

WORKING DOCUMENT

Programs Leading to an Skills Training Certificate (STC)

Development Framework

Coordination Group for the Development and
Implementation of Attestations of Vocational Studies
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FOREWORD

The *Development Framework* is intended for those involved in developing a program leading to a Skills Training Certificate (STC), either as project leader, teaching specialist, job specialist or program development specialist. The purpose of this document is to provide direct support to work teams involved in developing programs of study.

When developing a short program as important and diversified as the STC, a common reference document is essential in understanding the basis for program design, guiding teams in their development activities, and ensuring the quality of productions.

This *Development Framework* is an extension of the *Guide de gestion à l'intention des commissions scolaires* that was written as part of the *Projet expérimental de développement et de mise en œuvre de programmes conduisant à une AEP* [experimental project for the development and implementation of programs leading to a STC]. This work tool is therefore likely to evolve over time and with use, i.e. as the field-testing progresses and feedback is received.

This document was produced exclusively for the purpose of developing programs of study leading to a STC and was adapted from:

- the *Cadre général* and the *Cadre technique d'élaboration des programmes d'études professionnelles* produced by Jean Dussault in 1988
- the updated version of these documents produced in July 2002 by the Direction générale des programmes et du développement of the Ministère de l'Éducation

It also includes an extract from book 3 of the *Ingénierie de la formation professionnelle et technique* that focuses on the development of programs of study. This set of documents was produced in 2002 by the Ministère de l'Éducation.

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INTRODUCTION

In April 2002, the Ministère de l'Éducation du Québec (MEQ) and the Fédération des commissions scolaires du Québec (FCSQ) agreed, on an experimental basis, to support school boards in developing and implementing a limited number of short programs leading to a new form of certification to be issued by school boards. The Ministère de l'Éducation and the Fédération des commissions scolaires also agreed on mandating the Comité mixte sur la formation professionnelle to supervise the field-testing of this new local certification.

This decision is confirmed by the *Action Plan of the Government Policy on Adult Education and Continuing Education and Training* published in 2002, which specifies that “clear guidelines for short training programs will be set by the Ministère de l'Éducation and these standards will be monitored closely.”

Thus, programs leading to a STC must satisfy the main conditions set by the Ministère and accepted by the FCSQ, and on which the field-testing is based, namely:

- to rapidly meet the training needs of the job market
- to reserve access to training exclusively for adults
- to offer qualifying and transferable training programs
- to develop high-quality training programs with a competency-based approach
- to harmonize programs with existing vocational training
- to promote dialogue between school boards and their partners

Moreover, programs leading to a STC are consistent with the path of vocational training and contribute to the competency-based approach adopted by the Ministère de l'Éducation for developing vocational training programs. The *Development Framework for Programs Leading to a Skills Training Certificate* integrates the more significant parts of this approach.

The first section of the *Development Framework* reviews the foundations of vocational training, i.e. the aims, orientations and general goals. The nature of programs of studies, i.e. their purpose, features and main qualities, are then explained. The last section describes the process for developing programs leading to a STC, including parameters such as development and competency axes, as well as details of each step of the development process.

1 Foundations of Vocational Training Programs of Study

1.1 Aims and Orientations of Vocational Training

Aims

Vocational training is directed at trades with a level of complexity corresponding to the secondary level. It focuses on acquiring competencies that allow individuals to assume their role as workers and to evolve in the workplace. It also aims to meet the needs of our society.

In turn, programs of study reflect the aims of vocational training, namely:

- to prepare individuals to be responsible workers in a given field of activity and to contribute to its development
- to ensure that the quality and quantity of the competencies to be acquired answer present and future job market needs
- to contribute to the social, economic and cultural development of our society
- to contribute to the personal development of individuals

Orientations

Accessibility

Accessibility implies that vocational training resources are available to the population at large. In addition, the training offer must, as far as possible, answer local, regional and national needs. In this respect, programs leading to a STC are intended exclusively for an adult clientele and aim to meet needs at the regional level or broader, which have been conveyed by businesses in a given field of economic activity, as well as by employment-related organizations.

Prerequisites for admission to a program of study must be limited to the essential requirements for successfully completing the training. There must be flexibility in applying the programs, so as to accommodate diverse career paths and to facilitate the evaluation and recognition of prior learning.

Effectiveness and versatility

Training is said to be effective when it enables individuals to properly assume the responsibilities and tasks inherent to a trade. Training relies on programs adapted to the realities of the trade and involves a learning process aimed at carrying out tasks, producing goods or services and adopting attitudes and gestures appropriate to work-related activities.

Versatility means knowing how to perform enough functions to be able to work in different environments within the same field of activity. This possibility depends on the individual's capacity to transfer knowledge and skills and to apply them to different contexts. The versatility of a training program is especially important in today's socioeconomic context, where changing technologies, the diversity of functions and competencies, and job mobility are dominant.

Links with continuing education and training

Education is not limited to a specific period of a person's life. It can be a lifelong activity, carried out in various learning environments. Thus, the scope of programs of study must allow for the implementation of various learning

and organizational modes that support a variety of types of training. Moreover, programs leading to a STC must be geared to multiple employment opportunities and be adapted to adults. They must also be designed to facilitate the recognition of prior learning.

Contribution to educational success

The concern for educational success is reflected in the development and application of programs of study that emphasize the progressive structure of the learning process, and are designed to facilitate the attainment of objectives, and the realistic assessment of the competencies to be acquired during training.

School boards have authority in ensuring the educational success of adults in programs leading to a STC. This responsibility entails adapting the approach to adults through a careful choice of teaching methods and activities, educational material and evaluation methods. This success-based orientation also implies that the full potential of learning conditions is supported by a well-organized physical environment in which the programs can be offered.

Collaboration with different partners

Partnership between educational institutions, businesses, ministries and organizations, at the local, regional and national level, is a priority as regards program development. The active and direct participation of different socioeconomic players in the management and development of programs leading to a STC helps to ensure that the identified needs are valid and relevant, and to accurately define development-related problems in the socioeconomic fields of activity concerned.

1.2 General Goals of Vocational Training

The general goals convey the overall expected results of a training program. They stem from the aims of vocational training and take into account ministerial orientations in this respect. The following explanations will help to understand their significance.

To develop effectiveness in the practice of a trade.

- To prepare students, on entering the job market, to perform trade-related roles, functions, tasks and activities.
- To prepare students to progress satisfactorily on the job by fostering:
 - cognitive skills
 - technical and technological skills
 - communication skills
 - problem-solving skills
 - decision-making skills
 - a sense of professional ethics
 - concern for occupational health and safety
 - etc.

To ensure integration into the work force.

- To familiarize students with the job market in general and with the trade they have chosen in particular.
- To teach students their rights and responsibilities as workers.

To foster personal development and the development of occupational knowledge.

- To help students:
 - develop autonomy and the desire to learn, as well as to acquire effective work methods
 - understand the principles underlying the techniques and the technology used in the trade
 - develop self-expression, creativity, initiative and an enterprising mind, as required by the trade

- acquire the attitudes required to successfully practise the trade and develop a sense of responsibility

To ensure job mobility.

- To help students develop:
 - positive attitudes towards change
 - the ability to manage their career successfully, as required by the trade and in particular through awareness of entrepreneurship

2 Nature of Programs Leading to a Skills Training Certificate

2.1 Program Functions

Like all other vocational training programs, those leading to a STC present goals and requirements that are essential elements of the training, and which serve, among other things, as a reference for teaching and learning activities, evaluation and certification procedures, the recognition of prior learning, the development of educational materials, and the organization of the training program.

The overall structure of programs of study sets out the training goals, the operational objectives (presented by module), the synoptic table and the grid of competencies.

Programs provide a source of information for partners in industry and other ministries and organizations associated with vocational training. Since so many authorities use the programs, the various elements must be clearly presented.

2.2 Main Features and Qualities of Programs

The following features and qualities are essential to short training programs that fulfill their functions properly and meet requirements.

Main features

Programs defined by competencies

In accordance with the general goals of vocational training, the programs aim for students to acquire competencies that will allow them to perform trade-related roles, functions, tasks and activities, and to progress satisfactorily in the workplace. In addition, they aim at more fundamental competencies that foster versatility and the ability to transfer skills and adapt to new situations.

Programs formulated by objectives

The programs of study comprise operational objectives that describe the observable part of the competencies to be acquired.

Programs divided into modules

A module comprises an operational objective linked to a competency. The program is thus divided into courses, each corresponding to a module.

Main Qualities

Relevance of programs

Vocational training programs of study are considered to be relevant when they take into consideration labour needs, the requirements of the job in question, and the aims, orientations and general goals of the training. These elements form the main factors used to determine the nature and content of a program.

The relevance of programs is ensured by applying a derivation process to objectives in order to establish clear links between the operational objectives of a program and the main determining factors, i.e. the general goals of vocational training, job analysis or equivalent gathering of data, characteristics of the intended clientele, etc.

Coherency of programs

The coherency of a program relies on the quality and balance of the structure and grouping of the program components, i.e. the specific and general competencies and the links between them, the course sequence, etc.

Among the means used to ensure program coherency is the application of a development process that produces a grid of competencies and a structured setup of the program components.

Applicability of programs

The applicability of a program is directly linked to the availability of the human, financial and material resources required to implement it. This criterion is taken into consideration during program development.

Applicability is also linked to the balance established between the fixed requirements (i.e. the competencies to be acquired) and the time assigned to training. The program must offer a workload that is acceptable for both learning and teaching activities.

Harmonization of programs

Harmonization¹ consists in establishing similarities between competencies, as well as ensuring continuity between programs of study and, if applicable, with on-the-job training programs. For programs leading to a STC, harmonization is carried out at the secondary level, within a same training sector or, if applicable, between different sectors. The purpose of harmonization is to avoid the duplication of training programs, to acknowledge competencies that students have already acquired and to help them progress in their training. These factors must be taken into consideration during program development.

¹ The concept of harmonization contributes to ensuring the coherency of the training in the same way as the three main qualities of programs of study.

3 Development of Programs Leading to a Skills Training Certificate

3.1 Preliminary Development Stages

The development of programs leading to a STC lies within the framework of a broader process defined in the *Guide de gestion à l'intention des commissions scolaires*. Before starting to develop a program, the school board or boards must complete certain activities, an important one of which is to identify and estimate training needs in collaboration with various partners including Emploi-Québec, sector-based manpower committees and businesses concerned by the project.

3.2 Parameters of Programs of Study

Development axes

Programs of study are structured upon two axes. The first axis is directed at successfully practising the trade and carrying out specific tasks, and helps to focus on the main responsibilities of the worker. This notion refers to dimensions that are concrete, practical, defined, relatively precise and directly related to practising the trade.

The second axis aims at basic training and a deeper level of work-related knowledge, and goes beyond the immediate framework of practising the trade. This notion refers to relatively broad dimensions that are reinvested into work-related, social and personal areas of life.

A program of study is therefore developed and structured in terms of these two axes. Each competency resulting from the analysis of the determining factors of the program can be located on one of these axes, giving perspective to the proposed training plan and direction to the development process.

A matrix grid illustrates the program structure based on these two axes and is a particularly useful instrument when designing the program. It establishes links between competencies, leading to a systematic setup that gives results beyond that of one composed of isolated elements. This in turn results in the harmonious progression of learning from one competency to another, the elimination of needless repetition and a reduction in training time, and the reinforcement and integration of learning.

Competencies

In vocational training, a competency can be defined as the ability to act, succeed and progress in order to correctly perform work-related tasks or activities, and one that is based on a set of integrated skills and knowledge pertaining to various fields, perceptions and attitudes.

In accordance with the program development axes, adults must acquire two types of competencies: specific competencies that are linked to mastering the trade, and general competencies that are associated with basic training. Competencies serve as a starting point for defining the operational objectives of a program; they also give concrete meaning to learning activities.

Specific competencies focus on performing tasks and progressing satisfactorily on the job. They refer to aspects that are concrete, practical, circumspect and directly related to practising the trade.

General competencies go beyond the immediate framework of practising the trade. The mobilization of these competencies calls on skills and behaviours of a relatively general nature, which can be applied to various tasks, activities or job situations.

3.3 Design and Production of a Program of Study

This is a crucial stage in developing a program of study leading to a STC, and it comprises the following steps:

- job analysis (or equivalent gathering of data)
- design and production of a proposed training plan
- validation of the proposed training plan
- design and production of a provisional program
- harmonization
- final presentation of the program of study

The work carried out during the first two steps leads to designing the proposed training plan, which will be validated during the third step. The proposed training plan is then adjusted according to opinions expressed during the validation process, and serves as a starting point for the fourth step, which is devoted to designing and producing the provisional program. The final steps involve studying the possibilities for harmonization and completing the program production.

The design and production of a program of study stem from applying a derivation process to objectives. This process follows a logical sequence leading to a definition of the program training goals and operational objectives. It involves successively analyzing the determining factors at the outset of training and defining new elements, and deriving each step from the previous one.

The steps involved in the derivation process are as follows:

- Defining the determining factors of the program such as the aims, general goals, needs, target population and job situation, which result from educational policies, the socioeconomic situation, the job context, etc. These are essential elements for starting on program development
- Defining program goals, which derive from the general goals of vocational training and which are adapted in terms of other determining factors
- Defining the competencies that have resulted from a thorough study of the determining factors and in particular the job analysis (or equivalent gathering of data) and the program goals. These elements form the essential basis of the operational objectives
- Formulating the operational objectives that derive from the competencies and take into account the program goals. These are the main targets of adult education, and they are compulsory

The derivation process makes it possible to take into account factors of a variable nature that are located at different levels. This process is therefore not strictly linear and it takes shape through passing from a general definition to a more specific one.

Job analysis

The job analysis aims to gather as much data as possible concerning the activities of a given trade. A thorough knowledge of the trade is essential to the relevance of the provisional program.

The purpose of the job analysis is to obtain information on:

- the nature of the work, working conditions, requirements for entry into the work force, job and salary prospects, etc.
- the tasks performed by the person practising the trade
- the conditions and criteria for performing these tasks
- the category of products and expected results
- the work process
- the skills required by the trade and the expected behaviours

A job analysis, or that of a principal or related trade, may already exist. In this case, the data should reflect the differences and distinctive features that make the trade in question different from another, and qualify the training offer accordingly.

Methods for gathering data

There are different ways of gathering information about a job, some of which are more demanding than others in terms of resources and limitations. In all cases, it is important to work with businesses from the sector of activity concerned since their training needs are being analyzed. Most important of all is to carefully choose the workers and supervisors to be consulted and to make sure that they form a representative sample of the group of people practising the trade. A certain number of criteria must be considered when selecting businesses and individuals such as the years of experience, the geographical location, and the type and size of the company.

The following methods can be used for a job analysis:

Group discussion and its derivatives

This method consists of organizing a group meeting of 10 to 12 individuals who practise or supervise the trade, and asking them questions in order to gather information. This method requires sufficient time, usually two or three consecutive days, to gather all the data.

Interview

When a group meeting is not possible, the information can be gathered by interviewing workers at their workplace.

Observation

A certain amount of data can be gathered by observing workers on the job. In this case, however, observation should be combined with an interview so that the information is as complete as possible.

Job description

Some companies write up job descriptions for different trades. Even if this information is incomplete, it can be useful when carrying out a job analysis. This method should therefore be used with other ones.

Questionnaire

A questionnaire focusing on the main sections of the job analysis can be sent to a representative sample of the target population. The results are then compiled and analyzed.

However, in order to prepare a questionnaire that is relevant, it is important to already have considerable knowledge about the trade in question. A meeting with one or two experienced workers will make it possible to draw up a questionnaire including all aspects to be examined.

A consensus can be immediately reached on the validity of information gathered from a group discussion. However, data gathered by other methods should be validated with experts and qualified workers in order to reach a consensus and avoid retaining special cases that are not representative of the trade.

Design and production of a proposed training plan

The job analysis provides essential data for designing a proposed training plan. This information describes the requirements for entry into the job market and is used to draw up the graduate's profile. Other determining factors, however, must be taken into account when designing a proposed training plan, in particular government orientations and ministerial aims with respect to vocational training.

Designing a proposed training plan consists in:

- defining the training goals of a given program
- using data to define the competencies required to practise the trade
- structuring these competencies within a proposed training plan

The definition of the goals and competencies gives the expected outcome of the training, a general description of the trade in question and the educational aims of the program. The competencies required to practise the trade are also determined, leading to activities such as:

- identifying program goals by referring to the aims and orientations of vocational training, as well as the characteristics of potential students and the job itself
- using the grid of competencies to determine and give structure to specific and general competencies
- referring to the table of equivalents in order to establish links between competencies and the information obtained through the job analysis (or equivalent gathering of data) and other determining factors, as well as between competencies and the general goals of vocational training, if need be
- formulating hypotheses on the training time required by each competency

The expected result is to produce a proposed training plan that includes:

- the goals of the planned program, as well as the competencies involved
- the grid of competencies
- the statement of each competency
- the table of equivalents, with reference to determining factors

The production of a proposed training plan also involves verifying the applicability of the future program in terms of financial, human, organizational and material resources, among others. A preliminary analysis must therefore be carried out in collaboration with businesses or organizations committed to financing the training, in order to establish the effects of implementing the future program.

Validation of a proposed training plan

The purpose of validation is to gather opinions on the relevance, coherency and applicability of the proposed training plan. It involves activities such as:

- forming a group of representatives from the workplace, Emploi-Québec, participating school boards and, if applicable, ministries and other organizations
- validating the competencies and structure given to the proposed training plan

This step will lead to a validation report describing the opinions expressed by partners involved in the proposed training plan and, if applicable, adjustments to be made to the plan.

Design and production of a provisional program

This step consists in formulating operational objectives linked to the competencies. It leads to activities such as:

- formulating the elements of each objective
- completing the grid of competencies
- making the necessary changes to the table of equivalents

This step will result in producing the operational objectives and the final versions of the grid of competencies and the table of equivalents.

Harmonization

In order to ensure that programs leading to a STC are harmonized with other vocational training programs (Diploma of Vocational Studies and Attestation of Vocational Specialization) and, if applicable, with on-the-job training programs, various activities are carried out during the development process, including:

- determining, prior to the job analysis, trades that are similar to the one targeted
- identifying, during the job analysis, tasks and skills that are similar between different trades
- formulating equivalent competencies or taking into account competencies that are common to those in other programs of study or training programs
- identifying common or equivalent competencies, and establishing links between programs of study and with training programs

Presentation of the program

The final step consists in producing the program of study and involves, among other things, writing the text to present it, determining prerequisites, and recording the results of harmonization work. The quality of the written language is an important element of this final step.

3.4 Roles of Resource Persons

School boards are directly responsible for all tasks related to the development of short programs leading to a STC. Different people, in various roles, are called upon to contribute to the development process.

The basic work team is usually composed of the following members:

- the project leader
- a teacher
- a program development specialist
- a job specialist, if required

The project leader is responsible for planning and directing the project. This person makes sure that the orientations, policies and framework for program development are respected. The project leader also ensures that the programs of study are harmonized and that the documents are forwarded to those who will decide on the accreditation of the program of study.

The teacher is responsible for writing the provisional program. This team member works in close collaboration with the program development specialist and the project leader in order to define the program goals and competencies.

The program development specialist provides support to the production process in terms of development methods and techniques. Moreover, this person is usually responsible for leading the workshops and must have experience in developing competency-based programs. The program development specialist must also know how to share expertise with other members of the team and to actively participate in writing the documents.

A job specialist may be required to participate in the job analysis or to help gather data. If necessary, this person can also participate in certain stages of the program development. The role of the job specialist is to ensure that information on the trade is accurate with respect to the requirements for entry into the job market.

GLOSSARY

TERMS USED WITH REFERENCE TO A SKILLS TRAINING CERTIFICATE

Skills Training Certificate (STC)

Program of study

Short training program leading to the pursuit of a principal trade, a trade related to it, or a speciality. A program of study may also focus on one of the functions that form a principal trade.

Certification

Recognition of studies issued by school boards for a program of study developed and implemented by a school board, and authorized by the Minister of Education under predetermined conditions.

Trade and function

Trade

A specific and recognized job activity for which individuals have been trained and from which they earn a living.

[Translation of the definition of the term *métier* provided by the Office de la langue française, 2001]

Principal trade

A group of tasks and activities that are more or less wide-ranging and are usually structured into subfunctions presenting similarities among themselves with respect to the aims pursued.

Example: cook

Specialized trade

A group of tasks and activities sharing the same aims as the principal trade but forming a speciality of this trade.

Example: Head cook

Related trade

A group of tasks and activities belonging to the same field as the principal trade, using common methods, techniques, knowledge, etc., but for a different purpose.

Example: Supervisor of food counters in a supermarket, specialized grocery store, etc.

Function²

A subgroup of tasks and activities belonging to a principal trade and possessing some of the same aims. The function represents a significant part of the principal trade and can be defined from the viewpoint of a sector of activity, a specific clientele, distinct services or products, etc.

Example: Cook for a chain of restaurants

² Within the context of programs of study leading to a STC, a function should not be associated with a less complex or semi-specialized trade as defined in programs of study leading to an Attestation of Vocational Specialization (AVS). Example: assistant cook.

Vocational Training

Initial vocational training

A training system leading to the exercise of a principal trade and giving access to the work force. This type of training is usually offered within the context of a program developed under the responsibility of the Ministère de l'Éducation and offered to the population of Québec as a whole.

Continuing vocational training

Formal or informal training activities intended to enrich the work-related tasks and activities of adults and centred on gaining new knowledge and competencies, and increasing or upgrading competencies already acquired. Continuing vocational training aims to help workers adapt to new situations, retrain for new functions and prepare themselves to occupy more complex positions involving a higher level of responsibility.

Customized training

Training activities offered within the context of a local or special program that is usually developed under the responsibility of an educational organization and that answers the specific needs of workers in a given company.