equality. Teachers play a crucial role in establishing norms, creating a training environment and managing the classroom. Continuous professional development for teachers on gender-equal pedagogy will improve the quality and inclusivity of teaching. Teachers will be able to develop and display skills and attitudes that let them adequately meet the learning needs of women and men while using processes and practices that incorporate gender diversity in classes, workshops, labs, theoretical and practical teaching, etc. Teaching strategies must offer women and men equal opportunities to participate and take the individual needs of learners, and especially female learners, into account.

4. DESIGN AND PROGRAM DEVELOPMENT [28]

In order to train competent workers, it is necessary to understand what will be expected and required from them, including current tasks in the workforce and those that will emerge in the future. Program design and development must incorporate collected information and convert it into valid, coherent and meaningful skills. **This principle of converting labour market information into skills is the foundation of the CBA.** To make it happen, people in charge of determining skills must be able to analyze the information according to an established process.

This section provides guidance and a framework for this process, offering examples to spark reflection. In countries that already have precise terminology or a working implementation system in place, this section is solely for informational purposes. In countries undertaking an initial project, the criteria presented in this section can be used to guide decision-making. However, it is important to highlight that regardless of the methodology selected, it is the principles, the values and the fundamentals that will determine whether it is categorized as CBA. If the CBA values are not adhered to (e.g. if businesses are not involved), the consistency of the process and approach may be called into question, even if all the other stages are followed.

4.1 Comparison of processes

For informational purposes, the table below outlines the main steps in the process of designing and developing programs in accordance with two example scenarios for implementing the CBA in Canada. The differences between the approaches are mainly due to differences in the management of the educational system models, as presented in Section 1. Whether management is centralized or decentralized influences the implementation and adaptation of certain practices. The sole purpose of comparing processes in this reference framework is to demonstrate the steps associated with each method (depending on the management context) and the numerous similarities present. **The objective is not to impose a methodology or a set of steps, but to enable reflection and the sharing of best practices.** Remember that similarities are due to adherence to CBA principles and values, even though the management models used to achieve them may differ from place to place.

[28] Inspired by ORGANISATION INTERNATIONALE DE LA FRANCOPHONIE (2009). *Guides méthodologiques d'appui à la mise en œuvre de l'approche par compétences en formation professionnelle.*

Table – 2 – Comparison: Training program design and development processes

PROGRAM DESIGN AND DEVELOPMENT PROCESS	
CENTRALIZED MANAGEMENT (EXAMPLE)	**DECENTRALIZED MANAGEMENT (EXAMPLE)**
1. Sectoral studies: labour market analysis (priority sectors, trends, emerging field, forecast, etc.) conducted by outside firms	1. Sectoral studies: labour market analysis (priority sectors, trends, emerging field, forecast, etc.) conducted by outside firms and sometimes by institutions
2. Determination of the occupational function	2. Determination of the occupational function by the institution
3. Occupational Analysis (OA)	3. Meeting of the program advisory group (PAG) overseen by the institution
4. Preparation of OA report	4. Preparation of PAG meeting summary overseen by the institution
5. Approval of report by OA contributors	5. Sharing and approval of PAG meeting summary overseen by the institution
6. Development of training project: contents (skills, training, assessment)	6. Development of the training program: training contents and terms of assessment overseen by the institution
7. Development of course framework plans	7. Development of a summary and profile of the program overseen by the institution
8. Development of course outlines	8. Development of course outlines overseen by the institution
9. Development of lesson plans	9. Development of lesson plans overseen by the institution (teachers)
10. Development of instructional materials by teachers	10. Development of instructional materials by teachers overseen by the institution
COMPARISON: PROGRAM DESIGN PROCESS	
TRAINING PROJECT DEVELOPMENT PROCESS	**CURRICULUM DEVELOPMENT PROCESS**
The analysis of qualitative training needs, and especially the analysis of the employment situation for a given occupation, provides most of the information needed to design the training project. This information is used to determine the requirements for labour market entry and establish the graduate profile. Designing the training program involves: • Determining the skills required to carry out the occupation • Structuring these skills within the training project • Having labour market and educational partners approve the skills and the training project structure	The training engineering team performs the analysis of information collected from the PAG and all additional reference sources. This team prepares a final proposal for the training program that contains all information relevant to program delivery. It includes elements such as skills to be developed, a training program description, the employment profile, the graduate profile, the program structure, and the program's course descriptions. It also includes assessment procedures, achievement requirements, and the specifics of accreditations or workplace internships.

COMPARISON: OA AND PAG MEETING	
OA	**PAG MEETING**[29][30]
The OA is used to describe tasks and operations in the occupation under study. The purpose is to precisely describe the occupation to develop a training program in accordance with labour market needs. The OA allows for a clear and precise understanding of the occupation and enables the team developing the program to forge links with employers in the field in question. The OA may be conducted through meetings at places of business, with industry professionals, or in discussion groups with industry professionals together in a meeting room. The aim of the OA is to obtain information on: • The nature of the work, the conditions of execution, labour market entry requirements, and employment and remuneration perspectives • The tasks and operations carried out by the person performing the occupation in question • The performance criteria and the conditions of tasks' execution • The working process • The occupation's necessary skills and desired behaviour • Gender-specific elements to take into account including women's place in the field and in businesses	The PAG is an advisory committee that does not have decision-making power. Its mandate is to make recommendations or express opinions on the skills sought after in the occupational field. It ensures that the program content meets the labour market requirements and makes sure that graduates of the program will have the skills necessary to enter the profession. It advises on current programs' relevance and the development of new programs to meet the emerging needs of the labour market and the community. Depending on the institution, the mandate of the PAG may include: • Providing information on the technical and occupational skills required by employers • Offering suggestions on new facilities and technology to use in classrooms and workshops • Providing information on future workforce needs • If applicable, verifying that the skills developed in the program meet accreditation standards or other regulatory requirements • Making other recommendations on improving the program • Providing an assessment of graduates' skills • Orienting work, in accordance with the mission and policies, towards goals approved by the board of directors • Informing the institution of labour market changes • Suggesting new areas of specialization to respond to new professional situations • Taking part in the process of evaluating the institution's programs of study NOTE: Consultation must take place during a new program's development OR on a set schedule (every three years, five years, etc.) during the program's delivery OR as needed when updates are necessary

[29] Taken from the reference documents of Canadian colleges, including La Cité – https://www.collegelacite.ca/directives/pedagogique/ped-02#:~:text=Les%20comit%C3%A9s%20consultatifs%20jouent%20un,travail%20et%20de%20la%20communaut%C3%A9.

[30] Taken from COLLÈEGES ET INSTITUTS CANADA (2017). *Academic Employer Connections in Colleges and Institutes: The Role of Program Advisory Committees.*

COMPARISON: PROGRAM DESIGN	
DETERMINATION OF OBJECTIVES AND STANDARDS	**DETERMINATION OF OBJECTIVES AND LEVEL OF SUCCESS**
Objectives: Objectives determine the learner's expected results. The achievement of objectives and the adherence to standards ensure that skills have been acquired or mastered. When developing and officially presenting study programs, each objective is formulated as a skill and includes a description and components. **Standards:** A standard is the level of performance established as a threshold for recognizing that an objective has been achieved. The achievement of objectives and the adherence to standards ensure that skills have been acquired or mastered.	**Objectives:** An objective describes a behaviour that results from the learner's learning. It is derived from a prior objective or, if desired, a step taken towards a subsequent objective. It is always expressed with a focus on the learner, and it specifies the behaviour that the learner must master. **Level of success:** The level of success indicates the degree to which the learner has acquired skills or behaviour. It enables a decision to be made as to the certification of studies. This level is set in accordance with labour market expectations and specified performance criteria.
COMPARISON: PROGRAM DESIGN	
COURSE OUTLINE DESIGN	**COURSE OUTLINE DESIGN**
A course outline is a tool that allows teaching staff to communicate with learners. It is a contract between the teacher and learner. It contains a course description, a plan of learning sequences, the terms of assessment, a mediagraphy, and any other information deemed relevant by the teacher's department. A course outline must adhere to the standards set out in the master course outline.	The course outline is a succinct document that presents course objectives. It is a contract between the teacher and learner. It includes information on methodology, bibliographies, terms of participation, and terms of assessment.

4.2 Relationship between steps, principles and values

The principles and values set out in Section 2 demonstrate the importance of modelling training programs on labour market needs, whether these needs are observed through sectoral monitoring or through consultation with businesses (OA, advisory group or committee, etc.). They also emphasize the importance of basing the training engineering process on information collected from employers when determining skills, the contexts in which skills are used, and the criteria employed to assess skills.

The tables in Section 4.1 show how these principles and values are incorporated and integrated into all stages of the program design and development process. The private sector's presence and the consideration of its realities (occupational functions, context of execution, performance criteria, environmental context and specificities, gender awareness, etc.) are also noticeable in the table. It promotes a partnership approach, as well as adaptations and flexibility to improve accessibility for learners. Management agility benefits the institutions involved in the process, allowing them to contribute to the development and subsequent implementation of these training programs.

4.3 Description of skills

As mentioned above, in Canada, training management varies from one province or territory to another. While the CBA's underlying principles and values guide implementation, there are some differences when it comes to the description of skills. To facilitate readers' understanding, one of these geographical differences is explained briefly in this section.

First and foremost, this information aims to guide reflection and provide structure to the process in countries that are new to using the CBA or that are interested in doing so. Countries that already use specific terminology or an implementation system may continue to do so, as the details of this section are not mandatory.

In general, determining skills is not easy. It is a non-linear process involving multiple steps that are neither unique nor universal. These steps are:

a) Analyzing information
This initial step is used to confirm that all required information is available and that each member of the program design team can use it adequately.
b) Organizing informations
Generally, the information analysis leads to certain hypotheses for organizing skill-related data. For example, information on repairing a device may be organized together so that it can eventually be converted into a single skill called "repair a ...". In addition, information about problem solving could lead to the definition of a skill called "solving problems with...". These groupings of information must be meaningful to both the work context and the training context in order to be confirmed.
c) Describing skills
Next, one must find the right language to describe the skill. It must be observable, measurable, and representative of how a task is performed. Skills can be presented as situations or as behaviours.

DESCRIBING SKILLS

i. SKILLS TRANSLATED INTO SITUATION

Skills taught informally using experience center on individual progress. They lay out a process a person can follow to develop personally and professionally. One may choose to present a practical skill to promote the attitude- or self-management-based skills, such as interpersonal communication or occupational ethics. **This type of skill contributes to personal development and accounts for personality traits, values, and attitudes. These aspects go beyond clear-cut behaviours that are easy to anticipate and observe.** When a skill is presented as a situation, it allows the learner to evolve in particular environments, especially where results are difficult to standardize. For this reason, and because of individual variability, it is generally impossible for everyone to achieve identical learning results.

ii. SKILLS TRANSLATED INTO BEHAVIOUR

Skills presented as behaviours are taught according to more traditional pedagogy, in which the skill determines the anticipated results. **It enables a skill to be translated into observable actions and measurable results.** Skills are best presented as behaviours when they are clear-cut. In vocational training, this refers to occupational skills. Finally, when skills are presented as behaviours, performance can be assessed using specific conditions and precise criteria.

5. TEACHING AND LEARNING[31]

In the CBA, learning starts with the learner's prior knowledge and is enriched through the application of adapted teaching strategies, during which learners acquire extensive knowledge. Learning relies on internal cognitive, emotional, and psychomotor resources, as well as the available external resources.

The learner must take ownership and develop skills based on internal and external resources in order to progress to a satisfactory level that meets the occupational requirements.

5.1 Planning[32] [33]

Firstly, as teaching is often conflated with learning, it is important to ask the question: ***"Does teaching guarantee a learner will learn?"*** The answer is ***"no."*** Depending on the strategies used by the teacher, it is possible that little or nothing may be learned.

Overly theoretical teaching will hinder learning. Learners will simply repeat what was presented to them without integrating knowledge or developing appropriate abilities and behaviours. Learners do not learn by simply going to classes, workshops, or labs, or by being taught by the teacher.

The learner learns by reading, doing Internet research, talking with peers, taking part in social activities, gaining work experience, watching television reports, doing hands-on activities, experimenting, etc.

In the CBA, the teacher's role is to create situations that help each learner learn. Gender-responsive pedagogy is crucial when designing these situations.

The CBA requires a new vision of teaching. Teachers cannot limit themselves to having and communicating knowledge or demonstrating skills. The teacher's role in the CBA is to ***facilitate learning***.

The teacher is responsible for selecting teaching strategies and learning activities that are tailored to learners. The teacher must also verify that the learners understand what they learn. Teaching strategies must be modified as needed.

[31] Adapted from AYLWIN Ulric (2000). *Petit Guide pédagogique*
[32] Inspired by MICHAUD, Nathalie (2010), *Courants pédagogiques.*
[33] Inspired by MINISTÈRE DE L'APPRENTISSAGE DE LA SASKATCHEWAN. *Chapitre 2 : Modèles, stratégies, méthodes et techniques d'enseignement.*

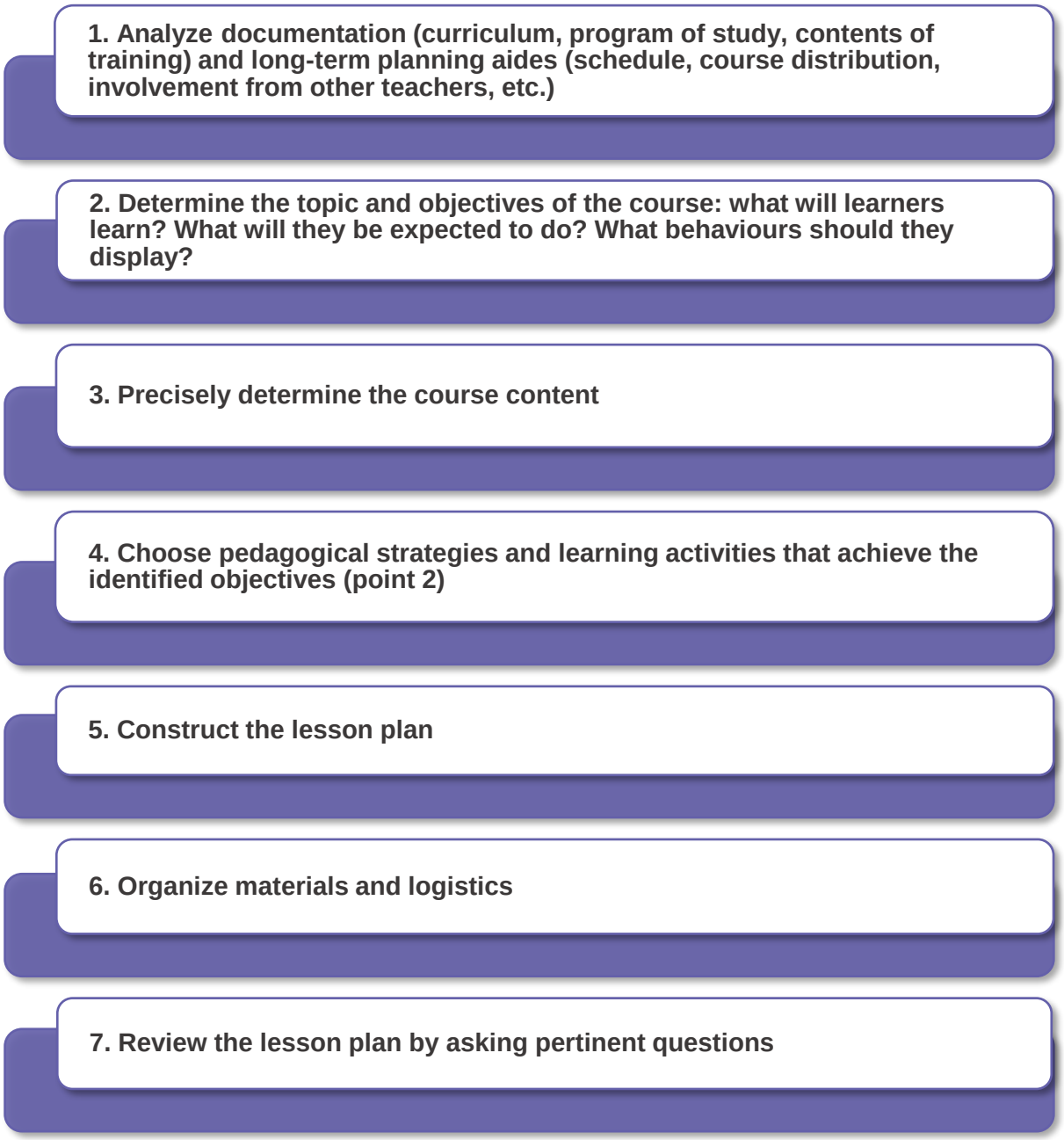
Pre-lesson planning and preparation by the teacher is essential in the CBA. The teacher must not devote all **THEIR ENERGY TO PREPARING WHAT THEY WILL SAY IN CLASS,** but rather use their time to think about strategies and prepare activities to occupy learners' time. It is vital that the learner **does the work and is active during the training session.**

The teacher is not simply a broadcaster of knowledge. They accompany the learner, coach, provide structure, encourage. foster trust. motivate. etc.

THE CLASS MUST BE PREPARED TO SUIT LEARNERS, NOT THE TEACHER. Quality training depends on good planning and good learning supports.

Figure 2 illustrates the main steps a teacher must take to plan a training session properly.

Figure – 10 – Lesson planning steps by the teacher



To complement these steps, the teacher can use a list of checkpoints can be used to support their preparation process.

Figure – 11 – Preparation checklist for the teacher

Planning and reviewing the lesson plan

- ☐ I welcome learners to create an environment that is conducive to learning.
- ☐ I recap the last training session.
- ☐ I present the structure of the training session: what will be covered, why, and how; the learning objectives, etc.
- ☐ I check to see what learners already know.
- ☐ I explain, demonstrate, and give directions.
- ☐ I ask a lot of questions and invite learners to do the same.
- ☐ I perform additional demonstrations using other techniques and scenarios.
- ☐ I utilize visuals (projections, illustrations, objects, etc.).
- ☐ I observe the verbal and non-verbal reactions of learners: those who understand and those who do not understand as well.
- ☐ I utilize silences to encourage reflection.
- ☐ I have learners do exercises and repeat them in modified contexts. I have learners practice as much as possible.
- ☐ I use formative assessment to track learners' progress.
- ☐ I repeat explanations in various ways.
- ☐ I end the lesson with a summary.
- ☐ I preview the contents of the next lesson and provide clarifications on the exercises assigned to learners and the preparation they need to do.
- ☐ Overall, my lesson accommodates differences in learners' learning styles, backgrounds, gender, etc.

5.2 Collaborative approach [34]

The CBA emphasizes skills development rather than course delivery.

A collaborative, collective and multidisciplinary working approach is crucial for teachers. When teachers work in teams, it ensures the overall planning of the study program implementation and allows for a better articulation of skills.

Utilizing a program committee brings together a diversity of experiences and professional practices in fields related to the occupation. This makes teamwork more effective and encourages the sharing of different methods and points of view, while enabling a program vision that incorporates different angles and thought processes. Although a teacher is not an expert in all related skills, they must have a comprehensive program vision and a general understanding of each skill's contents.

Taking a program-oriented view rather than a fragmented, course-oriented view ensures that learning will be cohesive and progressive.

Positive changes to put in place when managing a study program following the creation of a program committee:

- Development of a comprehensive and shared program vision
- Common understanding of each skill (specific or general)
- Multidisciplinary work of teachers: everyone's strengths are brought to the table
- Development of the learner's skills using a concerted approach
- Promotion of co-teaching or collaborative teaching approaches
- Sharing of teaching strategies, challenges, and best practices
- Presence of a comprehensive vision of the program, including basic training and complementary disciplines
- Etc.

The CBA brings about changes in teaching approaches. The teacher's role as a broadcaster of knowledge is set aside in favour of an accompaniment and coaching-based approach. The change in practices is strongly supported by teachers' ability to develop links between the skills contained in a program.

[34] Adapted from AYLWIN Ulric (2000), *La différence qui fait la différence…ou l'art de réussir dans l'enseignement*

5.3 Coaching and accompaniment-based approach[35]

In both of the following situations, the teacher's behaviours indicate that they consider themself the primary agent of learning.

- The teacher feels obligated to ensure quality and to conduct most of the intellectual operations.
- The teacher believes that teaching actively guarantees learners listen and understand.

Overall, the teacher is mistaken! The teacher believes that when they think, learners also think, and that when they explain well, learners subsequently understand well. This approach is diametrically opposed to the CBA.

According to the cognitivist and constructivist learning theories underpinning the CBA, learners should take an active role, while the teacher's role is to be a coach and to accompany learners in the learning process.

By coaching and accompanying, the teacher helps the learner reflect and advance, while enabling self-knowledge and recognition of the learner's strengths and challenges. The teacher does not try to take the learner's place; they are a facilitator. Pedagogical strategies are crucial tools that allow teachers to act effectively in a variety of learning situations.

5.4 Applying pedagogical strategies[36] [37]

A pedagogical strategy can be defined as a set of means, tools, activities, and resources used to adapt a given pedagogical method to the training context.

When thinking about training, one must consider the setting, issues, learner characteristics (backgrounds, number, paths, specific learners experiences, etc.), available resources, learning objectives, time, etc. The teacher must not simply select a method, but consider the cognitive, social, economic, cultural, and other factors that support learner success.

In addition, when choosing a pedagogical strategy, the teacher must examine the learners' strategies and apply gender-responsive pedagogy[38]. The CBA teacher must approach the teaching and learning situation holistically.

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[35] Inspired by LASNIER, François. (2000). *Réussir la formation par compétences.*
[36] Inspired by LASNIER, François. (2000). *Réussir la formation par compétences.*
[37] Inspired by TREMBLAY-WRAGG, Émilie, Carole RABY et Louise MÉNARD (2019). *La diversification des stratégies pédagogiques à l'université : quelques exemples d'application en salle de classe.*
[38] Inspired by FORUM DES ÉDUCATRICES AFRICAINES, http://fawe.org/fr/nos-programmes/les-interventions/pedagogie-sensible-au-genre/#:~:text=Doter%20les%20enseignants%20de%20connaissances,sensibles%20au%20genre%20en%20classe.

Pedagogical strategies break down into four main categories that reflect different teaching perspectives:

Due to the multitude of strategies available, but especially those that must be valued in a CBA context, the strategies presented in the following pages are only a sample. They focus primarily on individual work, interactive activities, and social constructivism-based activities. These strategies may be implemented in in-person or remote training. They may also be combined in accordance with learners' profiles and experiences, the nature of the training content, etc.

The methods and strategies presented in Table 3 are mainly interactive and social constructivist, although an individual approach may be taken in certain cases. They enable the creation of learning strategies that encourage and rely on the active involvement of learners to help them retain, develop, or consolidate knowledge and skills.

These methods help ensure that knowledge is constructed, rather than being transmitted unilaterally from teacher to learner. **This is the foundation of the CBA**. In this process, the learner is engaged, collaborates, and interacts with the material, the teacher, and peers: everyone is involved in the training process. This interaction may take different forms, as presented in the examples in Table 3.

Interactive teaching means creating moments and spaces for discussion, sharing and collaboration. The situation is different in in-person training than in remote training, as the delivery method significantly impacts the group dynamic. While remote training greatly opens access to training and supports accessibility, it also presents additional considerations and challenges for the teacher.

Table 3 – Recommended pedagogical strategies in the CBA[39] [40]

PEDAGOGICAL STRATEGIES	OBSERVATIONS
1. Problem-based learning The problem-based approach (problem-based learning) confronts the learner with challenging problems that are inspired by the actual workplace and may be real or fictional. Its goal is to develop problem-solving skills. The learner may work alone, in pairs, or in small teams. The teacher encourages learners to reflect and search for solutions, etc., but does not offer solutions. Learners may search for solutions for hours, days, or weeks depending on the complexity of the problem. This may be done individually or in teams, in which case learners also develop communication and teamwork skills, etc. Problem solving requires that learners use a systemic process: read the problem and define terms, analyze the problem, identify knowledge to acquire, categorize this knowledge, establish research priorities, propose and confirm hypotheses, document one's positions, etc. Individual study is also encouraged, although the exercise can be done in groups. This strategy may be combined with a presentation, group work, exercises, a case study, or guidance for individuals or groups.	This method enables knowledge to be applied in an actual work context or a context inspired by the workplace. It promotes peer-to-peer learning and allows for feedback and coaching from the teacher. When guiding learners, the teacher must ensure that they stay on track.
2. Brainstorming Brainstorming generates ideas that stimulate creative thought when looking for solutions to a given problem. It generates the largest possible number of ideas in a limited period on a given topic, with no criticism or judgement. This method for coming up with ideas as a group encourages a large quantity of ideas, spontaneity, and imagination.	Brainstorming is often used at the beginning of a project. For this strategy to be effective and encourage participation, it should be used in small groups of learners.
3. Peer-to-peer coaching In a peer-to-peer coaching situation, learners learn from one another. The coach has a direct relationship with learners and must utilize their abilities and knowledge. The coach must also be able to assess the performance (knowledge and abilities) of their peers in order to provide the necessary support. The coach then uses their experience or strengths and gets their peers to contribute. With this method, learners can learn from their strengths as well as their mistakes. By taking turns at coaching, learners can develop the ability to concentrate on a problem and identify what action to take. This method allows both the coach and the person being coached to work towards positive change.	This method focuses on finding and applying one's own solutions, thereby developing learners' self-reliance. The teacher must coach learners who take on this responsibility to stop them from getting off track.

[39] Inspired by CHAMBERLAND, G., LAVOIE, L. MARQUIS, D. (1995). *20 formules pédagogiques.*

[40] Inspired by INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC (2011). L'approche par compétences : Un levier de changement des pratiques en santé publique au Québec

PEDAGOGICAL STRATEGIES	OBSERVATIONS
4. Demonstration The performance of actions and operations presented by the teacher to learners — or by learners to peers — to illustrate a principle, process, or movement. Most often, demonstration involves presenting resources such as models, various equipment, an applied technique or a process, videos, slide shows, etc. During the demonstration, the teacher may ask learners questions to highlight important points. At the end, the demonstration may be summarized, and if desired, one or all of the learners may repeat the demonstration.	Demonstrations are more challenging in large groups. They are not appropriate when using small materials or items. A demonstration does not constitute a complete strategy. It requires complementary activities to facilitate learning (practice, hands-on activities, reading, etc.).
5. Peer-to-peer teaching Peer-to-peer teaching is a pedagogical strategy in which knowledge, know-how or self-management is transmitted by learners in a group, or by a work team member, rather than by a teacher.	This method may lead some learners to feel the teaching they received was not as valid as if it would have been taught by a teacher. As such, the teacher must support and guide the learner to make the experience a success. This strategy may work better in a small work group, which can reduce the stress of the learner responsible for teaching.
6. Case studies Case studies involve proposing a problem to be solved in a given field of specialization to a small group (or a learner) and to guide them in solving the problem. The primary goal of this method is to encourage learners to engage in and retain problem-solving approaches. The teacher's role is to guide the discussion towards the steps needed to solve the problem.	This method enables knowledge to be applied in an actual work context, or a context inspired by the workplace. It promotes peer-to-peer learning and allows for feedback and coaching from the teacher. However, it may lead the learner to overgeneralize based on specific situations if they focus too narrowly on the case study. This method requires group cohesion and the teacher's qualifications as a facilitator.
7. Educational games In this teaching method, games are used as learning activities. This creates competition among players (learners), which makes learning activities stimulating and fun.	The design and preparation of customized games tailored to learning objectives takes specific abilities and a lot of time. The teacher must manage the group effectively to avoid unhealthy competition between learners.

PEDAGOGICAL STRATEGIES	OBSERVATIONS
8. Role-playing Role-playing features simulated situations inspired by the actual occupational context. This develops interpersonal relationships, and lets the teacher observe learners in various roles. Role-playing is different from simulation because it affords subjectivity. The learner plays a role spontaneously and has a lot of leeway in interpretation. Simulations focus on objective understanding, while role-playing deals in perception, and therefore subjectivity.	Preparing and conducting role-playing sessions is time consuming. They can devolve into heated ideological debates driven by emotion. They can also be compromised due to the refusal or reluctance of some learners to participate. Teachers therefore need to be skilled facilitators.
9. Mentoring Like coaching, mentoring involves a relationship in which one person assists another. Generally, a mentor is a learner who already possesses skills and abilities and who helps another learner whose skills and abilities are less advanced. The mentor must show respect to the mentee and be willing to share knowledge. The mentee must have a positive view of mentoring and be willing to receive advice, knowledge and guidance from the mentor and peer. The use of mentoring in pedagogy must have precise learning objectives and be structured effectively by the teacher.	Mentoring requires adequate preparation on the part of learners and the teacher, and both the mentor and the mentee must have a good understanding of the objectives. Mentoring promotes the development of the person's autonomy, including self-reliance, including vis-à-vis the mentor.
10. Discussion-oriented methods In these teaching methods, a facilitator (the teacher or another learner) encourages learners to interact with each other to share their knowledge or opinions on a given topic. - ***Round table (classic discussion):*** A group of five to twelve learners who discuss a given topic and share their opinions, practices, ideas, etc. - ***Debate:*** Two groups of a limited number of learners are asked to defend different points of view before an audience of other learners. At the end, the facilitator recaps the debate. - **Buzz session:** Learners are split into smaller groups, in which they discuss a given subject within a time limit. A representative from each group presents the results of that group's discussion to the class. This may be followed by a general discussion and a recap. - ***Forum:*** Presenters, speakers or experts give a presentation on a given subject. Learners are then invited to ask questions. A recap is generally provided at the end.	The success of discussion-based activities is largely dependent on the teacher's communication skills, who acts as a facilitator. There is a risk of getting off-track and having insufficient interaction. On the other hand, when they are well-managed, these methods promote the sharing and consolidation of knowledge due to the learners' active participation. Open discussions are also encouraged.
11. Project A project allows the learner to encounter difficulties to overcome or problems to solve, introducing content that must be understood, defined, retained and reused. The learner must also develop, design, analyze, summarize, etc. A project transforms the traditional learning sequence (class, exercises, evaluation)	The project is an attractive pedagogical strategy due to its comprehensive and context-specific nature. It helps develop individual and group work skills

PEDAGOGICAL STRATEGIES	OBSERVATIONS
into an inverse sequence (encountering a problem, researching information [self-teaching], finding a solution). The teacher's role is to accompany learners. Tools are provided and methods discussed. The teacher facilitates the learning needed to conduct the project, helps to resolve group functioning issues, ensures projects are completed and presented, and makes sure that all pedagogical elements have been covered.	while promoting communication and interaction between participants. If groups do not find a solution, it is important to make sure learners understand there are problems that may be beyond their skills. The teacher must establish deadlines and constraints in such a way that all learners are involved in the project.
12. Simulations This method aims to create a situation in class that objectively represents a situation the learner may face. Simulations allow learners to put their skills and learning into practice in a more structured environment than is afforded by role-playing. Depending on the nature of the simulation, the learner may be able to observe the consequences of their decisions. In certain cases, aspects of simulations are combined with aspects of educational games to make the learner more interested.	There is a risk that simulations can oversimplify real situations. Additionally, if simulations are too complex, the learner may lack confidence or get confused. Some learners may become too focused on specific, limited situations rather than developing their ability to analyze the overall situation and take a step back. Designing and carrying out customized simulations takes a lot of work and specific abilities on the teacher's part.
13. Work experience It is possible to arrange short work experience sessions rather than traditional internships, which allow learners to put the knowledge they acquire during training into practice in an actual workplace, compare theoretical knowledge with real-world practices, and become acquainted with aspects of an occupation that are difficult to replicate in the training context. These work experiences are generally short-term and may be alternated with periods of in-institution training. It is possible for a limited number of learners to participate in work experience at one time, alternating with other learners. These brief workplace experiences add a practical dimension to the training program and emphasize the importance of skills taught during the program. Work experience provides the learner with additional information about the occupation and helps with career choices. It promotes discovery of strengths and weaknesses and directs effort towards addressing the shortcomings.	Work experience offers a view of real professional life. It is an opportunity for the learner to apply and assess knowledge and learning in real-life situations. It requires significant time and effort not only for the training institution, which must perform extensive coordination, but also for the business or organization that agrees to host the learners and contribute to their training. One must consider issues of space, supervision, assignment of tasks, etc.

Remote delivery has no impact on several of the methods and strategies presented in Table 3 as they are interactive pedagogical strategies. However, while it is possible to instantly create physical group meeting spaces in person, it is not possible to do so in remote training. As such, it is important to have a digital infrastructure where teachers can have meetings with learners and learners can have meetings with each other. This infrastructure must be tailored, flexible and stable. With the wide range of digital tools available, these strategies can be adapted to remote delivery. This is especially true as new platforms focus on interactivity, and now offer the ability to create “rooms” for small work groups during virtual presentations.

Remote training strategies and challenges

Implementing an interactive pedagogical strategy in remote training may appear challenging at first, especially if the teacher does not have the necessary technological skills and is unable to adapt. The engagement required from both teachers and learners is also a major challenge due to the radical transformation of the educational relationship. Motivation, involvement, and engagement are not solely dependent on the use of technology. The teacher and the training institution should also be aware that certain paradigm shifts may be instrumental.

While the quality of remote training has improved markedly in recent years, the perception of this form of delivery sometimes differs from that of in-person training. Some people choose remote training due to its flexibility and ability to accommodate personal activities (parental responsibilities, part-time employment, etc.). In remote training, learners can learn at their own pace in a more individualized manner to fit their personal schedules.

Asynchronous training can lead some to think that learning is somewhat impersonal or anonymous. While the perception of being alone on one’s learning journey may be a motivating factor for some, others may feel that it is an issue leading to dropping out. An interactive strategy must therefore be implemented in a careful manner according to the training program’s objectives. The way in which training will be delivered must be communicated in advance so that learners can make an informed choice and be better prepared.

An issue with remote training is that the learner’s relationship to the classroom may change when their image is displayed in a virtual space. In synchronous training that technically accommodates the use of video or audio, it is not always easy to support learners and build trust so that they turn on their cameras. Encouraging them to speak is a further challenge.

To foster reflection on the use of remote training technology, Table 4 presents methods and tools that may be used in a remote training context. These tools may be combined with strategies and methods employed in in-person training, as they can be used directly in in-class teaching to develop information communication technology (ICT) skills.

Table – 4 – Remote training tools recommended in the CBA

TOOLS	OBSERVATIONS
1. Discussion forum In remote training, discussion forums employ the same principles as in-person forums, wherein they host a group of users and let them send text-based messages to each other asynchronously (in delayed time) over the Internet. Most forums are organized by discussion topics. These topics are developed in discussion threads, and in response to the primary message. In the forums, learners collaboratively explore an idea, a concept, or a theory. Alternatively, they may answer questions by advancing arguments or opinions on the topic in question. The teacher who wishes to implement a collaborative learning strategy[41] that utilizes a discussion forum must plan to develop topics that get learners to collaboratively explore an idea, concept, or theory, or take a position.	One main advantage of discussion forums is the creation of virtual learning communities that work together towards a common goal. When overseen properly, discussion forums contribute to improved written communication; the development of thinking skills and the ability to analyze, summarize and debate; decision-making and self-reliance; the ability to collaborate with peers in a virtual context; self-assessment and peer assessment; open-mindedness; and ethics. It is important to watch for idea fragmentation and implement convergence strategies (follow-up, recap, review, summary of ideas, etc.). Another negative aspect of discussion forums is that they can become filled with too many messages. Assessing learners' participation requires qualitative analysis, which is difficult to apply to a large group.
2. Videoconferencing and chat tools Videoconferencing is an interactive tool that transmits video and audio information in real time from the broadcaster (generally the teacher) to one or more remote audience members (generally the learners). It enables synchronous communication and screen sharing (viewing of a document by the entire group; adding text and notes; visiting a website in real time, etc.). The teacher can use videoconferencing to conduct activities, live discussions and encourage questions, as in in-person teaching. Many favoured in-	The main benefits of videoconferencing are accessibility and interactivity, the latter of which is possible due to the synchronous delivery of audio and video.

[41] Inspired by WALCKIERS, Marc et Thomas DE PRAETRE (2004). *L'apprentissage collaboratif en ligne, huit avantages qui en font un must.*

TOOLS	OBSERVATIONS
person strategies can also be used in videoconferencing to sustain participants' interest and attention. Other tools, such as chat, can be added to transfer files or enrich discussions. Chat is a synchronous communication tool that enables users to interact simultaneously. It is also possible to view messages sent by other learners or the teacher, and to answer instantly. It is useful for communication that requires instant feedback from members of a small group.	
3. Wiki A wiki is a publishing tool that allows a virtual learning community to collaborate asynchronously to draft documents. All changes made to a document are systematically archived in a database with the date of modification and the author's name. It is thereby possible to observe the evolution of each page and see how each member of the virtual community contributed to it. Wikis utilize collective intelligence, and they can also decentralize knowledge and power. Learners and teachers are engaged in a sort of discovery of a space that is constructed through interaction. Wikis can be used as part of a progressive approach. They offer the possibility of collectively creating and enriching knowledge on a given subject in a web environment.	The collaborative nature of these tools gives learners a new way to invest in their learning. However, wikis have some downsides. As their contents are modifiable, there is a risk of technical errors that result in lost information. Additionally, because wikis are built gradually, they may lack structure. There may also be copyright issues: who owns the document? Finally, if the teacher does not properly oversee the group, the practice may result in a poor outcome and low participation.
4. Blog A blog is a publishing tool that allows learners to create a sort of online logbook. A blog is made up of text, media, or hyperlinks posted on a regular basis (daily in general). Some teachers use the blog as a teaching material. Though the blog may appear to be an individual tool, the blog, like the wiki or the discussion forum, creates a dynamic of exchange, debate, and reflection. It is an idea-sharing tool that can promote collaborative work and the construction of cooperative projects.	The blog helps develop writing skills and critical thinking. It fosters the autonomy and engages learners to listen to other points of view. However, the blog has downsides. All the information it contains cannot be modified, and it must be updated regularly, otherwise it may be forgotten. In addition, the information is scattered.

TOOLS	OBSERVATIONS
5. Video sharing (YouTube) YouTube is a video sharing service that lets users send, download and view video files online. It also lets users comment on videos, creating conversations that are generally linked to blogs. In a pedagogical context, it is possible to password-protect videos so that they can only be accessed by a specific group.	The benefit of this tool is that it allows for diversity in the means of knowledge acquisition. However, this technology generally only complements more formal teaching.
6. E-portfolio An E-portfolio serves the same purpose as a traditional portfolio. It is a digital collection of "objects" that displays the story of a learner's learning. It collects the results of the learner's knowledge and learning, occupational experiences, the work they have produced, and all other relevant records of the learner's achievements that demonstrate their skills. It may be made up of text, finished products, or multimedia files. An e-portfolio gives teachers a better understanding of individual differences so they can adapt teaching to learners. It can also generate communication between the teacher and the learner and strengthen collaboration. The learners' work and reflection allow the teacher to reflect on pedagogical practices and make adjustments or reconsider strategies if necessary. Finally, it allows the teacher to employ innovative, pedagogical approaches centered on the learner.[42]	The e-portfolio must be seen as an instrument that provides evidence of learning. The teacher who chooses to use an e-portfolio must consider the time factor. Managing and structuring this activity involves a number of additional tasks: teaching learners how to use the tool, meeting each learner regularly to provide feedback, and monitoring and assessing each e-portfolio.

[42] Inspired by LACROIX, Marie-Ève et Pierre POTVIN (2009). *Les pratiques innovantes en éducation.*

6. LEARNING ASSESSMENT [43] [44] [45] [46] [47]

The assessment of learning and skill acquisition should never be arbitrary and should follow a process. It is the teacher's responsibility to implement the learning assessment process and to manage how it is applied in formative or summative assessment.

6.1 Fundamentals of assessment

In the CBA approach, the learner is responsible for the learning process. Throughout the process, they must develop the capacity to judge their work and performance and do the same for their peers.

The development of judgement is a skill in itself. It must be integrated into the training program and the pedagogical strategies implemented by the teacher.

While the learner is the primary actor in learning, the teacher is the central actor in the entire assessment process. Teachers are responsible for informing learners of the performance expected and the criteria used to assess each skill. The teacher is responsible for supporting learners and accompanying them as they progress towards achieving a skill. The teacher must also consider the differences within a group of learners and maintain a clear vision of the CBA assessment values.

The teacher is responsible for providing appropriate formative assessment and formally measuring the acquisition of skills in summative assessment.

6.2 Learning assessment [48] [49]

The CBA's ultimate goal is learner success; namely, the learning and development of professional skills. The learner, the teacher, and program support interact to recognize these benchmarks by summative assessments.

The CBA assessment process is designed to provide evidence of learning.

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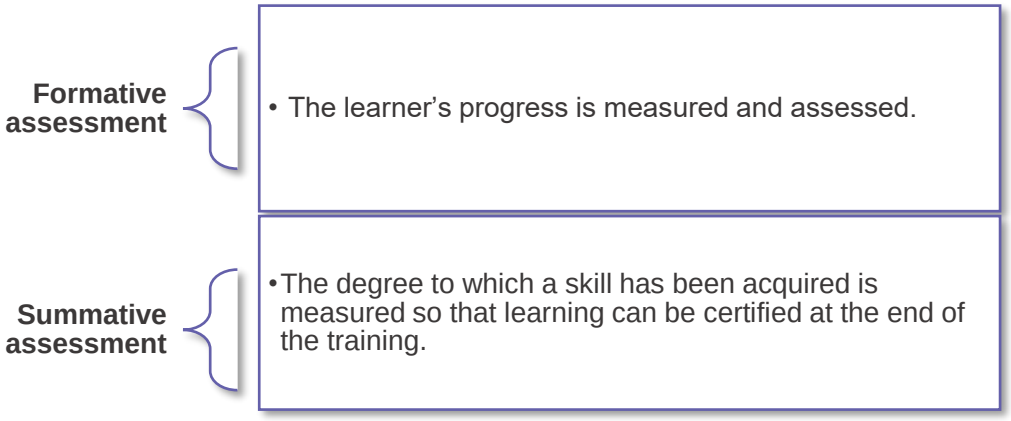
[43] Inspired by GOUVERNEMENT DU QUÉBEC (2008). *Guide pour l'évaluation des compétences et l'élaboration des épreuves aux fins de sanction.*
[44] From ORGANISATION INTERNATIONALE DE LA FRANCOPHONIE (2009). *Guides méthodologiques d'appui à la mise en œuvre de l'approche par compétences en formation professionnelle.*
[45] Inspired by LEROUX, Julie Lyne (2015). *Évaluer les compétences au collégial et à l'université : un guide pratique.*
[46] Inspired by LEROUX, Julie Lyne et Nathalie BIGRAS (2003). *L'Évaluation des compétences : une réalité accessible dans nos collèges.*
[47] Inspired by SAVARD, Louise (2007) *L'évaluation des apprentissages.*
[48] Inspired by LEROUX, Julie Lyne (2006). *Laboratoire de recherche en évaluation.*
[49] Inspired by LEROUX, Julie Lyne (2010). L'évaluation des compétences au collégial : un regard sur des pratiques éducatives

It is integral that CBA programs incorporate criteria that enable the thorough and equitable assessment of all learners, making sure they are not too general or too detailed. Skills development, the complexity of skills, labour market information (obtained through consultation), and the environment and context of assessment are all considerations when establishing assessment protocols in line with the CBA approach.

6.2.1 Concepts and principles

In the CBA, the **learner takes a central responsibility for learning,** which affects assessment. Assessment includes two distinct but complementary functions:



These complementary functions of assessment share certain principles:

- Assessment serves a pedagogical purpose and is designed to complement teaching. It should reflect what was taught and should never be a surprise to learners.
- The primary purpose of assessment is to assist in learning. As such, it must generate quality feedback from the teacher. The teacher must inform the learner the elements necessary to further the development of skills. Self-assessment and peer assessment opportunities must also be planned.

To ensure that learning support is present and equitable for all learners, gender awareness and inclusivity cannot be neglected.

- The topic covered in the assessment, the terms under which the assessment is carried out, and the documents used must not create barriers for the learner. The teacher must plan the assessment adequately and explain terms, topics, diagrams, etc. during the assessment. They must also be sure to answer clarifying questions at the beginning of the assessment.
- Knowledge, abilities, and attitudes must be taught before they can be assessed. It is especially important to teach learners the characteristics of tasks that will be assessed before the assessment takes place.

- The time dedicated to learning should exceed the time dedicated to assessment. Assessment should be based on information that is deemed decisive in determining whether a skill has been achieved to a given level.
- The assessment criteria must be known and understood by learners. The type of question assigned to learners, or the finished product they are expected to produce, must have been taught to the learners beforehand.
- The learner must be informed beforehand of the material that can be used during the assessment (e.g. access to a reference book, dictionaries, calculators, etc.).
- The assessment tools must be chosen with care.

Like teaching, assessment must incorporate the principles of gender-responsive pedagogy. Teachers must have the knowledge, skills, and attitudes necessary to adequately assess all learners using gender-responsive processes and practices.

6.2.2 Values

CBA **values** are fundamental to learning assessment, which is an important tool for learner success. Assessment aims to help learners develop to their full potential, regardless of their capacities or specific needs.

These values should always guide the approaches taken and decisions made regarding assessment.

- ***Fairness*** involves the determination and respect of individual rights first and foremost.
- ***Equality*** is the possibility for each learner to enjoy the same assessment requirements, conditions, and identical or equivalent means.
- ***Equity*** justifies the taking of a different or differentiated approach to assessment that accommodates the characteristics of individuals or groups. Equity gives everyone the best chance to succeed.
- ***Consistency*** refers to assessment that is directly connected to the related learning and teaching.
- ***Rigour*** relates to assessment that is concerned with precision and accuracy, a methodological approach, and informed decisions.
- ***Transparency*** refers to when the standards and terms of assessment are known and understood by all. In the CBA, an assessment should not be a trap.
- ***Feasibility*** means that the assessment is appropriate to the context in which the skill is performed, given the resources available and time constraints in the training institution.

6.2.3 Guidelines

These guidelines can be referred to when establishing a system or policy for learning assessment at an institution. They align with the CBA, its philosophy, and its values.

- In-training assessment is a component of learning and must be integrated into the learner's learning dynamic.
- Assessment during learning must promote the active role of the learner, thus increasing his/her accountability.
- Learning assessment must reflect ethical behaviour.
- Learning assessment must rely on the teacher's professional judgement.
- Learning assessment must correspond to the contents or curricula of training programs.
- Summative assessment must evaluate the acquisition of skills. This ensures that the resulting diplomas and certificates are valued in society.
- Prior learning assessments must recognize previous skills regardless of the conditions under which they were acquired.

6.2.4 Characteristics

There are four main characteristics of assessment in the CBA. These characteristics are directly related to the principles of assessment, its values, and the strategies that will have been implemented during teaching and learning support.

A) A multidimensional assessment: The skill being multidimensional, the learning assessment should also be multidimensional. Assessment situations must be designed so that the learner utilizes knowledge, abilities, and attitudes about the skill.

B) Interpretation of results relies on the assessment criteria: Results are observable, quantifiable, and measurable. Assesment is based on criteria that are directly related to criteria communicated by employers during labour market consultations.

C) Dichotomous scoring: The partial achievement of an assessment criterion, or its achievement on a scale, is an important piece of information in formative assessment. Summative assessment, however, must determine whether the learner has succeeded or failed a given skill. A criterion cannot be partially achieved, as it has been deemed essential to the demonstration of the skill.

D) Variable and established thresholds for success: Each skill is evaluated in a summative assessment. The learner receives a result (pass or fail), which indicates whether he/she has met the threshold for success. The threshold for success of each skill varies according to the level of performance required for labour market entry. The threshold is pre-established, and known in advance by the learner and the teacher.

6.2.5 Formative vs. summative assessment

If a skill cannot be demonstrated in a formative assessment, there is no point in proceeding with a summative assessment, as the learner will fail.

For the teacher
• Practising formative assessment means agreeing to review one's methods by examining the process (the pedagogical strategies used in teaching) and the result (the results of learners' learning). Formative assessment enables interaction between teachers and learners, and is a very effective way to support the coaching and accompaniment approach recommended in the CBA.
For the learner
• Formative assessment informs the learner of the progress made. It guides, motivates and informs. It shows what has been learned, and helps in preperation for the summative assessment.

Formative assessment must provide learners with constructive information. It should not be severe or judgemental.

While formative assessment is a stellar tool for reinforcing and consolidating learning, the results of formative assessments should never take the place of, or be incorporated into, the results of summative assessments.

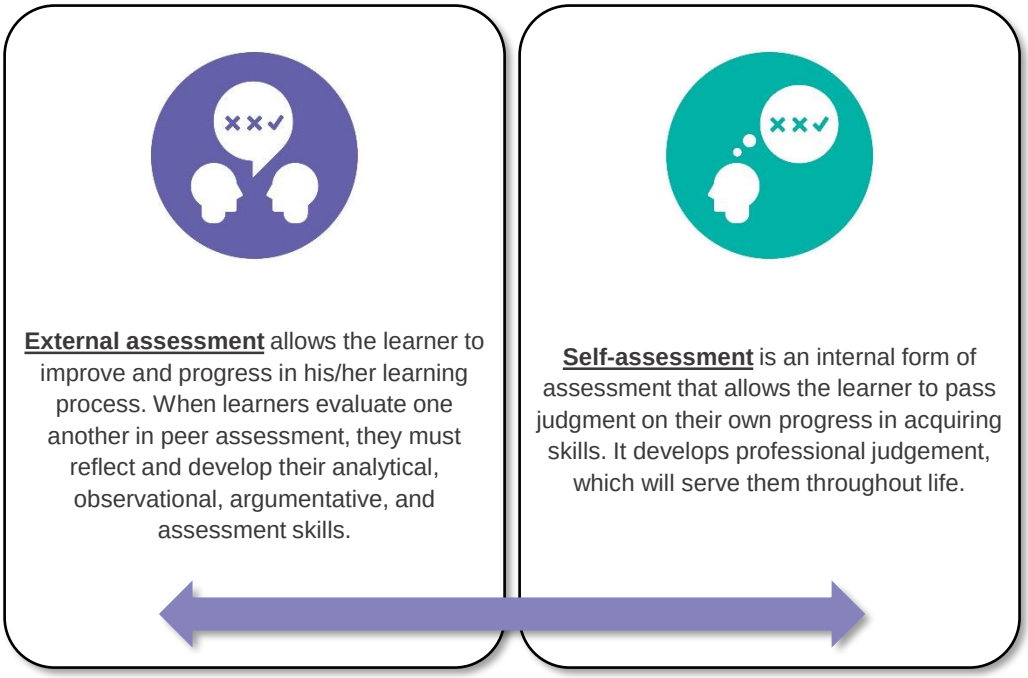
Given that formative assessment is a learning support tool, its use should not be limited to teachers.

In formative assessment, learners may be asked to use their judgement in a self-assessment process. Alternatively, peers may engage in the assessment process.

In summative assessment, evaluation is done externally, and is always performed by the teacher. In formative assessment, evaluation may be done externally (by the teacher or a peer) or using a self-assessment approach (by the learner).

Note that summative assessment does not constitute a follow up to or repetition of prior formative assessments with modification: a summative assessment must measure a true transfer of learning.

Figure – 12 – Comparison: External assessment and self-assessment



Summative assessment provides official recognition that a skill has been acquired. This form of assessment must therefore enable:

- The observation of a **complete task** that utilizes the integrated knowledge, know-how, and self-management relating to the skill in question
- A decision as to whether the skill has been acquired at the end of learning, and the resulting determination of the appropriate certification

6.3 Assessment process

Figure 13 presents an overview of the assessment process from an operational and administrative standpoint.

Figure – 13 – Administrative and operational assessment process[50]

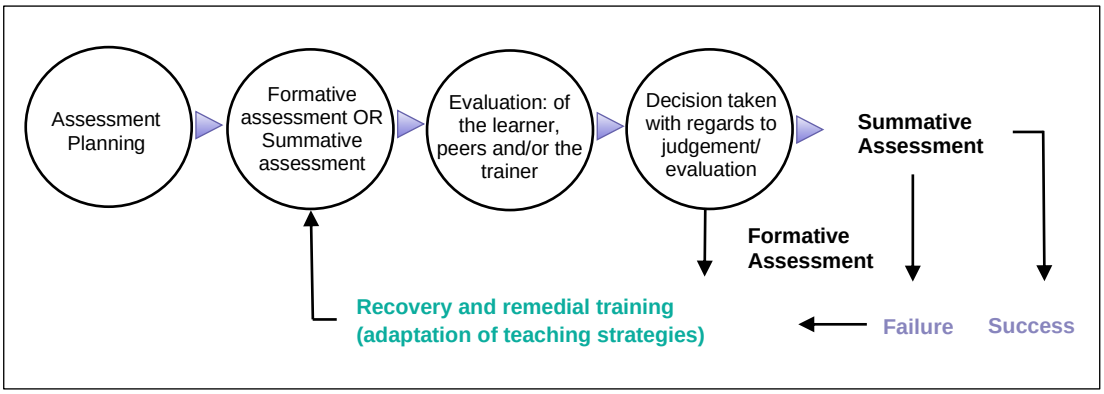


Table 5 is a summary of the steps in the assessment process that incorporates the roles of the teacher and the expectations for the learner.

Table – 5 – The assessment process, from the perspective of teachers and learners

1. PLAN	2. DESIGN AND 3. IMPLEMENT	4. VALIDATE
Plan for the regular verification of learning progress and proficiency (formative and summative assessment). Choose formative and summative assessment activities.	Design self-assessment and peer assessment opportunities using specified criteria and clearly communicated expectations. Design support or remedial activities and activities in response to other learners' needs. Conduct activities according to chosen strategies. Develop complex or authentic tasks as well as formative and summative assessment grids. Have learners conduct assessments (judgement and decision by the teacher).	Adapt learning activities based on the results and needs of the learner. Require the same regulation of learning from all learners. Reflect on regulation and improvement at all steps. Regulation and improvement at each step and at the end of the process.

[50] Inspired by OIF methodological guides

6.4 Type of assessment

In the CBA, teachers have many different tools at their disposal to assess learning. Even the best tool will not achieve the desired results if used in the wrong context, so assessment planning is vital. If multiple summative assessments throughout the semester, the teacher will have to select various assessment tools to measure knowledge, know-how, and self-management. The skill will determine the type of assessment and the appropriate tools used in both formative and summative assessment.

When assessing a technical skill, the assessment should focus on demonstrating the acquisition of the skill, including the knowledge, abilities, and attitudes of the learner.

Know-how and self-management are called upon extensively so that the teacher can determine whether the learner has mastered the skill.

In the case of general skills, the main goal of assessments is to track progress. This is achieved through the formal or informal observation of behaviours and attitudes displayed when carrying out tasks.

In summative assessment, general skills are often assessed by way of specific skills. As general skills are cross-cutting, they should be expressed and developed through specific skills.

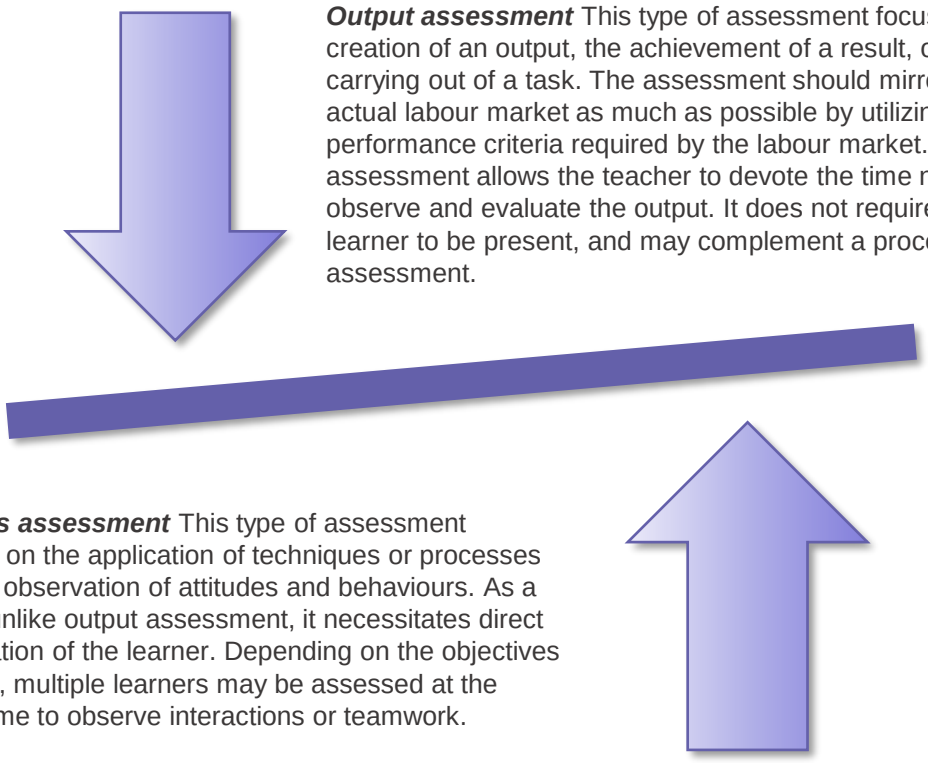
Skills are multidimensional by definition; it is essential to consider all aspects. Formative assessment should measure core learning (knowledge) for the duration of the skill acquisition process instead of focusing on simple knowledge during a summative assessment. The assessment task must be sufficiently complex and comprehensive to attest to the acquisition of core elements and ideally focuses on thinking skills, adaptability, techniques, and concrete and measurable demonstration of abilities through actions.

There are three main categories of assessments, as presented in Figure 14.

Figure – 14 – Categories of assessment

Practical assessment is based on the two principles presented in Figure 15.

Figure – 15 – Practical assessment



Output assessment This type of assessment focuses on the creation of an output, the achievement of a result, or the carrying out of a task. The assessment should mirror the actual labour market as much as possible by utilizing performance criteria required by the labour market. Output assessment allows the teacher to devote the time needed to observe and evaluate the output. It does not require the learner to be present, and may complement a process assessment.

Process assessment This type of assessment focuses on the application of techniques or processes and the observation of attitudes and behaviours. As a result, unlike output assessment, it necessitates direct observation of the learner. Depending on the objectives in place, multiple learners may be assessed at the same time to observe interactions or teamwork.

The categories of assessment presented above may be used in both in-person and remote training. The most important point to remember is that, **for an assessment to adhere to CBA values and principles, the tool or target of the assessment must be properly planned**.

6.5 Assessment tools [51] [52]

Below are a few tools that may be used in in-person or remote assessment, in accordance with the CBA. Some tools may be appropriate for both methods of delivery (or a hybrid model) with certain modifications. The purpose of presenting these tools is to provide examples while respecting the diverse assessment methods that may be applied in different countries (standards, rules, practices, existing tools, etc.). Tools that focus solely on theoretical assessment or the assessment of knowledge are not presented here.

[51] Inspired by LEROUX, Julie Lyne (2017). *Évaluation à distance des connaissances et des compétences : un processus, une approche, des ressources pour bien accompagner les enseignants.*
[52] RINGUET, Sophie et Julie Lyne LEROUX (2016). *L'outil réseau -Processus d'évaluation des compétences à distance : des ressources pour les enseignants du collégial.*

1. Assessment/observation grid

This grid is an ideal tool for assessing specific skills, as well as certain general skills. The grid communicates the formal evaluation points of summative assessments. It can be adapted to assess the output or process (and the behaviour needed to follow a process, e.g., applying safety standards and environmentally conscious practices). The same grid can be used in formative assessments (by the teacher, the peers, or in self-assessment) to familiarize the learner with the teacher's observation elements, the performance criteria, the weighting used, etc. For example, using a tailored grid detailing abilities and behaviours expected of a learner is used to assess the learner during and at the end of the internship.

2. Logbook [53]

A logbook is a simple tool in which the learner records his/her thoughts on what has been learned, including questions, comments, and findings. After each day or week of learning, the learner records positive and negative comments, learning, problems encountered, aspects to improve, strengths, progress in relation to the program, attitudes to develop, gaps to address, etc.

The logbook allows the learner to take stock at any point in the learning process. It may be used during group discussions when asked to share experiances. The teacher may also consult the logbook throughout the learning process and provide feedback to the learner. This tool can therefore be used in formative assessment. The teacher may also choose to assess the logbook after a skill has been acquired, in which case it is a relevant tool for summative assessment. Although it is a written work, the logbook can be used to demonstrate competence, as well as collaboration.

[53] From BÉLAIR, Louise M. et Catherine VAN NIEUWEHOVEN (2010). *Le portfolio, un outil de consignation ou d'évaluation authentique ?*

3. Portfolio [54]

Traditionally, a portfolio is a folder in which the results of a person's training and experience are established and demonstrated for the purposes of recognition by a teaching institution or employer. Portfolios may be used to assess a skill on a similar basis as that presented for the logbook.

The learner gathers the results of their learning, including the work produced and any other relevant records of achievements that attest the acquisition of his/her skill. This may be presented textually, graphically, or in multimedia format. A portfolio documents learning over a given time. Over the long term, it demonstrates the learner's improvement by emphasizing the importance of self-assessment, correction, and revision. In summative assessment, it also allows the learner to demonstrate that a skill has been achieved. If the training is delivered remotely, an e-portfolio, which is a digital collection that shows a learner's learning history, may be used. An e-portfolio can be used in assessment in the same way as in in-person training.

4. Final project

Although it is a written work, a final project can, in some cases, be an attractive tool for helping the learner summarize and integrate learning by offering relevant solutions to a problem. When a final project is used, it must enable the assessment of the analytical skills, the judgement, and the thinking skills of the learner. As a result, the learner will be required to present the different stages leading to the solution of a problem in conditions like those encountered in the workplace.

5. Concept map

The concept map graphically represents concepts that revolve around a subject, to specify the relationships between them, and to prioritize them. Also referred to as a knowledge map, this tool is an idea generator. It enables the learner to hone their ability to summarize knowledge and to visually illustrate their understanding of a question or concept. Concept maps can take different forms, depending on their objectives, and the tools used to create them (manual or electronic). Using a concept map in summative or formative assessment allows the teacher to verify that the learner has integrated the ideas they have encountered. It is also an effective tool for collaborative in-class and remote work.

[54] Inspired by NIZET, Isabelle et Julie Lyne LEROUX. (2015). *L'évaluation des apprentissages et du portfolio.*

6. Internship

The internship is an opportunity to assess the learner in an authentic, applied context in collaboration with a practising professional in the field. This person can attest to the learner's skills development, progress during the internship, behaviours in the workplace, and labour market readiness.

During the internship, the person responsible for the supervision will be called upon to assess the intern. This assessment may take the form of a questionnaire and/or an assessment grid that evaluates the learner's skills during the internship. The internship is itself a true test of the learner's full range of knowledge and skills, and the integration thereof. It is also a test of the learner's knowledge transfer skills and ability to adapt to a real workplace setting.

7. PARADIGM SHIFTS

For successful CBA implementation, a major paradigm shift[55] is necessary in planning, delivery, assessment, certification, and overall management. As a result, the CBA requires paradigm shifts at multiple levels in operations and decision-making. CBA-related changes must be in line with a holistic vision of CBA implementation.

> *People often minimize CBA-related changes, as at first glance, they are thought to concern only the process of developing materials, programs, content, or modifications to pedagogical strategies.*

7.1 Why make changes?

Some reasons that necessitate changes in training programs are graduate employment challenges, a training and labour market mismatch, and poor employability. The CBA is an attractive option as it offers a close relationship with businesses and a vision of pedagogical renewal. It does not focus on creating an extensive description of everything the learner should learn, nor does it focus solely on pedagogical objectives. Rather, it proposes a comprehensive vision of learning. **Interconnected skills that support the learner's overall development and match needed occupational skills are central to this vision.**

7.2 In management

Successful CBA implementation is dependent upon sufficient financial support from ministries in charge of vocational and technical training, significant human effort, **and especially,** a major paradigm shift in planning, training management, system regulation (employment tracking etc.,) private sector involvement, and governance decentralization/deconcentration.

> *Private sector involvement is an integral part of the CBA. It must be present at every stage, from initial consultation to program development to learning assessment.*

It is important to bolster the financial resources of training institutions; initially through governmental assistance, and by fostering **entrepreneurial culture** within the institution's management. The goal is not to compete with the private sector, but to position the institution through the services it provides to businesses, in order to generate revenue or develop partnerships with local actors to encourage them to get more involved (e.g. co-funding, support for equipment, professional development for teachers, etc.).

[55] BOUTIN, Gérard (2004). *L'approche par compétences en éducation : un amalgame paradigmatique*

7.3 In training program planning

The CBA's purpose is not to extensively describe everything that learners should learn. Instead, the CBA limits the proliferation of pedagogical objectives, which helps avoid knowledge fragmentation. This division into small units prevents the learner, teacher and pedagogical managers from having a comprehensive vision of the training program.

The CBA focuses on the connections between concepts, knowledge integration, learning contextualization, and synergy between teachers who deliver a program.

Teaching strategies and learning support strategies must be complementary and focus on a holistic approach to developing learners' skills.

On an operational level, training should be planned and implemented in training institutions with the CBA philosophy in mind. It should focus on communication between pedagogical and administrative teams to align needs for materials, equipment, infrastructure upgrades, and professional development, based on the skills learners must develop. Teachers must take a multidisciplinary approach to planning so that they can each develop a comprehensive and interdisciplinary view of the program.

The planning paradigm shift must involve future graduates' employers. One must consult employers not only during the programs' sectoral planning and design (and updating), but also during program delivery (through visits, contribution to program offering, etc.) and learner assessment (including incorporation of employer assessment). Training schedules must therefore account for this reality and be flexible and adaptable enough to incorporate the private sector throughout.

7.4 In training program implementation

The CBA places as much importance on the affective and behavioral aspect as it does on knowledge. It does not focus solely on content and **the accumulation of knowledge**, but on the development of integrated and meaningful learning.

Teaching and learning strategies must develop the learner's capacity to reuse learned knowledge.

The CBA's multidisciplinary, program-based vision[56] is not limited to planning; it is also important in training program delivery. Teachers, pedagogical decision-makers, and other actors surrounding the learner must have a shared vision: at the end of the training program, learners will be able to use their knowledge and abilities to solve problems or accomplish occupational tasks efficiently. The approach to program delivery, program contents, and inherent activities should be completely oriented towards this common vision.

[56] Inspired by PREGENT, Richard, BERNARD, Huguette et Anastassis KOZANITIS (2009). *Enseigner à l'université dans une approche programme.*

This vision, which goes beyond a discipline-based approach, constitutes an important paradigm shift. It is where planning meets learning assessment.

7.5 In the context of learning assessment

Considering the information presented regarding training, planning and delivery, assessment (whether during or after training) must be inspired by real situations in the workforce. A paradigm shift is necessary to remodel the way training is assessed. Assessment should not be concerned only with the discipline's intellectual objectives — it must be contextualized.

Assessment must allow the learner to prove, through behaviour and abilities, that the given skill was acquired. It must use an approach that integrates different aspects of the learner's knowledge rather than isolating them.

Whether formative or summative, assessment must use measurable and observable criteria inspired by the labour market and acquired by consulting businesses. CBA assessment necessitates a paradigm shift in the prioritization of performance criteria advanced by businesses, and in the involvement of businesses in learner assessments (during internships, final project presentations, applied project presentations, etc.).

The importance of professional judgement must be reasserted if assessments are to comply with the CBA.

Assessing a learner must involve using one's judgement, even if a numbered scoring system is used to measure performance. While assessment is not arbitrary, it goes beyond the description of skills on paper or the use of criteria-filled grids when observing a learner. The CBA assessment utilizes the teacher's professionalism, expertise, and good judgement as expert in their field.

True-or-false and multiple-choice questions are an ineffective way to assess more comprehensive aspects. Moreover, they do not take into account the teacher's professional judgement. The paradigm shift in learning assessment must therefore include the choice of assessment strategies and tools.

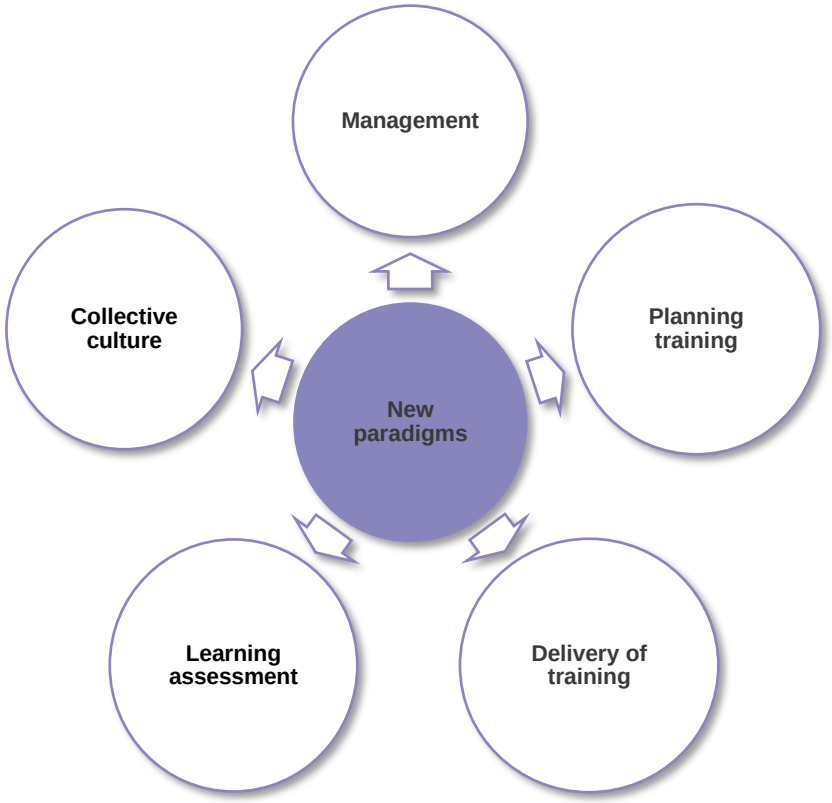
7.6 The shift from individual culture to collaborative culture

In conclusion, the CBA necessitates the creation of a culture of shared responsibility on multiple levels. This paradigm shift must take place individually and collectively. The teacher and the institution (as a whole) are responsible for implementing the means which ensure the educational success of as many learners as possible. The CBA also emphasizes the need for the private sector to take responsibility in the training sphere. Training institutions are not solely responsible for training and developing the skills of learners and workers; the private sector must also play a role if it wants to reap the

benefits of improved training. It is important to recognize each actor's roles and responsibilities and examine how they complement each other. The private sector must be able to recognize the benefits of quality training, as the learners of today are the workers of tomorrow who will support the efficiency and employability of businesses.

IN CONCLUSION, CHOOSING THE CBA MEANS EMBRACING NEW PARADIGMS.

Figure – 16 – Paradigm shifts in the CBA



8. RELATED TOPICS

One main benefit of the CBA is that it presents a comprehensive view of a profession or a job function. Various considerations associated with the work environment, the context in which a task is performed, or the evolution of work are taken into account.

Employer consultation (OA, advisory committee, etc.) provides information considered in the subsequent steps of program design, planning, delivery, and assessment. These are cross-cutting and related topics as they are present throughout the entire CBA process. Though addressed in previous sections, they are re-explored here due to their importance.

a. Integration and incorporation of gender equality

This approach recognizes that it is necessary to consider the social and economic differences between female and male learners and to utilize the gender-related information collected during employer consultations. It fosters awareness of the situations women and men face in the occupational sector in question, and when joining the labour market. Incorporating gender equality into training programs, all aspects of program planning and implementation, and learner assessment, helps both female and male learners achieve desired results.

Incorporating gender equality raises awareness and enables evaluation of the impacts that decisions, measures, and strategies, whether planned or in place, have on both women and men.

Incorporating gender equality enables the acknowledgement that every decision and activity impacts both sexes and affects female and male learners differently.

Incorporating gender equality makes training programs more effective at supporting student success and graduate employability. It helps combat generalized gender discrimination and helps learners develop behaviours and skills to eliminate such discrimination.

Incorporating gender equality into a gender-conscious CBA allows actors (teachers, institutional managers, etc.) to examine gender differences in the accessibility of training and employment, and in the training itself (elimination of involuntary discriminatory behaviour or stereotypes, etc.). The process takes into account the important different social and economic situations of women and men at each stage of planning and implementation and enables any differential impacts to be determined. Gender awareness teaches that activities and decisions do not affect everyone in the same way.

The key to gender awareness is to institute a way of thinking that takes female and male learners' diverse needs, situations, and priorities into account. The goal is not to add a component for women to an existing practice, nor to achieve representation of both sexes. Instead, gender awareness is about working effectively; performing refined analysis; supporting the decision-making process; strengthening the training program implementation; improving

communication; and especially, fostering a culture of integration among teachers and learners, the latter who, as graduates, are also future agents of change in the workplace.

b. Integration and incorporation of environmental awareness[57]

Any job or job function takes the environment into consideration, regardless of the field or business. Sustainable development and the environment are topics of concern and are of increasing importance in occupational practices. By consulting businesses, one knows how they take these matters into consideration, whether they have modified their practices a result, and if so, in what way. With this knowledge, training programs can incorporate specific requirements of sustainable development, and skills to be developed by learners. In addition, greater understanding of the context in which the skill is carried out will allow teachers to plan teaching and learning activities that will support the skill's development.

> *In the APC, incorporating environmental awareness enables one to clarify points such as: possible modifications to occupational practices and activities; occupational processes and techniques; the roles, responsibilities and organization of work in a business; the skills-based needs that such modifications may bring about in the future (including related knowledge, abilities and attitudes); training-related recommendations for ensuring that sustainable development and its consequences are taken into account, etc.*

c. Integration of an entrepreneurial perspective

A skill is expressed as an action performed by a person. It is the result of that person's combined knowledge, abilities, and attitudes. The ultimate purpose of vocational and technical training is to support the employability of graduates, thereby helping them join the workforce. Some fields of training prepare learners to become employees, while others offer opportunities for self-employment. As such, one must consider an entrepreneurial perspective when consulting businesses for the creation of a new training program. Consultations create actual opportunities to specify self-employment and provide insight into the real-world context in which businesses operate.

By using a broad perspective and focusing on general skills' development, it is also possible to identify entrepreneurial skills that span all training programs. These skills fall into the category of "knowing how to act." They allow individuals to successfully carry out tasks with an entrepreneurial mindset, regardless of the activity sector or sphere of life in which they are applied. This is a broad definition of entrepreneurial skills that focuses on developing general skills such as leadership, entrepreneurial drive, and collaboration. It is not limited to entrepreneurship within business start-ups. According to this vision, entrepreneurial skills are much more cross-cutting, and can be applied to a variety of professional and personal situations.

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[57] Inspired by GOUVERNEMENT DU QUÉBEC (2004). *La prise en compte du développement durable dans les programmes de formation technique.*

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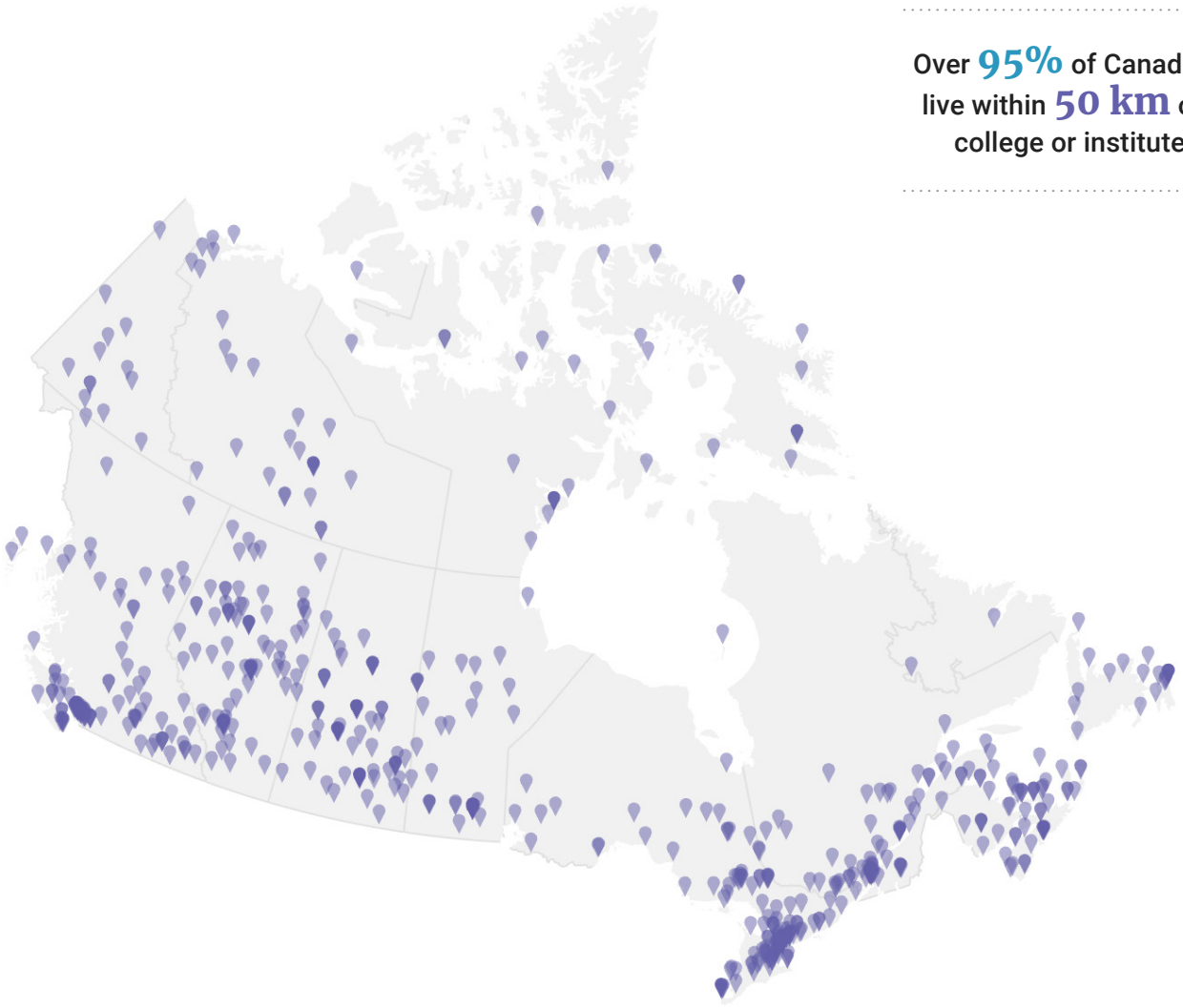

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