

Reference Document

Program development: Vocational Training

Program Design and Development Guide

Décroche
tes **rêves**

Québec 

Program Development: Vocational Training

Program Design and Development Guide

Formation professionnelle et technique
et formation continue

Direction générale des programmes
et du développement

This document is based on work begun in the mid-1970s, in particular the work of Jean Dussault and the guides produced by Anne Fillion, Jean-Paul Lemieux, Guy Mercure and Manon Paquette. These guides have been adapted and updated to take into account current program development methods in vocational and technical training.

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INTRODUCTION

The *Program Design and Development Guide* is intended to help those who develop vocational training programs to define the competencies and goals of the proposed training plan, validate the training plan and establish the objectives and other components of the program of study. It includes the definitions, information and tools needed to develop vocational training programs using the competency-based approach.

The competency-based approach is based on well-known theories and models described in specialized literature in the field of education. It has been tested and refined over the years as part of the program development process in Québec, and has been the basis for the development and revision of vocational and technical training programs since the reforms of 1986 and 1993.

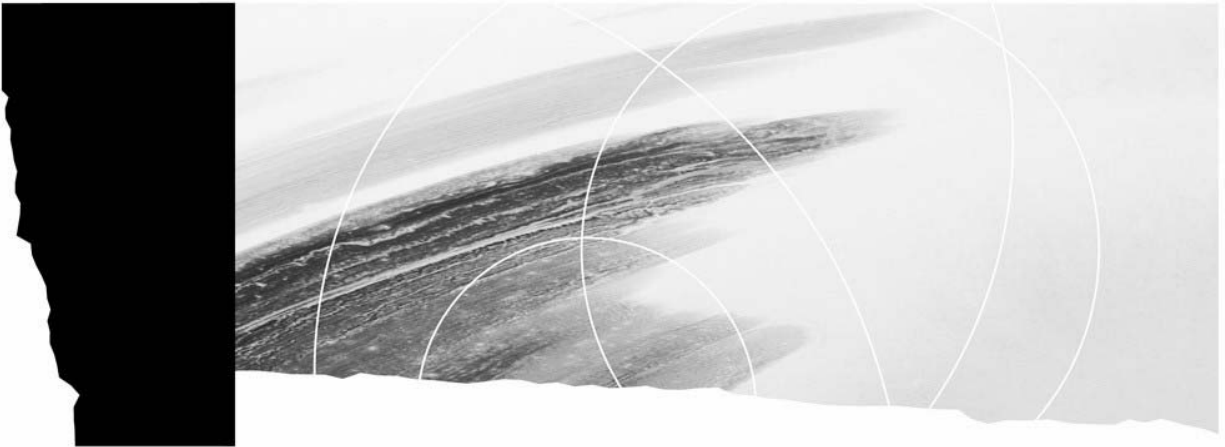
Vocational training programs are aimed at providing students with the competencies they need to enter the job market, practise a trade or occupation and continue to develop their occupational skills throughout their careers. It is also aimed at meeting the need for a skilled work force. Although the term “competency” can mean many things, the vocational and technical training sector of the Ministère de l’Éducation defines it as the ability to act successfully and evolve in order to adequately perform work-related tasks and activities based on an organized body of knowledge, skills in a variety of fields, perceptions, attitudes, etc.

Program development is a step in a process that extends from an analysis of training needs to the follow-up of program implementation. This document deals with the design and development of programs of study, whose aim is to establish and formulate the competencies required to practise a trade or occupation on the basis of the job analysis, and to translate the resulting statements into objectives in a program of study. All of these steps make it possible to define the components of a program in such a way that each element is based on the result of the previous step. Each of these steps is described in the following pages.

The first part of the document describes the proposed training plan and the main steps in its development, including its validation. It also contains criteria for its analysis and evaluation, as well as details on the presentation and validation meetings.

The second part describes the program of study. It explains the purpose of behavioural and situational objectives and their respective components, and the rules governing their establishment and formulation. It also explains the purpose of and rules for determining competency-related knowledge, skills, attitudes and perceptions and the associated guidelines, and contains criteria for analyzing and evaluating the program. Finally, it addresses the implementation of the program in the educational institutions.

In addition to excerpts from validation and update reports, the appendixes contain samples of each of the sections of a proposed training plan. They also contain excerpts of educational aims and behavioural and situational objectives in order to illustrate the rules governing their definition and formulation. These samples are all taken from existing programs and reports. They have, however, been slightly modified to reflect the most recent requirements. The different sections of the proposed training plan and program are presented in their final, published format.



Proposed Training Plan

Description

Design

Analysis

Validation

1

Description

The proposed training plan is the first step in the development of a vocational training program. It provides the structure for the program and establishes its goals and competencies. The training plan serves as a tool for communicating with partners, particularly at the validation stage. It is also used as a reference document in the stages following the validation. It is divided into sections as illustrated in Appendixes I, II, III and IV. It contains administrative information, program goals, and competencies presented in a grid and a table of correspondence. The purpose and content of each of the sections is described below.

1.1 Approach

Proposed training plans are developed using a competency-based approach. In vocational and technical training, this approach essentially consists in defining the competencies inherent in the practice of a trade or occupation and formulating them as objectives in a program of study.¹ Thus, competencies are the main learning targets. This approach contributes to the harmonization of vocational and technical training programs and to the quality of training offered in educational institutions. It also promotes better training-employment correlation.

Training plans are based on the general goals of vocational training, which reflect the overall expected outcomes. These goals are themselves based on the aims of vocational training and take into account ministry orientations in vocational and technical training. The general goals of vocational training are:²

- To help students develop effectiveness in the practice of a trade or occupation.
- To help students integrate into the work force.
- To foster students' personal development and acquisition of occupational knowledge, skills, perceptions and attitudes.
- To promote job mobility.

Generally speaking, programs are based on an analysis of training needs, the purpose of which is:

- To ensure consistency within and between the levels of instruction through sectoral studies and the harmonization of programs.
- To establish the need to develop or revise a program using preliminary studies or, if necessary, other types of needs analysis.
- To determine the competencies to be acquired in the program, in particular on the basis of the job analysis.

1 Québec, Ministère de l'Éducation, *Vocational and Technical Education in Québec: A System Integrating Educational and Management Engineering* (Québec: Ministère de l'Éducation, 2002), p. 48.

2 Appendix II contains a more detailed version of the goals of vocational training, as does the following document: Québec, Ministère de l'Éducation, *Élaboration des programmes d'études professionnelles : cadre général et technique* (Québec: Ministère de l'Éducation, 2002).

1.2 Development Process

The development process may vary considerably from one proposed training plan to another but, generally speaking, it involves a number of steps, several of which can be carried out simultaneously, and each of which provides part of the final product.

- Determine the competencies to be included in the proposed training plan. In general, this is done using one of two approaches. The most common, the systemic approach, consists in outlining specific competencies using trade-related tasks, and in inferring general competencies based on the information contained in the other sections of the job analysis report. A more systematic approach involves identifying the knowledge, skills, perceptions and attitudes required for all of the tasks and operations defined in the job analysis workshop and then grouping them together.

In either approach, once this information has been gathered, the statements and details of the competencies are formulated according to specific rules and assigned the appropriate taxonomic level. Then, correlations are established between the competencies and the job analysis report, the general goals of vocational training and, in certain cases, other determinants. The result is the preliminary table of correspondence.

- Determine the correlations between general and specific competencies. The result is the preliminary grid of competencies.
- Determine the application of certain components of the proposed training plan, estimate the duration of training and revise the statements and details of the competencies. The results are the revised table of correspondence and grid of competencies.
- Formulate the program goals and revise the entire training plan. The result is a proposed training plan ready for validation.

2

Design

The first step in designing a proposed training plan is to examine the initial determinants, in particular those specific to the trade or occupation. The necessary information is available in the job analysis report. More general information can be found in the needs analysis, which describes the trade or occupation and the major trends in its development. The general goals of vocational training, which are also determinants, are combined with the program goals and should also be reflected in the competencies of the proposed training plan. Finally, other determinants may include the characteristics of the students, qualitative work force needs and ministry or government orientations.

It is important that the training plan be based on the job analysis report and other studies. An in-depth understanding of the trade or occupation, as well as of its conditions, requirements and foreseeable development, is indispensable in establishing the competencies to be included in the program of study.

2.1 Goals and Competencies

The first section of the training plan, immediately following the administrative information (see Appendix I), deals with the program goals. It is often easier to formulate the program goals last, after the other sections of the training plan have been written.

The program goals reflect the specific orientations of the program of study, as well as the orientations of vocational training, and include the desired outcome at the end of the program and a general description of the trade or occupation in question.

The program goals clearly state the aim of the program: “The (*program title*) program prepares students to practise the trade or occupation of (*trade or occupation*).” The general description of the trade or occupation is a summary of work-related tasks. It also describes the principal sectors of activity in which the trade or occupation is practised, the different technical or technological tools used and the main responsibilities of the practitioner. The program goals also relate the four general goals of vocational training to the trade or occupation in question. The Ministère de l'Éducation, in collaboration with its socioeconomic partners, has decided to emphasize two of these general goals. On the one hand, all programs must focus on familiarizing students with the job market in general and the context surrounding the trade or occupation they have chosen. On the other hand, programs leading to trades or occupations in which graduates can start their own business, alone or in conjunction with partners, must also promote entrepreneurship. Appendix II contains an excerpt of program goals.

The next section of the training plan contains a list of competencies. There are two types of competencies in vocational training: specific and general. Specific competencies deal directly with the performance of tasks and development in a work context; they focus on the achievement of the first general goal of vocational training, i.e. to help students develop effectiveness in the practice of a trade or occupation. General competencies add another dimension to the proposed training plan. Not specific to the trade or occupation in question, they correspond rather to broader activities that extend beyond specific tasks, while contributing to their performance. They are transferable, promote versatility and, in particular, should facilitate the achievement of three of the general goals of vocational training:

- To help students integrate into the work force.
- To foster students' personal development and acquisition of occupational knowledge, skills, perceptions and attitudes.
- To promote job mobility.

2.2 Competencies

The expertise of the team members involved in designing the training plan (representatives employed in the field and in education) will help in identifying the tasks and work-related activities to be included in specific or general competencies.

Specific competencies

A specific competency is closely related to one or more occupational tasks. A preliminary analysis of the information gathered in the job analysis workshop should make it possible to identify the tasks to be translated into specific competencies. Specific competencies should reflect some or all of the characteristics of the tasks, correspond to important aspects of the trade or occupation, describe the expected outcomes and help identify the main responsibilities of the practitioner. The results should be observable and measurable.

Analyzing work organization³ often provides a good indication of work-related tasks. It provides information on how tasks are distributed among practitioners of a given trade or occupation and, in general, on the manner in which goods are produced or services delivered. It also makes it possible to identify relatively complete tasks that are independent of one another and are meaningful to the trade or occupation.

It is important, however, not to confuse work organization with work process.⁴ Generally speaking, the work process is a series of operations that a person carries out to perform a task; for a given trade or occupation, this process recurs in most tasks. Its elements are usually more clearly defined and, insofar as they correspond to steps in a process, they are often interdependent. Although the table of tasks in the job analysis report may be based on a general work process, from an educational standpoint, the competencies should not replicate the work process. If they do, it will be necessary to review the way in which the tasks are presented and to establish a structure based on the products or services of a given trade or occupation.

The tasks as they appear in the job analysis report seldom correspond perfectly to statements of specific competencies. The tasks should therefore be reviewed so that the competencies can be formulated as accurately as possible with respect to the situation in which the trade or occupation is practised. This implies a certain amount of verification and adaptation. Also, it is important that the competencies meet certain criteria and requirements (see Section 2.3). The following are examples of statements of specific competencies:

- Carry out periodic accounting tasks.
- Make the basic pattern for a suit.
- Handle requests regarding labour laws.

See Section 2.5 and Appendix IV for a table of correspondence illustrating the relationships between specific competencies and tasks.

General competencies

While specific competencies are largely based on the tasks involved in the trade or occupation, general competencies require an analysis of all the information contained in the job analysis report (e.g. tasks, performance conditions, skills, behaviours) in order to identify work-related activities. For our purposes, an activity is a set of coordinated actions extending beyond the specific scope of a task and involving procedures or products that take into account the important dimensions of a person's job or career.

In other words, work-related activities extend beyond mere tasks. The procedures or products to which they correspond are transferable and can therefore be applied to a variety of tasks.

3 Work organization (among individuals, the definition of tasks and responsibilities, conditions, etc.) is characterized according to the values, objectives and choices a company makes regarding the production of goods and the delivery of services depending on its physical, human and financial environment.

4 See section 2.4.

Characteristics and purpose

While remaining closely related to the tasks of the trade or occupation, general competencies should correspond to work-related activities surrounding the tasks. These activities require more basic learning and are transferable to a variety of work situations. One of the main purposes of general competencies is to avoid training that is limited to the performance of tasks related to a specific trade or occupation. General competencies should allow students to integrate the principles and concepts underlying work-related tasks, so that they can adapt to a variety of situations and contexts. Since they extend beyond the simple performance of tasks, general competencies promote autonomy and versatility, and allow students to eventually exert a certain influence in the workplace. For example, “To communicate in French in an accounting context” is not a task performed by accountants, but a work-related activity that is useful in performing a variety of tasks. Important work-related activities are translated into general competencies.

General competencies should focus on important aspects of the trade or occupation and its foreseeable development, which are not taken into consideration in the specific competencies. Although their scope extends beyond that of specific competencies, like their specific counterparts, general competencies should correspond to actual work situations and lead to observable and measurable results.

Definition

The general competencies should cover every important work-related activity. In order to identify these activities, it is necessary to consult the “skills and behaviours” section of the job analysis report, which deals with areas such as communication, management, human relations, professional conduct, laws and regulations, the arts, science and technology, and languages and literature.

Activities can often be identified when analyzing the overlap between tasks, skills and behaviours in the job analysis report. The following is a partial list of typical work-related activities that could be translated into general competencies:

- Make choices.
- Establish relationships between phenomena.
- Observe, analyze and assess situations.
- Carry out work-related activities.
- Establish interpersonal or working relationships.
- Solve problems.
- Design and create a product.
- Make decisions.
- Prevent certain situations.
- Visualize a phenomenon or an object in time and space.
- Perceive more or less apparent sensory phenomena or sensitive or intellectual realities.

In the case of cognitive competencies, the activities to be performed in a given situation may be directly related to a specific subject area. For example, the application of scientific concepts or principles can be useful or necessary in the practice of a trade or occupation. In such a case, although the subject area in question will need to be specified in order to clarify the objective, it will be important to focus on the work-related activity while avoiding a strictly subject-related perspective. Once the main activities have been identified, each one will be associated with an actual work situation in order to clearly define the competency to be acquired.

Typical activities	Activities in actual work situations
Assess situations	Assess the potential uses of textiles and supplies
Analyze relationships	Interpret consumer behaviour
Establish interpersonal or working relationships	Interact in a variety of work situations
Design and create a product	Format a document
Make choices	Select installation products

The following are examples of statements of general competencies:

- Determine their position on quality control.
- Manage administrative information.
- Prevent work accidents and occupational diseases.

2.3 Statements of the Competencies

Each competency should be unique and refer to a single integrated set of distinct skills, knowledge, perceptions, attitudes and behaviours. Although a skill or behaviour may be included in more than one competency, each set must be unique. One way of formulating a competency and its components is to consider what the graduate will have to do, rather than know, upon entering the job market.⁵ Also, the statements of the competencies must meet the following two conditions: they must comply with occupational and training requirements, and they must respect taxonomic levels and the rules of formulation.

Occupational requirements ensure that the competencies correctly describe the trade or occupation and that they are appropriate. Training requirements promote the recognition of prior learning and the development of programs of study and ensure that the scope of the competencies is appropriate.

Occupational requirements

Each competency should be meaningful, important and representative of the trade or occupation, corresponding to an aspect of the trade or occupation or its foreseeable development that is easily described by anyone who is familiar with it. It should lead to the production of a specific good or the delivery of a specific service, or to verifiable products or procedures whose effects are observable and measurable. Each competency should be well defined and relatively independent, in order to prevent overlap and repetition. It should have a clear beginning and end, and aim to achieve specific results. If the competencies are not unique, they should be reformulated. Each one should be able to stand alone, limited in time and in scope.

5 The competencies in a vocational training program are always defined in terms of job market entry-level requirements, which include all of the competencies normally required to practise a trade or occupation correctly. Although training is not limited to the competencies required of a beginner, competencies related to specializations and those that extend beyond the usual standards for the occupation in question are excluded. Thus, entry-level requirements indicate the level of performance required in the execution of tasks and work-related activities of a person starting out in the occupation in which he or she was trained.

Each specific competency should reflect an actual work situation, that is, it should correspond to the practice of the trade or occupation. A competency cannot simply encompass a set of knowledge, skills, perceptions and attitudes, although these may be required to practise the trade or occupation. The formulation⁶ of each competency should reflect the level of complexity of the task or activity and correspond precisely to the level of difficulty of the work situation in question and the degree of responsibility involved. Also, each competency should be multidimensional, requiring the investment of certain knowledge, skills, perceptions and attitudes.

The structure of the specific competencies should reflect the organization of work, whether or not it is formally recognized in a company. In other words, each task or activity, while independent, should be part of a broader set of tasks and activities and fit in with its counterparts.

Training requirements

The scope of the competencies has an important impact on training. By definition, competencies are closely related to the tasks and work-related activities they allow graduates to perform. The scope of a competency is a function of the extent, relative importance and complexity of the related task or activity. The scope of the task or activity can lead to a revision of the related competency.

Competencies should provide the appropriate guidelines for training and include all the appropriate elements in a clear and accurate statement. The desired scope of a competency is defined by the possibilities it allows of highlighting the main aspects and dimensions of the trade or occupation in the proposed training plan.

- If the scope of the task or activity is too broad, it will be impossible to accurately identify the competency to be acquired. Competencies that are too broad are, by definition, less accurate and can gloss over important elements. They provide incomplete information for planning and organizing training.
- Conversely, if a task or activity is too restricted, it will be difficult to define the competency. Competencies that are too limited tend to break learning down and decrease the potential for synthesis and integration. Also, they tend to multiply the objects of certification, making the evaluation process unwieldy and more difficult to organize. The tasks and activities must therefore be grouped together, although artificial groupings should be avoided. Competencies should above all correspond to actual work situations.

The scope of the competencies should also promote the harmonization of vocational and technical training programs. The harmonization of programs is based on a comparison of competencies, which is always easier when the programs themselves are clear and precise. This requires competencies that are neither too broad nor too limited.

- Competencies that are too broad decrease the potential for harmonizing programs. In general, only parts of competencies are recognized as being similar.
- Competencies that are too limited and too numerous create confusion by multiplying learning focuses, which are then difficult to integrate.

Another reason to avoid competencies that are too broad or too limited is to facilitate the recognition of prior learning. Indeed, competencies include sufficient meaningful and qualifying reference points to allow for the recognition of a variety of scholastic or experiential learning acquired in any number of settings.

- Competencies that are too broad and too few make it difficult to recognize prior learning. There is usually little correlation between overly broad competencies and the generally more specific and precise competencies acquired through experience in the workplace.
- On the other hand, competencies that are too limited and too numerous tend to unduly multiply the number of objects of certification, also making the recognition of prior learning more difficult.

⁶ The taxonomic level of the statement of the competency reflects this degree of complexity, hence the importance of ensuring that the competency reflects the actual work situation.

At first glance, there may seem to be little relationship between the scope of competencies and the degree of flexibility at the instructional level. There is no rule against breaking down a broad competency into smaller elements or grouping limited competencies together in different ways. However, this type of manipulation may result in disjointed competencies or artificial groupings. We can no longer speak of an approach where competencies truly determine training, if the competencies lose their role as visible targets that orient learning. After too much manipulation, competencies can lose their integrating function and meaning, representing only a tenuous link between the school and the workplace. The scope of the competencies should therefore be somewhere in between in order to ensure that they maintain their status as principal learning targets.

Rules of formulation and taxonomic levels

From a technical point of view, the statement of the competency should be consistent with the rules of formulation and the appropriate taxonomic level. It should be concise and explicit and made up of an infinitive describing the action to be performed and a direct object specifying the expected outcome (good or service). The choice of verb is based on recognized taxonomies (e.g. cognitive, psychomotor and affective domains).

In Bloom's taxonomy of the cognitive domain,⁷ for example, the action verb used should correspond to one of the following levels:

- Application, i.e. the use of knowledge, skills, perceptions and attitudes in specific, concrete situations. For example: choose, organize, use.
- Analysis, i.e. the breaking down of a whole into its component parts so as to clarify organizational structure and relationships. For example: analyze, specify, determine.
- Synthesis, i.e. the integration of elements or parts to form a new whole. For example: produce, create, modify, plan, develop, synthesize.
- Evaluation, i.e. internal or external assessment. For example: evaluate, judge, validate, appraise, standardize.

Quantitative guidelines

Coherent, applicable training plans involving 1 500 to 1 800 hours of instruction should include approximately 25 competencies. There is no strict rule governing the number of specific competencies with respect to the number of general competencies.

As we saw earlier, the number and scope of the competencies are closely related, as are the number of tasks and activities and their scope. Therefore, a competency should require between 15 and 120 hours of instruction to meet training requirements as well as requirements related to feasibility. However, in order to avoid the fragmentation of learning, competencies involving less than 30 hours of instruction should be kept to a minimum.

2.4 Grid of Competencies

The grid of competencies is used more than once in the program development process. When the competencies are being established, it is used as an instrument for analysis, synthesis and reflection, and promotes the coherence of the proposed training plan by offering a systemic view. It also presents the development team's choices with respect to the relationships between the general and specific competencies based on an interpretation of occupational tasks and a logical learning sequence. The grid can ensure coherent instructional organization by arranging the competencies in an organized structure established by the development team. The grid is provided for information purposes only. It offers an

7 Examples of taxonomies can be found in: Renald Legendre, *Dictionnaire actuel de l'éducation*, 2nd ed. (Montréal: Guérin, 1993).

integrated and meaningful view of the competencies to be acquired, thereby ensuring the coherence inherent in the program approach.

The grid of competencies is a double-entry table. The specific competencies appear on the vertical axis, and the general competencies (and sometimes the work process), on the horizontal axis. It also provides an estimate of the number of hours required to develop each competency, as well as an indication of the type of objective (behavioural or situational). The grid shows the correlations between the elements on the two axes. There are two types of correlations, represented by white and shaded symbols:

- The first type indicates a correlation, in an actual work setting, between a work-related activity (general competency) and a task (specific competency), indicated by a white circle, or between a step in the work process and a specific competency, represented by a white triangle.
- The second type indicates a possible application in a learning context. The symbols are then shaded and indicate that these correlations are taken into account in the formulation of objectives related to the specific competencies.

The grid therefore makes it possible to see, at a glance, the relationships between the competencies. It also provides an overview of the proposed training plan, demonstrating its coherence and feasibility. Since it is the only tool that indicates whether competencies are general or specific, and since the scope of these two types of competencies has an impact on learning activities and educational aims, the grid can be used by educational institutions in the development of learning activities. It is also useful in determining a teaching sequence or instructional flowchart. Appendix III contains a sample list of competencies and grid of competencies.

Developing the work process

The work process is established following an examination of the tasks defined in the job analysis workshop. It is defined as an ordered sequence of steps resulting in a good or service. Since these steps apply to a number of specific competencies, the steps in the work process should be directly related to the tasks defined in the job analysis and to the structure of the specific competencies. Generally speaking, the work process contains between four and six steps and, like the statements of the competencies, is formulated using an action verb and a direct object.

As much as possible, the formulation of the steps should not be overly broad or based on the organization of work, which often corresponds to workstations and overly specific work stages. The following work process: 1) Become familiar with the work to be done, 2) Do the work, 3) Check the work and 4) Tidy up the work area, provides little information about the actual nature of the tasks since it could apply to any trade or occupation. The following are two examples of more specific work processes:

Example 1:

- Organize the work.
- Make drawings.
- Check the work and make corrections.
- Produce the final version and file it.

Example 2:

- Gather and analyze information.
- Enter data.
- Do calculations.
- Produce reports.
- Verify and correct reports.

In some cases, because of the structure of the competencies or the nature of the tasks, incorporating a work process in the grid of competencies would be inappropriate. The relevance of the work process should therefore be evaluated when designing the proposed training plan.

Production

At this stage, the production of the grid of competencies generally involves the following steps, many of which can be carried out simultaneously:

- Indicate the title of the program in the space provided.
- From top to bottom on the vertical axis, list the statements of the specific competencies, in order of complexity or in the order in which they will be applied in the workplace.
- From left to right on the horizontal axis, list the statements of the general competencies and, if applicable, the steps in the work process.
- Establish the correlations between the general and specific competencies and determine which ones will be taken into account in the formulation of objectives. A correlation (O) between a general competency and a specific competency indicates that the general competency is a prerequisite for the application of the specific competency on the job market. A shaded symbol (●) indicates that the general competency will be taken into account in the formulation of the objective related to the specific competency.⁸
- Determine the number of hours needed to acquire each of the competencies and determine the relative importance of the competencies as a whole and in relation to one another, in order to assess the feasibility of the proposed training plan.
- The total number of hours allotted to each of the competencies should correspond to the total number of program hours.
- If applicable, establish the correlations between the work process and each of the specific competencies and determine which ones will be taken into account in the formulation of objectives. A correlation (Δ) between a step in the work process and a specific competency indicates that the step could be involved in the application of the competency but that it will not be taken into account in the formulation of the objective. A shaded symbol (▲) indicates that the step in the work process will be taken into account in the formulation of the objective related to the specific competency.
- Indicate the type of objective—behavioural (B) or situational (S)⁹—and number the general and specific competencies, bearing in mind the correlations that will be taken into account in the formulation of the objectives.

Once all of these steps have been completed, the grid of competencies should resemble the following:

GRID OF COMPETENCIES																	
ACCOUNTING				GENERAL COMPETENCIES							WORK PROCESS						
	Competency number	Type of objective	Duration (in hours)	Statement of General Competency "AA"	Statement of General Competency "BB"	Statement of General Competency "CC"	Statement of General Competency "DD"	Statement of General Competency "EE"	Statement of General Competency "FF"				Gather and analyze information	Input data	Do calculations	Produce reports	Verify and correct reports
SPECIFIC COMPETENCIES																	
Competency number				1	2	3	4	6	8								
Type of objective				S	B	S	B	B	B								
Duration (in hours)				30	45	30	45	60	60								
Statement of Specific Competency "A"	8	B	45	O	●	●	●	O					▲	▲	▲	▲	▲
Statement of Specific Competency "B"	12	B	30	O	●	●		●	O				▲	▲	▲	▲	▲
Statement of Specific Competency "C"	15	B	60	O	O		O	●	●				▲	▲	▲	▲	▲

⁸ See Section 7.6.

⁹ See Chapters 6 and 7.

2.5 Table of Correspondence

The table of correspondence is used to establish and verify the correlation between the training needs¹⁰ expressed in the job analysis report and the means of meeting the needs presented in the proposed training plan and, later on, in the program. More specifically, the table of correspondence makes it possible to visualize the relationships between the competencies included in the training plan on the one hand and the information contained in the job analysis report (tasks, operations, skills and general behaviours) and any other determinants on the other. It must therefore be possible to relate each competency to at least one task, operation, skill or behaviour described in the job analysis report, as well as to a general goal of vocational training. Relationships are also established between each competency and the general goals of vocational training and any ministry or government orientations, in order to ensure that they are taken into account in the proposed training plan.

Because of its structure, the table of correspondence also makes it possible to include details about the content of the competencies throughout the process. The table of correspondence is therefore a written record of the information processed during the development of the proposed training plan. In addition to helping the development team establish the competencies and formulate the objectives, the table of correspondence is essential for validating the proposed training plan. It demonstrates the relevance of the competencies and provides details about the content, scope and limits of each one. These details, which appear in the second column, are formulated according to the same rules as the competencies, i.e. using an action verb and a direct object, making it possible to pinpoint the expected action and level of responsibility without specifying the content of future objectives.

It is therefore recommended to take notes during discussions regarding the competencies and to record these notes in the table of correspondence. Finally, by illustrating the relationships between training needs and the program of study, the table of correspondence makes it easier to make changes reflecting job market developments or other needs. Appendix IV contains a sample table of correspondence.

¹⁰ There are two major types of training needs: socioeconomic development needs and the personal development needs of practitioners.

3

Analysis

Before addressing the validation stage, let us examine a few criteria for analyzing the proposed training plan. The following table contains questions that might help the development team take a critical look at its work. Taking the necessary measures to be able to answer each of these questions in the affirmative will result in a better product. Having someone who was not involved in the development process check the training plan against these criteria will provide additional input.

Analysis Checklist

PROGRAM GOALS

- Is the expected outcome clear?
- Is the general description of the trade or occupation clear and sufficiently detailed?
- Do the program goals relate to the general goals of vocational training?

COMPETENCIES

Determinants

- Do the competencies cover all of the important dimensions of the trade or occupation?
- Do the competencies take into account the aims and orientations of vocational training?
- Do the competencies take into account the needs identified in the planning studies and the information gathered during the job analysis workshop?
- Do the competencies take into account the other determinants?

Characteristics of each competency

- Is the competency multidimensional?
- Does the competency correspond to a sufficiently important task or activity?
- Does the competency reflect the scope of the corresponding task or work-related activity?
- Does the number of hours devoted to the competency fall within standards?
- Does the targeted level of complexity correspond to the level required to practise the trade or occupation and does it comply with any occupational standards?
- Does the verb used correspond at least to the "application" level in Bloom's taxonomy?
- Does each competency target different results?
- Does the competency represent an actual task or activity rather than a grouping of several unrelated activities?

Statement of each competency

- Is the statement of the competency explicit?
- Is the statement of the competency unequivocal?
- Is the statement of the competency made up of an action verb and a direct object?
- Does the statement of the competency comply with standards in that it contains no qualifiers, adverbs or performance conditions?

Type of competency

- Does each specific competency relate to a specific task?
- Does each general competency relate to a work-related activity?
- Can each general competency be transferred to more than one specific competency?

Type of objective: behavioural or situational

- Is the type of objective appropriate?

Analysis Checklist (cont.)

GRID OF COMPETENCIES

- Does the grid of competencies contain a balanced number of specific and general competencies and a sufficient number of hours to acquire them?
- Is there an appropriate number of competencies, i.e. approximately 25 for an 1800-hour program?
- Is the number of hours allotted to each competency a multiple of 15?
- Is the total number of hours the same as in the previous version of the program?
- Are the relationships between the general and specific competencies appropriate?
- Are the relationships between the steps in the work process and the specific competencies appropriate?

TABLE OF CORRESPONDENCE

- Does the table of correspondence contain a statement and details of each competency?
- Are the details of the competency formulated using an action verb and a direct object?
- Are the relationships between the competencies and the determinants clear and accurate?

FORMAT

- Does the proposed training plan contain all of the necessary sections (administrative information, program goals, list of competencies, grid of competencies with introduction, table of correspondence with introduction)?
-

4

Validation

The proposed training plan is validated immediately after it is developed and just before the program's objectives are formulated. During this stage, representatives employed in the field and in education are consulted. This is a key moment in the program development process and a valuable source of information for the Ministère and its partners, since adjustments can then be made to the training plan.

Participants' comments are recorded in a validation report, which must include general remarks concerning the relevance, coherence and feasibility of the proposed training plan, as well as specific remarks about the relevance, coherence and feasibility of the program goals and competencies. The validation report is distributed to everyone present at the meeting, but is not published.

4.1 Goals of the Validation Process

According to the frameworks for developing vocational and technical training programs, ministry programs, if they are to adequately serve their purpose and meet requirements, must have four characteristics: they must be relevant, coherent, applicable and harmonized. At the validation stage, the development team seeks opinions on three of these characteristics—relevance, coherence and feasibility—and informs partners about the possible harmonization of the competencies with those of other programs. These opinions are provided by representatives employed in the field and in education, ideally grouped together in a joint committee.

The relevance of the competencies in the proposed training plan is evaluated by people employed in the field. Their opinions are based on the fact that each competency should relate to the work situation and usually take one of two forms: a judgment as to whether the competency is used in the trade or occupation, and additional specifications concerning the scope of the competency with respect to other occupations and compliance with current laws and regulations (limits of professional responsibility).

The coherence and feasibility of the proposed training plan are evaluated by people employed in education. Opinions concerning coherence cover several aspects: the order in which the competencies are presented with respect to the complexity of learning, the relationships between the general and specific competencies, and the distinctiveness of the content of each competency. Opinions concerning feasibility usually cover three aspects: the time needed to acquire the competencies, the material and financial resources needed to teach them and the professional development needs of teachers. It must be feasible to develop all of the competencies contained in the proposed training plan in the number of hours allotted.

Matters concerning professional development and material resources must be dealt with in such a way as to allow educational institutions enough leeway to develop the appropriate learning activities. Any difficulties foreseen by representatives of these institutions should be taken into account.

Validating a proposed training plan provides many advantages: it is essential for the formulation of objectives, it makes it possible to reach a consensus on fundamental issues, and it ensures the transparency of the process. Finally, it provides the Ministère's partners with information, thereby helping to establish the credibility of future programs of study.

4.2 Presentation and Validation Meetings

Meetings

There are two types of meetings involved in validating a proposed training plan: a presentation meeting and the actual validation meeting. These meetings can take one or two days depending on the plan.

If a large number of institutions are involved, a preliminary presentation meeting may be held before the validation meeting. This is necessary because the validation committee comprises representatives employed in the field as well as in education and, for logistical reasons, there is a limit to the number of people who can participate in the validation meeting. The aim of the presentation meeting is to ensure that all of the educational institutions in question are informed about the proposed training plan.

In either case, the person in charge of the proposed training plan is responsible for determining how long the meetings should be.

One-day validation meeting			
Purpose	Participants	Duration	Opinions and comments recorded
Presentation	Representatives employed in the field and in education	About 90 minutes	None
Validation	Representatives employed in the field and in education	About 6 hours	Relevance – Coherence – Feasibility General comments about the proposed training plan Comments about goals

Validation meeting preceded by a presentation meeting for representatives of educational institutions			
Day 1			
Purpose	Participants	Duration	Opinions and comments recorded
Presentation	Representatives employed in education	1 day	None
Day 2			
Purpose	Participants	Duration	Opinions and comments recorded
Presentation	Representatives employed in the field	About 90 minutes	None
Validation	Representatives employed in the field and in education	About 6 hours	Relevance – Coherence – Feasibility General comments about the proposed training plan Comments about goals

Composition of the validation committee

The person in charge of the proposed training plan is responsible for setting up the validation committee, in accordance with the partnership guidelines set by the Ministère. In addition to the members of the development team, approximately 16 other people participate in the validation meeting:

- Half the group is employed in education (e.g. institution administrators, teachers, other professionals, if applicable).
- The other half is employed in the field (e.g. job analysis workshop participants; managers; supervisors; personnel managers; representatives of professional corporations, interested organizations and ministries, and sectoral committees).

Representation must be balanced in terms of the regions of Québec and the socioeconomic situation of the trade or occupation in question. The criteria are often similar to the ones used to select participants for the job analysis workshop, but other criteria may apply depending on the specific situation and needs:

- The group is made up of people from different industrial sectors or businesses; small, medium-sized and large businesses should all be represented.
- The group includes people from the different regions in which the trade or occupation is practised (cities, towns, remote areas).
- The composition of the group takes into account the fact that some occupations are practised in several fields of activity (e.g. services, manufacturing, distribution, product development, sales) and that not all tasks are necessarily performed by the same person.

Obviously, to limit the number of participants, each individual should meet several of these criteria. Once the members have been recruited, the person in charge of the proposed training plan sends out official invitations, accompanied by a copy of the training plan and any other documents deemed appropriate (usually the job analysis report).

Composition and role of the development team

Generally speaking, the development team is made up of the person in charge of the proposed training plan, a teaching specialist in charge of design and development and a program development specialist. The program development specialist works closely with the person in charge of design and development. A specialist employed in the field may also join the team at key points in the design of the proposed training plan, including the validation stage. The person in charge of the training plan may be a program development specialist.

Once the participants have confirmed their attendance, the development team prepares the presentation and validation meetings.¹¹

The presentation meeting involves three tasks: presenting a summary of the work done to date, introducing the proposed training plan and facilitating the meeting. The validation meeting involves four tasks: presenting each of the competencies in the training plan and the goals of the program, facilitating the meeting, moderating the discussion and gathering information.

The teaching specialist should present the proposed training plan, since he or she is the one who is responsible for most of the design and development. The program development specialist often takes over the facilitation or, more specifically, the moderation of the meeting, ensuring that everyone has a chance to express an opinion or ask questions. He or she also assists the teaching specialist in presenting the training plan and answering questions related to methodology. The meeting is chaired by the person in charge of the proposed training plan, who usually presents the summary of the work done to date. At the validation stage, he or she ensures that the meeting's objectives are met and requests corrective action if

¹¹ Practically speaking, everything must be done to ensure the success of this stage in the consultation process. The meetings must be held at a location that is easily accessible at little cost to those who will be attending. The room must be appropriately quiet and comfortable, and the tables must be arranged in such a way as to facilitate discussion. Overhead projectors and flip charts are extremely useful. Name cards and additional copies of the proposed training plan should be provided.

necessary. Finally, he or she assigns someone to take notes or shares the task with the other members of the team.

4.3 Implementation

Presentation meeting

The duration of the presentation meeting varies depending on whether it is held the same day as the validation meeting or in the weeks preceding it (the meetings should be fairly close together). However, the objectives of the meeting are the same regardless: to inform participants of the work that has been done to date, present the highlights of the planning studies and job analysis report, report on the development orientations, briefly explain the competency-based approach and, finally, present the proposed training plan. The presentation meeting also includes a question period and an explanation of the validation procedure. Each member of the development team will have been assigned a specific role and have prepared his or her presentation and the necessary materials.

Each presentation meeting has its own requirements but, as a general rule, the focus should be on the presentation of the proposed training plan and, in particular, on the table of correspondence and the determinants rather than on technical information about the ministerial frameworks for program development. It is essential that participants be made aware that the presentation meeting is not a validation meeting and that any comments related to relevance, coherence or feasibility will not be recorded. The members of the development team must make sure that the presentation and validation meetings remain distinct.

Finally, it is important that the representatives of educational institutions understand the structure of the grid of competencies so that they can evaluate the coherence and feasibility of the proposed training plan. The development team must present the grid and clearly distinguish between the responsibilities of the Ministère and those of the educational institutions in order to forestall opinions about learning activities which, although relevant with respect to the institutions' implementation of the program, should not be dealt with at the ministry level.

Validation meeting

The validation meeting usually lasts one day, including about an hour and a half devoted to the presentation of the proposed training plan, so there is little time to deal with questions about the competencies and to gather general comments on the training plan and on program goals. The facilitator should therefore be an experienced moderator.

It is important to explain the objectives of the meeting from the outset, clarifying the concepts of relevance, coherence and feasibility. It is therefore necessary to specify the responsibilities of the representatives employed in the field (opinions on the relevance of the proposed training plan) and in education (opinions on its coherence and feasibility). Participants should be informed that there is much to do and asked to limit their speaking time. It is important to emphasize that the facilitator will act as moderator. The moderator must use facilitation techniques conducive to the creation of effective group dynamics.

- The first step is to examine the competencies in the order in which they are presented in the proposed training plan. A competency is presented and participants comment on its relevance. If the competency is deemed relevant, the participants comment on its coherence and feasibility, then offer suggestions. The facilitator should remain flexible until the participants get used to the procedure. The teaching specialist must be given enough time to present each competency and allowed to answer any request for clarification.
- As much as possible, the goal is to reach a consensus on the issues of relevance and limits of professional responsibility. Participants should not waste time discussing the program development process. Similarly, lengthy discussions about the best term to use should also be avoided.
- Finally, the facilitator should avoid making decisions on the spot in order to preserve the consultative character of the meeting and allow the development team the time needed to reflect on any changes

to be made to the training plan. Finally, there is no need to spend time defending the training plan, since the objective of the meeting is to gather as many opinions as possible from participants, not to obtain their approval.

4.4 Results

Validation report

The validation report contains a clear, succinct account of the opinions and comments of participants at the validation meeting. It should differentiate between input from representatives employed in the field and from those employed in education.

The report should also indicate which opinions on important issues, such as limits of professional responsibility or the feasibility of the proposed training plan, were given by representatives of professional corporations or administrators of educational institutions.

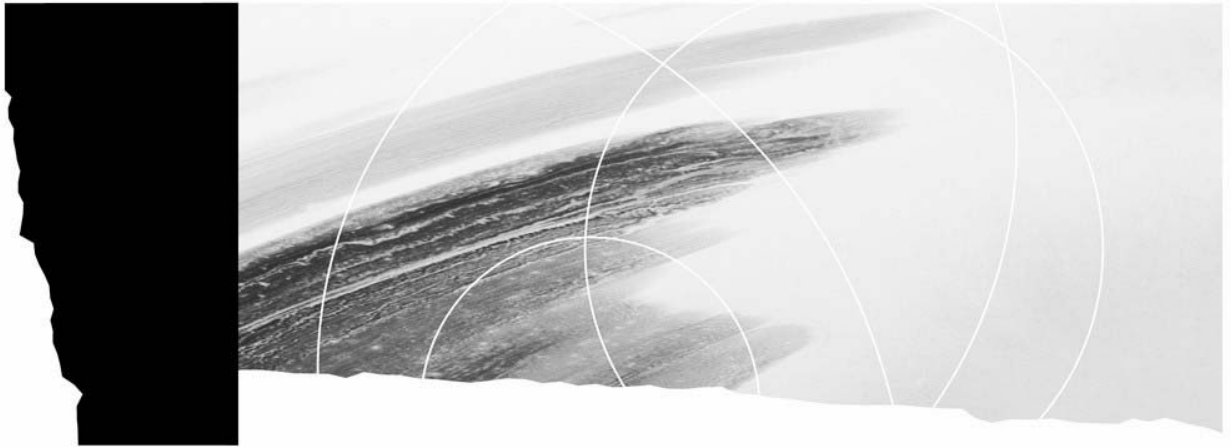
The report should also mention when a consensus was reached or when opinions about important issues diverged, without interpreting the participants' comments or mentioning the decision made subsequently. An analysis of the comments and suggestions will allow the program development team to evaluate the content, impact and relevance of the suggested changes.

Unlike the job analysis report, the validation report is not examined for compliance. It is distributed to those who participated in the validation meeting, as well as to the directors of the educational institutions authorized to offer the program. Appendix V contains an excerpt of a validation report.

Decisions based on the opinions and comments gathered

Since the goal of the validation process is to gather opinions and comments about the proposed training plan, once the report has been issued, the development team must decide how to act on these comments and opinions. As a general rule, any consensus concerning relevance must be taken into account, while opinions regarding coherence and feasibility are taken into consideration as much as possible.

Occasionally, the person in charge of the proposed training plan may decide to produce an update report on the decisions made (see Appendix VI) for internal use. This report is usually accompanied by an updated version of the training plan and is not distributed to participants in the validation meeting. Such a report may be produced only once the program has been written, since the definition of objectives often results in changes to parts of the training plan. The update report summarizes all the choices made by the development team throughout the program development process.



Program of Study

Description

Behavioural Objectives

Situational Objectives

Suggestions for Instructional Planning

Analysis

Implementation

5

Description

A vocational training program is a coherent and meaningful set of competencies to be acquired, formulated in terms of objectives, and divided into modules for administrative purposes. It is designed according to an overall approach that takes into account factors such as training needs, the job situation, goals and means of achieving objectives.

The program of study is a teaching/learning reference tool. Its objectives describe the expected outcomes of the training and have a direct influence on the choice of teaching/learning activities. It does not, however, contain learning activities, course content or teaching strategies or methods, which are the responsibility of the educational institutions.

The program is also a reference tool for instructional organization. Its implementation in educational institutions requires the mobilization of human, financial and material resources selected in keeping with the requirements of the program.

The program is also a reference tool for the evaluation of learning and the recognition of prior learning. To obtain a diploma, students must demonstrate that they have acquired the competencies described in the objectives. The instruments used in the evaluation of learning and the recognition of prior learning are based on these objectives.

Since the competencies formulated as objectives are mandatory targets of the program of study, students must acquire all of these competencies to obtain a diploma. The program is therefore a reference tool for the certification of studies. It allows educational institutions, which are responsible for implementing the program, to guarantee, in a spirit of equality and justice, that all students receive comparable training.

Finally, the program of study is an exhaustive source of information about the competencies required to practise a trade or occupation at entry level on the job market.

The program of study is a ministerial document made up of different parts, some prescriptive, others provided for information purposes. First, it presents a synoptic table of information about each of the objectives (e.g. number of hours allotted, administrative code). Then, it is divided into two parts: Part I includes an overview and contains four sections: the program goals, the educational aims, the list of competencies and the grid of competencies.

Part II of the program describes the objectives associated with each of the competencies, as well as the related knowledge, skills, attitudes, perceptions and guidelines. Normally, it also includes evaluation specifications for the purpose of certification, and other tools for the development of evaluation instruments. The objectives and evaluation specifications are prescriptive in nature, while the knowledge, skills, attitudes, perceptions and guidelines are provided for information purposes only. The Minister may also impose examinations according to his or her own criteria or conditions, but the development of such examinations is the responsibility of the educational institutions.

5.1 Program Goals and Educational Aims

The program goals are established in the proposed training plan and validated by representatives employed in the field and in education. Since program development is a dynamic process, the statements of the competencies and the program goals are likely to change, even once the training plan has been established. These changes, of course, must respect the rules of formulation. This part of the program of study contains an updated version of the program goals originally formulated in the training plan.

The educational aims are based on important values and concerns and serve as guidelines for teaching/learning activities, pointing teachers in a given direction when appropriate. They may include important attitudes, work habits, intellectual skills and so on, and usually address important dimensions of personal and vocational development that have not been explicitly included in the program goals or in the objectives. They are ongoing and, in particular, help the students develop work habits, attitudes, intellectual or motor skills and other dimensions not dealt with in the program's objectives. The educational aims help guide educational institutions in implementing the program.

Educational aims are based on an overall analysis of the program. They can also be based on the job analysis report or on the comments of participants in the validation meeting. Generally speaking, there should be between three and six educational aims. The following are a few examples:

- Develop a sense of responsibility.
- Develop the habit of self-evaluation.
- Show more respect for themselves and others.

Appendix VII contains other examples of educational aims.

5.2 Objectives

In education, an objective is generally regarded as a precisely defined result expected of the student during or at the end of a learning situation or program.¹² In vocational training, the concept implies learning objectives expressed in terms of observable and measurable behaviours (or behaviours whose results are observable and measurable) with a precisely defined result or product expected at the end of a learning situation, as well as the conditions in which the result or product is to be achieved. Objectives ensure clear, unequivocal communication between users of a program.

Objectives are the cornerstone of a vocational training program. According to the *Education Act* (s. 461), vocational training programs “shall include compulsory objectives and contents and may include optional objectives and contents that shall be enriched or adapted according to the needs of students who receive the services.” A program of study therefore contains objectives for each of the targeted competencies, which in turn become mandatory learning targets. It also provides competency-related knowledge, skills, attitudes, perceptions and guidelines for information purposes only. Certification specifications are prescriptive in nature.

The objectives must be defined according to strict rules, in order to ensure unequivocal, concise and effective communication between program developers and users. In vocational training, objectives can be defined either in terms of a behaviour or in terms of a situation. The choice of technique is important since each one derives from a different school of thought and has an impact on the teaching/learning and evaluation approaches used.

The first technique, in which the objective is defined in terms of a behaviour, involves a more formal instructional approach, which determines the expected outcomes. The second technique, in which the objective is defined in terms of a situation, involves a more open approach, focusing on the student's progress. In the latter case, emphasis is placed on the student's participation in learning activities in a given context. Results may vary from one student to the next. Two such different but complementary techniques provide sufficient leeway to meet a variety of instructional and practical requirements. The use of the techniques varies from one program to the other depending on needs. Although there is no hard and fast rule governing the number of behavioural objectives to be included in a program, behavioural objectives are generally far more numerous than situational objectives, since they define specific results to be achieved by the students.

The following pages address behavioural and situational objectives in greater detail.

¹² *Dictionnaire actuel de l'éducation*.

6

Behavioural Objectives

Behavioural objectives lend themselves well to learning that is easily identified and accompanied by objective data. In vocational training, behavioural objectives are particularly useful in defining behaviours related to specific tasks or products. They translate competencies into observable actions and measurable results expected of a student, while specifying, from the outset, the actions and results that will be used to verify whether a competency has been acquired. They also make it possible to evaluate students on their performance, in terms of specific conditions and criteria (without inferring success). Behavioural objectives do not define content, procedures or the learning activities required to develop the competency. Appendix VIII contains examples of behavioural objectives.

6.1 Statement of the Competency

Competencies are presented as general behaviours expected at the end of a module, for example: “Build a roof,” “Bleach hair.”

When the objectives are being formulated, the statements of the competencies are already available, since they were included in the validated and updated training plan. The statements of the competencies should be the same as those that appear in the training plan.

6.2 Achievement Context

The achievement context provides information about the situation in which the competency is exercised at entry level on the job market, that is, the first time a person performs a work-related task or activity on the job. It makes it possible to determine and understand the competency’s scope, importance and field of application. It helps set the scope of the competency and establish its degree of complexity. It indicates, on the basis of the information contained in the job analysis report, the equipment, materials, references and tools used, as well as the standards and regulations in effect. It also gives typical situations and the degree of autonomy and responsibility required. It must be representative of the different workplaces in which the competency will be applied and provide information that will remain valid in the long term. The achievement context contains information such as:

- Specific instructions and information, for example:
 - given a drawing and instructions from the supervisor
 - working with a colleague
 - referring to current laws, regulations, standards and codes
- The context in which the competency is to be applied, for example:
 - working outdoors
 - on a forest road
- The necessary tools, equipment, materials and clothing, for example:
 - using specialized tools and instruments
 - using a numerically controlled machine tool
- The necessary reference materials or technical manuals, for example:
 - referring to technical documentation and the manufacturer’s manual

- The scope and field of application of the competency, for example:
 - working on every generation of machine
 - in spinning and weaving applications

The information about performance conditions gathered during the job analysis may prove useful in establishing the achievement context. The achievement context should not specify the teaching/learning situation or the performance criteria. The educational institutions are responsible for establishing the teaching methods or learning conditions needed to attain the objective in accordance with the performance criteria and achievement context associated with the competency.

6.3 Elements of the Competency

The elements of the competency describe the competency in terms of specific behaviours. They are limited to the information needed to understand the competency, describing either the major steps in its application or its main components.

The steps in the application of the competency establish a sequence of actions and results. This method is used for specific competencies and for certain general competencies, if appropriate. The following example, from the competency “To prepare wires and cables” in the *Cable and Circuit Assembly* program, illustrates this method. The elements of the competency are:

- Locate information needed to do the job in drawings, diagrams and work procedures.
- Plan the work.
- Cut and strip the wire and cable.
- Prepare the crimping tool.
- Perform crimping operations.
- Check the quality of the crimping.
- Tidy up.

In some cases, for example, when general competencies cannot be unequivocally explained by the major steps in their application, the main components of the competency are presented instead. In such a case, it is necessary to group together the skills in question. The following example, from the competency “To manage administrative information” in the *Secretarial Studies* program, illustrates this method. The elements of the competency are:

- Prepare an inventory list of the types and series of documents.
- Interpret a classification plan and a records retention schedule.
- Classify documents.
- File documents.
- Process semi-active and inactive documents.

The formulation of the elements of the competency should take into account major steps in the work process, indicated by a shaded triangle (▲) in the grid of competencies. It may also take into account relationships with other competencies that should in particular be applied in the context of a work-related task or activity. These relationships, which are indicated by a shaded circle (●) in the grid, may give rise to elements of the competency; it is important, however, to adapt them to the competency in question when formulating them.

Generally speaking, between three and nine elements are necessary to adequately describe a competency. In addition, the elements of the competency should be formulated using action verbs expressing observable and measurable behaviours (or behaviours whose results are observable and measurable) and a direct object.

- In the cognitive domain, elements of the competency are expressed in terms of the application of knowledge, for example:
 - Select tools and materials.
- In the psychosensorimotor and socioaffective domains, they are expressed in terms of self-contained actions, for example:
 - Adjust the parts of a mechanism.
 - Manage work-related stress.

The elements of the competency should be formulated using the appropriate taxonomic level, i.e. avoiding actions that are too simple, for example “name,” “describe,” “list,” which refer to the expression rather than the application of knowledge and often do not represent the actual work-related task or activity. The elements should correspond to sufficiently complex and important actions. Elements that are too specific should also be avoided, for example “Thread the sewing machine needle.” If this action is important, it can be taken into consideration within a broader element, such as “Prepare the sewing machine.”

Finally, the elements of the competency should not refer to a learning sequence or learning steps. They should take into account the requirements for applying the competency at entry level on the job market.

The information gathered during the job analysis about tasks and operations, expected goods and services and transferable skills may prove useful in establishing the elements of the competency. The same is true for the details of the competency that appear in the second column of the table of correspondence¹³ in the validated and updated training plan.

6.4 Performance Criteria

The performance criteria define the requirements for judging the achievement of the elements of the competency and, consequently, of the competency itself. In conjunction with the achievement context, they specify the level of performance required to achieve the objective. Generally speaking, the various components of the competency make it possible to judge whether the competency and, as a result, the objective, has been achieved.

Performance criteria are usually formulated using nouns and adjectives. The adjectives help determine the required performance. The number of criteria is usually limited to four or five for each element of the competency, so as to avoid complicating the presentation of the objective.

Performance criteria can be inspired by suggestions made in the job analysis workshop for each of the tasks or by information about transferable skills. For example, the criteria formulated for the elements of the competency “To perform mechanical assembly tasks” in the *Aircraft Mechanical Assembly* program are as follows:

Elements of the competency

1. Do assemblies using threaded fasteners.

Performance criteria

- Proper use of techniques for assembling with threaded fasteners
- Observance of tightening and locking techniques
- Application of sealers at the appropriate points

¹³ Appendix IV contains a sample table of correspondence.

Accompanying each of the elements

The criteria accompanying each of the elements should provide accurate and comprehensive information about the requirements related to the acquisition of a large part of the competency at entry level in the job market. Together with the element of the competency, they should also help teachers establish relevant learning content and activities that will allow students to achieve the objective.¹⁴ Performance criteria should refer to observable dimensions and therefore be measurable. They are not used to evaluate the competency, but as a reference tool in the development of evaluation and teaching/learning instruments. They are therefore learning targets and prescriptive in nature. They are used for the purpose of evaluation during the learning process or for the purpose of certification.

In the first case, the performance criteria define the requirements and accompany each of the elements, providing information about the following aspects:

- The quality of the good or service, for example:
 - observance of form and positional tolerances
 - clear drawing
- The determination of an acceptable time frame, for example:
 - observance of time allotted
- The observance of processes or techniques, for example:
 - observance of sequence of operations
 - proper use of work methods
- The relevant codes, standards and regulations, for example:
 - observance of health and safety rules
 - compliance with the *Québec Electrical Code*
- Methods of using tools, equipment and materials, for example:
 - proper use of tools and equipment
 - proper use of software functions
- The appropriate attitudes, for example:
 - empathy
 - respectful attitude toward clients

Related to the competency as a whole

Performance criteria can also be used to define general qualitative or quantitative requirements related to the competency as a whole. To be considered relevant, these criteria should first be meaningful, that is, they should provide the necessary information about the expected level of performance or about the overall quality of the good or service. They must also be related to some or all of the elements of the competency and provide important information that is not included in the elements or the criteria associated with them, for example, a general attitude such as a concern for precision. They should not be viewed as a summary of the preceding criteria. They provide information about important dimensions to be considered in the learning process and in the definition of tools to evaluate the competency.

These performance criteria, like those related to each of the elements of the competency, provide information about:

- The quality of the good or service
- The determination of an acceptable time frame
- The observance of work processes or techniques
- The relevant codes, standards and regulations

¹⁴ The same does not hold true for the competency-related knowledge, skills, attitudes and perceptions presented in the program for information purposes. The objectives, translated into statements and elements of the competency, the achievement context and the performance criteria are mandatory, while the knowledge, skills, attitudes, perceptions and guidelines are merely suggestions.

- Methods of using tools, equipment and materials
- The appropriate attitudes

6.5 Correlations

When a development team, in order to promote the integration of certain learning, decides to take into account the correlations between specific competencies and steps in the work process, or between specific and general competencies, these correlations should appear in the objective. In the case of a behavioural objective, they may be included in the elements of the competency or in the performance criteria.

For example, in the grid of competencies in the *Machining Techniques* program, the following steps in the work process are taken into account in the competency “Cut threads on a lathe”:

- Interpret drawings and technical manuals.
- Plan the work.
- Do the work.
- Perform quality control tasks.
- Perform regular maintenance on the equipment.

These correlations are reflected in the elements of the competency as follows:

- Identify, in the drawings and manuals, the information needed for the job.
- Develop the process sheet.
- Perform internal and external threading operations.
- Control the quality of the threads.
- Perform regular maintenance on the lathe, accessories and cutting tools.

In the grid of competencies in the *Accounting* program, shaded circles (●) indicate that the competency “Prepare the payroll” should be formulated in such a way that the students can pursue or, better yet, integrate the learning related to the acquisition of a general competency. This learning involves doing calculations and preparing source documents, writing correspondence and communicating in an accounting context. These elements are taken into account in the performance criteria. Thus, the criteria “Appropriate filing of source documents” and “Correct spelling and grammar” are associated with “Effective management of conflicts involving personnel.”

7

Situational Objectives

Situational objectives promote the development of competencies with a significant socioaffective component, such as interpersonal communication and a concern for professional conduct. They focus more closely on personal development and take into consideration profound dimensions of an individual's personality, such as values and attitudes, which extend beyond behaviours that are easy to identify, predict and observe. In addition, situational objectives allow students, for example, to solve practical problems in order to orient actions in variable contexts in which results are difficult to standardize: in such a problem-solving context, it is generally impossible, given individual differences, to ensure that all students will achieve identical learning outcomes. Situational objectives provide a certain flexibility that takes into account important concerns that cannot be included in a behavioural objective: self-expression, creativity, autonomy, team spirit, entrepreneurship, vocational integration and so on. On the other hand, for evaluation purposes, situational objectives include observable activities or products that make it possible to infer the development of the competency on the basis of the student's participation in the learning process.

Situational objectives are also conducive to a more open instructional approach. In particular, they dispense with the need to rely on pre-established results as learning targets and open the way to self-expression and creativity. They also make it possible to focus on the learning process and the quality of the students' participation rather than on performance.

Although there is no definite rule governing the number of situational objectives in a program of study, they are usually far less numerous than behavioural objectives. Appendix IX contains examples of situational objectives.

7.1 Statement of the Competency

In a situational objective, the competency is viewed as an expected outcome. It may be formulated as follows:

- Communicate in a customer service setting.
- Provide care in a psychiatric setting.

When the objective is being formulated, the statements of the competencies are already available, since they were included in the validated and updated training plan. The statements of the competencies should be the same as those that appear in the grid of competencies.

7.2 Elements of the Competency

The elements of the competency establish the scope of and focus on the essential elements of the competency, making it easier to understand the expected outcome. Their formulation should take into account the competency rather than the learning content, process or activities. They should not be aimed at obtaining uniform results and may refer to knowledge, skills or attitudes. They are not accompanied by performance criteria since they do not aim at a predetermined performance but rather at results that may vary from one student to another. Three to five elements are enough to provide the necessary information. Too many elements will only confuse the issue. The elements of the competency should not be confused with the steps in the learning context, which represent the learning process. For example, "Evaluate their participation in the practicum or activity" does not provide information about the competency but about a

step in the learning process. Elements of the competency should be formulated as follows: “Interpret the needs and behaviours of people who have been committed.” The following are examples of elements of competencies:

- Recognize the importance of perceiving needs and understanding people who have been committed.
- Be familiar with the general psychological processes related to human behaviour.
- Be familiar with the psychological processes of people who have been committed.
- Formulate hypotheses about the needs and behaviours of people who have been committed.
- Be aware of the subjective and arbitrary aspects of the interpretation of needs and behaviours.

7.3 Learning Context

The learning context provides an outline of the learning situation designed to help students develop the required competencies. It is normally divided into three phases of learning: information, participation and evaluation.

The elements of the competency influence the learning context, but there is no direct correlation between the number of elements and the number of steps in the learning context. Finally, the learning context does not include learning content or activities. Generally speaking, the information in the learning context serves as a reference point for teachers in the preparation of learning activities on a particular theme or aspect. It is also important to suggest at least one or two types of activities to evaluate the students' participation in each phase and to determine whether they are ready for certification. For example:

Information phase

- Learning about the physical effects of ageing.
- Thinking about the role of the family in the commitment process and the type of cooperation to be established.
- Testing transfer techniques for the safe handling of seniors.

Participation phase

- Developing a care plan as part of a team, using hypothetical case studies.
- Discussing the confidential and legal aspects of medical files.

Synthesis phase

- Writing a report on their strengths and weaknesses in terms of communication.

7.4 Instructional Guidelines

The instructional guidelines provide suggested ways and means for teachers to ensure that learning takes place and that the context in which it occurs is always the same. These guidelines may include general principles or specific procedures related to instructional or material organization. For example:

- Create a climate conducive to trust, openness and mutual respect among the participants.
- Recognize the contribution of each participant during group discussions.
- Provide the necessary support for self-evaluation.
- Organize meetings with gerontology or nursing specialists to discuss basic care for seniors.
- Make extensive use of exercises, simulations and role-plays to help the students integrate the techniques taught.
- Make available the audiovisual materials and equipment needed for the activities.

7.5 Participation Criteria

The participation criteria describe the requirements the students must fulfill in each phase of the learning context. They focus on how the students take part in the activities rather than on the results obtained. Participation criteria are normally provided for each phase of the learning context. There should be no more than one or two criteria for each phase so as to limit the number of observations and verifications the teacher must make in order to evaluate the students' participation and provide certification. Each participation criterion should apply to at least one learning activity in the related phase of the learning context, but may also apply to activities in the other phases. The criteria should focus on an important aspect and relate to evidence of participation. They should never be used to verify the students' performance with respect to the targeted competency; rather, they are intended to verify their participation. They should be unequivocal, for example:

Information phase

- Participate in discussions.
- Recognize their strengths and weaknesses with respect to communication and teamwork.

Participation phase

- Be available when asked.
- Agree to take responsibility.

Synthesis phase

- Share their opinions and feelings.
- Write a report on their thoughts, preferences, interests, aptitudes and career choice.

7.6 Correlations

When a development team, in order to promote the integration of certain learning, decides to take into account the correlations between specific competencies and steps in the work process, or between specific and general competencies, these correlations should appear in the objective.¹⁵ In the case of a situational objective, they may be included in the learning context or in the participation criteria.

For example, in the grid of competencies in the *Industrial Clothing Production* program, shaded circles (●) indicate that the competency “To enter the workplace” should be formulated in such a way that the students can pursue or, better yet, integrate learning involving occupational health and safety. The participation criteria translate these elements as follows: Follow occupational health and safety instructions.

¹⁵ A shaded triangle (▲) in the grid of competencies indicates that the correlation between the specific competency and the step in the learning process has been taken into account. A shaded circle (●) indicates that the correlation between the specific competency and the general competency has been taken into account.

8

Suggestions for Instructional Planning

The final portion of an objective presents the competency-related knowledge, skills, attitudes and perceptions, and the related guidelines, which teachers may use as a point of departure in their planning. This part of the objective is thus provided for information purposes only and is intended to provide additional support for teachers, who must guide the students in the development of the competencies.

8.1 Knowledge, Skills, Attitudes and Perceptions

The competency-related knowledge, skills, attitudes and perceptions define the essential and important learning that the students must acquire in order to apply and continue to develop the competency. In vocational training, they are the dimensions of the competency, i.e. the knowledge, skills in a variety of fields, attitudes and perceptions that will allow graduates to adequately perform a task or work-related activity. In a sense, they represent the competency's potential. They can be used as reference points with respect to the learning required to attain an objective and constitute a minimum of information that teachers must adapt to the specific needs of their individual students or groups.

Definition

Knowledge, skills, attitudes and perceptions are based on the elements of the competency. They can also be based on the performance criteria, but should not correspond to them exactly. Such a restrictive formulation might imply that teaching is limited to the content that will be evaluated, which is not the case.¹⁶ When formulating the knowledge, skills, attitudes and perceptions, it is important to take into account how many hours are allotted for the competency, where the competency fits into the program and who the target population is.

The objective should be analyzed in order to determine the scope of the competency and to clearly identify what is needed for its proper application. The competency-related knowledge, skills, attitudes and perceptions include everything the student needs to apply the competency as defined in the objective. Generally speaking, knowledge, skills, attitudes and perceptions are established for each element of a behavioural objective and for each phase in the learning context of a situational objective. However, it might be wiser to group knowledge, skills attitudes and perceptions together when they are shared by more than one element or phase in order to avoid useless repetition. Once all of the elements have been taken into consideration, guidelines can be provided for the competency as a whole. In both cases, the groupings are intended to avoid useless repetition and to present the information clearly and succinctly.

The knowledge, skills, attitudes and perceptions should correspond to activities performed by the practitioner at entry level in the job market. However, they do not need to be observable and measurable, since that would exclude a number of cognitive skills and attitudes. Examples of knowledge, skills, attitudes and perceptions include:

- Recognize the importance of doing quality work.
- Work alone.¹⁷
- Adapt to specific conditions.

¹⁶ The scope of the learning covered by an element of the competency extends beyond the level of performance to be achieved.

¹⁷ Some dimensions, such as "Work alone," that apply to all of the competencies in a program of study will appear in the educational aims at the beginning of the program. These aims pave the way for cross-curricular or generic competencies.

Knowledge, skills, attitudes and perceptions are transferable and are not related to a specific task. They are essential for the development of autonomy and employability.

It is important to ensure that the knowledge, skills, attitudes and perceptions specified are important enough to require learning. They should not be a mere enumeration of “subelements” of the competency; rather, they should help teachers plan and organize a variety of meaningful learning activities.

The knowledge, skills, attitudes and perceptions should be varied and include those required to develop each part of the competency. It is important, however, to avoid providing a detailed list of learning corresponding to relatively low taxonomic levels.

Competency-related knowledge, skills, attitudes and perceptions are limited to the formulation of the expected behaviour, using an action verb and a direct object. The verb should correspond to a taxonomic level corresponding to the actual activity in the workplace. The formulation of each one should make it possible to identify the action the graduate will be able to perform. It is also suggested not to exceed the “application” level in Bloom’s taxonomy.

Normally, there should be no more than five or six suggestions of knowledge, skills, attitudes and perceptions for each element of the competency in a behavioural objective or for each phase of the learning context in a situational objective.

8.2 Guidelines

Guidelines provide information about the scope or limits of competency-related knowledge, skills, attitudes and perceptions. They relate either to the field of application, to the appropriate level of complexity for the learning situations or to the content to be covered with respect to the knowledge, skills, attitudes and perceptions identified.¹⁸ The following is an example of guidelines related to content. Other examples can be found in Appendixes VIII and IX.

- For “To draw in perspective,” the guidelines are: orthographic projection; perspective with one or two vanishing points; interpretation of light and shadow using colour shades and gradations.
- For “To use text tools,” the guidelines are: free text; graphic text; title text limited to a certain shape, font, size, etc.
- For “To create and modify shapes,” the guidelines are: curves and straight lines; creation and modification of simple and complex illustrations.
- For “To adapt to specific situations,” the guidelines are: complexity of illustrations; shorter production time; new performance conditions (new equipment or unexplored software possibilities).
- For “To use vector-based drawing software,” the guidelines are: importation of models; setting of preferences; drawing tolerances; save format.
- For “Set preferences in a drawing program,” the guidelines are: deletion and creation of preferences; preparation for printing.

When establishing the guidelines, it is necessary to identify the most relevant and important aspects of each of the dimensions. The detailed description of the content will be done later by the teacher. Like competency-related knowledge, skills, attitudes and perceptions, the guidelines are not intended to replace the teacher’s detailed planning. If the content must be mentioned, it should be limited to broad themes, problems and selected cases and not consist in a detailed list of content elements, examples, definitions and so on.

Finally, unlike the performance criteria, the guidelines should not be used to specify the expected performance. They are formulated using nouns; they generally do not include verbs and are rarely presented in a complete sentence. In the program of study, they are listed briefly following the knowledge, skills, attitudes and perceptions. Normally, the number of guidelines is limited to three or four for each dimension.

¹⁸ The educational institutions are responsible for learning content.

9

Analysis

At this point, let us examine a few criteria for analyzing a draft of a vocational training program.¹⁹ The following table contains questions that might help the development team take a critical look at its work. Taking the necessary measures to answer each of these questions in the affirmative will result in a better product.

Analysis Checklist

GENERAL ASPECTS

- Were the program goals changed to take into account the opinions gathered?
- Do the educational aims address important aspects that were not explicitly formulated in the program goals or competencies?
- Are there between three and six educational aims?
- Does the information in the grid of competencies correspond to the information in the objectives?

BEHAVIOURAL OBJECTIVES

Statements of the competencies

- Are the statements of the competencies formulated similarly in every section?

Achievement context

- Does the context specify the necessary or mandatory context, tools, equipment, materials and clothing, and the references or technical manuals used in the application of the competency in the workplace?
- Is the context realistic with respect to job market entry-level requirements?
- Does the context help describe the competency beyond the information contained in the other components of the objective?
- Are the statements clear and accurate?
- Does the context specify the actual work environment, without referring to teaching, learning or evaluation methods?
- Are the statements limited to the information needed to understand the scope and limits of the competency?
- Do the statements begin with words such as “given,” “using,” “in” and “for”?

Elements of the competency

- Is each element related to the competency in question?
- Do the elements help define the scope of the competency?
- Is the scope of each element more limited than that of the statement of the competency?
- Are the elements structured as processes or products?
- Is the competency structured and written in such a way as to make it unequivocal?
- Do the elements represent actual steps in a work-related activity rather than learning activities or knowledge leading to the acquisition of the competency?
- Are the elements formulated using an action verb and a direct object, without qualifiers, adverbs or achievement requirements?
- Is the verb different from the one used in the statement of the competency?
- Do the elements of the competency reflect any correlations taken into account?
- Are there between three and nine elements of the competency?

¹⁹ A draft is a program that has not yet been approved by the Ministère.

Analysis Checklist (cont.)

PERFORMANCE CRITERIA

- Are the criteria directly related to the elements of the competency?
- Do the criteria indicate the quality of the products, outcomes or actions or the application or observance of a method rather than the learning to be acquired?
- Are the criteria realistic with respect to job market entry-level requirements?
- Are the criteria sufficiently broad to enable the future development of more specific evaluation criteria?
- Is each criterion unique?
- Are the criteria presented in a logical order?
- Do the criteria reflect any correlations taken into account?
- Are there an appropriate number of criteria, at most four or five per element?

SITUATIONAL OBJECTIVES

Statements of the competencies

- Are the statements of the competencies formulated similarly in every section?

Elements of the competency

- Do the elements specify the expected outcome?
- Are the elements clear?
- Do the elements clarify the competency?

Learning context

- Does the learning context include at least three phases?
- Do the phases represent the learning process?
- Can the information contained in the learning context be used to prepare learning activities?

Instructional guidelines

- Do the instructional guidelines provide means of ensuring that learning takes place?
- Do the instructional guidelines ensure that the same conditions apply wherever and whenever the course is taught?

Participation criteria

- Do the participation criteria describe the requirements that the students must meet during the learning process?
- Do the criteria refer to at least one important aspect of participation?
- Do the participation criteria refer to evidence of the students' participation?
- Is each phase of the learning context accompanied by participation criteria?

SUGGESTIONS FOR COMPETENCY-RELATED KNOWLEDGE, SKILLS, ATTITUDES AND PERCEPTIONS

- Are the competency-related knowledge, skills, attitudes and perceptions applicable in the workplace?
- Are they important enough to require the planning and organization of learning that is worthwhile in the training process?
- Are there five or six dimensions for each element of the competency in the behavioural objectives or for each phase in the situational objectives?
- Are the knowledge, skills, attitudes and perceptions presented in the same order as the elements of the competency?
- Do the knowledge, skills, attitudes, perceptions and related guidelines identify the essential learning without focusing on content (sufficient but not excessive information)?
- Do the guidelines identify the most relevant and important aspects of each of the dimensions?
- Are there three or four guidelines for each dimension?

FORMAT

- Does the program contain all of the necessary sections: administrative information about the program, the introduction to the program, information about the modules (administrative code, module number, number of hours and credits), and glossary? Does the first part contain the program goals, educational aims, list of competencies, grid of competencies and a section on harmonization with other programs? Does the second part contain information about the objectives? Does the third part contain suggestions for instructional planning?

10

Implementation

At the end of the program development process, it is customary to hold a one-day implementation session during which the development team presents the new program to future users. Participants in the implementation session are usually teachers and education consultants employed in the educational institutions authorized to offer the program.

The implementation session is an ideal opportunity to inform participants of the specific characteristics of the new program and to answer questions. Above all, it is intended to help participants understand the program and to do the instructional planning necessary for its implementation.

The format of the session may vary depending on the program, the extent of the changes made and the number of educational institutions involved. If necessary, several sessions may be held consecutively in a given region. The content of the session, however, remains the same.

First, the development team presents the history of the program, the main stages in its development, and the major choices and significant changes made. It is important to remember that the participants have not been involved in every step of the program development process, so they should be informed about what has been done to date, for example, the preliminary study, the job analysis report and the validation report.

Then, the team reviews the basic concepts underlying the competency-based approach used in vocational training. The objective is to ensure that the participants have all the information they need to understand each of the components of the new program and all the possibilities for its implementation.

Finally, the program is presented in detail, including the program goals and educational aims, each objective and the suggestions for instructional planning. This information can be presented in a number of ways but, whatever the means chosen, the presentation should be dynamic and promote the involvement of participants. Reading the program in its entirety should be avoided, since that would only result in a tedious, non-interactive session.

Although the main goal of the implementation session is of course to present the new program of study, the development team may decide to present the instructional and material organization guide as well. It is important to bear in mind the purpose of the session, which is to offer instructional support to users of the new program.

CONCLUSION

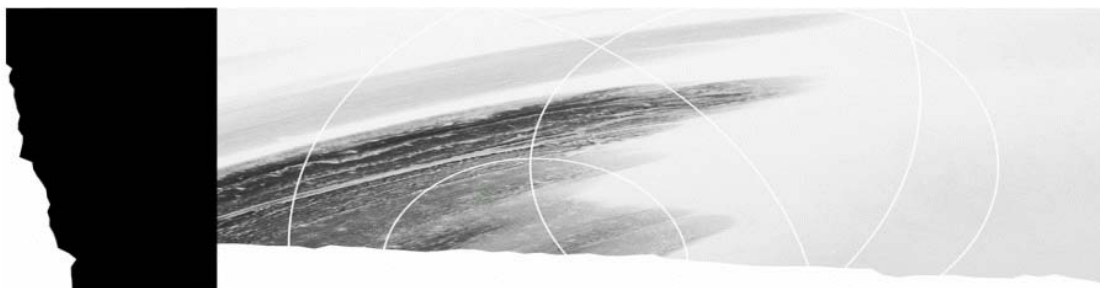
This guide was redone as part of the revision of the program development process in vocational and technical training. Such a revision was necessary in order to update the documentation and the programs developed since the reform of vocational training in 1986 and that of technical training in 1993.

The revised program development process in vocational and technical training involves three major stages: the program's evaluation; its planning and development; and its implementation, including the resulting sectoral follow-up. This ensures that work force and personal needs are being met. These stages are implemented in a continuum extending from a program's design through its implementation, if the need still exists. Each step is based on the previous step and paves the way for the next. The process begins with a needs analysis and the identification of the program's determinants. Then follows the development and implementation of the program and, finally, a study of the need for revision. The updated process is monitored on an ongoing basis by the sectors involved in order to ensure quality program offerings and training-employment correlation.

To date, more than 250 vocational and technical training programs have been developed using the competency-based approach, and some have been updated. In the coming years, many of the programs will be revised in order to meet needs and to ensure the principal qualities of a good program, i.e. coherence, relevance and feasibility, in as harmonized a context as possible.

Appendix I

Administrative Information



<Code>

<Program Title>

Year of approval: <Year>

Certification:

Diploma of Vocational Studies <or>
Attestation of Vocational Specialization

Number of credits:

<nb> credits

Number of modules:

<nb> modules

Total duration:

<nb> hours

To be admitted to the <Title> program, students must meet one of the following conditions:

Appendix II

Excerpt of Program Goals

Program Goals

The *Networked Office Equipment* program prepares students to practise the occupation of Office Equipment Technician Specialized in Network Support.

Office equipment technicians specialized in network support are employed in maintenance and service companies, or wholesale and retail distributors.

They provide after-sales service (i.e. installation, repair, maintenance or updating) of photocopiers, microcomputers, fax machines, sales registration equipment, or any other network-connected equipment. They must be able to determine if the cause of a problem is related to the network or to the equipment itself (e.g. electronic, optical or mechanical malfunction).

Technicians perform their tasks alone, either in a workshop or at the customer's place of business. They must be able to respond to service calls, and communicate properly with colleagues, network administrators and network users.

Concern for establishing good customer relations, the ability to represent their employer and a desire to stay up to date are essential qualities for these workers.

The program goals of *Networked Office Equipment* are based on the general goals of vocational training. These goals are:

To help students develop effectiveness in the practice of a trade or occupation:

- To teach students to perform roles, functions, tasks and activities associated with the trade or occupation upon entry into the job market.
- To prepare students to progress satisfactorily on the job.

To help students integrate into the work force:

- To familiarize students with the specialization they have chosen.

To foster students' personal development and acquisition of occupational knowledge, skills, perceptions and attitudes, that is:

- To help students:
 - develop their autonomy and ability to learn, and acquire effective work methods
 - understand the principles underlying the techniques and the technology used in the trade or occupation
 - develop self-expression, creativity, initiative and entrepreneurial spirit
 - adopt the attitudes required to successfully practise the trade or occupation, and instill in them a sense of responsibility and a concern for excellence

To ensure job mobility:

- To help students develop positive attitudes toward change.

The program meets two requirements of vocational training, i.e. versatility and proficiency in tasks related to the trade or occupation. Versatility is ensured through several general competencies that enable students to acquire the knowledge and skills required by the trade. Proficiency in networking tasks is ensured through the acquisition of specific competencies. Both types of competencies cover all areas of employment and ensure job mobility.

Appendix III

Excerpt of a List of Competencies and Grid of Competencies

List of Competencies and Grid of Competencies

List of competencies

- To determine their suitability for the occupation and the training process
- To research and exchange information
- To produce tables and charts
- To do calculations and prepare source documents
- To format accounting-related correspondence
- To write accounting-related correspondence in English
- To process source documents in different types of companies
- To handle cash
- To use information related to legislation affecting businesses
- To interact in a variety of professional situations
- To communicate in French in an accounting context
- To prepare the payroll
- To write and format accounting-related correspondence in French
- To organize and process data related to a company's resources
- To carry out daily tasks related to transactions involving receivables and payables
- To ensure that they work efficiently
- To perform calculations needed to determine the cost of goods and services
- To perform end-of-period tasks
- To perform year-end tasks
- To produce an income tax return for an individual
- To implement an accounting system
- To commit themselves to the development of their career
- To enter the work force

Grid of competencies

The grid of competencies shows the relationship between general competencies, which correspond to work-related activities, and specific competencies, which are required to practise the trade or occupation, as well as the major steps in the work process.

The general competencies appear on the horizontal axis and the specific competencies, on the vertical axis. The symbol (Δ) indicates a correlation between a specific competency and a step in the work process. The symbol (○) indicates a correlation between a general and a specific competency. Shaded symbols indicate that these relationships have been taken into account in the formulation of objectives intended to develop specific competencies.

The logic used in constructing the grid influences the course sequence. Generally speaking, this sequence follows a logical progression in terms of the complexity of the learning involved and the development of the students' autonomy. The vertical axis of the grid presents the specific competencies in the order in which they should be acquired. The modules including the general competencies on the horizontal axis should be taught in relation to those on the vertical axis. This means that that some modules are prerequisite to others, while other modules are taught concurrently.

GRID OF COMPETENCIES																						
ACCOUNTING				GENERAL COMPETENCIES														WORK PROCESS				
	Competency number	Objective	Duration (in hours)																			
				Determine their suitability for the occupation and the training process	Research and exchange information	Produce tables and charts	Do calculations and prepare source documents	Format accounting-related correspondence	Write accounting-related correspondence in English	Process source documents in different types of companies	Use information related to legislation affecting businesses	Interact in a variety of professional situations	Communicate in French in an accounting context	Write and format accounting-related correspondence in French	Organize and process data related to a company's resources	Ensure that they work efficiently	Commit themselves to the development of their career	Gather and analyze information	Enter data	Do calculations	Produce reports	Verify and correct reports
SPECIFIC COMPETENCIES	Competency number	Objective	Duration (in hours)	1	2	3	4	5	6	7	9	10	11	13	14	16	22					
				S	B	B	B	B	B	B	B	S	B	B	B	B	S					
				30	60	60	30	60	90	60	45	30	75	60	60	75	30					
Handle cash	8	B	45	O	●	●	●	●	●	●	○	○	○	○		○		▲	▲	▲	▲	▲
Prepare the payroll	12	B	30	O	○	●	●	●	●	●	●	●	○	○	○	○		▲	▲	▲	▲	▲
Carry out daily tasks related to transactions involving receivables and payables	15	B	60	O	●	●	●	●	●	●	●	●	●	●	○	○		▲	▲	▲	▲	▲
Perform calculations needed to determine the cost of goods and services	17	B	75	O	○	●	○	○	○	○	●	○	○	○	●	●		▲	▲	▲	▲	▲
Perform end-of-period tasks	18	B	75	O	●	●	●	●	●	●	●	●	●	●	●	●		▲	▲	▲	▲	▲
Perform year-end tasks	19	B	75	O	●	●	○	●	●	○	●	●	○	●	●	●		▲	▲	▲	▲	▲
Produce an income tax return for an individual	20	B	60	O	●		●	○	○	○	●	●	○	○	○	●		▲	▲	▲	▲	▲
Implement an accounting system	21	B	45	O	○	○			●	●	●	○	○	○	○	○		▲	▲	▲	▲	▲
Enter the work force	23	S	120	O	●	●	●	●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲

Appendix IV

Excerpt of a Table of Correspondence

Presentation of the Table of Correspondence

The table of correspondence contains information about the proposed training plan, including the competencies as they appear in the grid and in the order in which they should be acquired.

Each statement of the competency is related to the other competencies in the proposed training plan, the information in the job analysis report (*Rapport d'analyse de situation de travail* or *AST*) and the four general goals of vocational training. These determinants are presented so as to ensure the relevance of each of the competencies. The information from the job analysis report is preceded by the letters *AST*. The general goals are numbered and correspond to those listed at the beginning of this document.

Each competency is also accompanied by details intended to clarify the statement. It is important to remember, however, that these indications are merely a preliminary guide to help define the competency and are not necessarily exhaustive. They may refer to related content, concepts related to the development of the competency or elements of the competency. They should not automatically be associated with the elements of the competency, which will be defined when the program objectives are set.

Table of Correspondence

Statement of the Competency

Set up rooms (45 hours).

Determinants

AST Tasks and operations: 1.3, 1.4, 4.4, 4.5, 6.1, 6.2, 7.1, 7.2, 7.4; Knowledge and skills: standards of hygiene and health, work methods

Goals: 1, 3

Details of the Competency

- Identification of equipment and rooms
- Set-up of furniture and equipment, tables, pantry, service tables, glassware and cutlery, linens, service bar, cafeteria
- Set-up appropriate to the type of menu offered
- Application of the principles of ergonomics
- Set-up of dining rooms according to reservations (seating arrangements)
- Maintenance of equipment and work areas
- Clean-up after a seating
- Preparation of rooms for the next seating
- Inventory of stores

Statement of the Competency

Explain menus and dishes (30 hours).

Determinants

AST Tasks and operations: 1.4, 2.2, 2.3, 3.1, 3.2, 4.2; Knowledge and skills: serving techniques and knowledge of basic cooking techniques

Goals: 1, 3

Details of the Competency

- Consideration of the history and evolution of food and beverage services
- Consideration of influences and trends in food and beverage services: healthy cuisine, vegetarian cuisine, cuisine using local products, foreign cuisines
- Characterization of cooking basics: kitchen equipment and utensils, professional terminology, techniques for cooking processed foods, established terms, rules for presenting dishes
- Description of the organoleptic qualities of food: appearance, aroma, texture and taste
- Identification of food allergies
- Preparation of fruits and vegetables; soups and consommés; pasta and rice; meat, poultry and game; fish and shellfish; gravies and sauces; appetizers and main courses; desserts, pastries and entremets
- Use of aromatics and condiments
- Description of cheeses
- Description of breakfast foods

Appendix V

Excerpt of a Validation Report

General comments

The representatives employed in the field and in education are satisfied with the proposed training plan in general. However, they would have liked to see more hours allotted to the program. In addition, the teachers note a lack of motivation and independence among many of their students, and the representative employed in industry mentioned that 90 per cent of graduates are not prepared to work as apprentice tilesetters.

Specific comments

Determine their suitability for the trade and the training process

The representatives employed in the field deem this competency relevant. They note that it is important for the students to be informed about the respective roles of apprentices and journeymen.

The teachers deem this competency feasible and coherent and no changes are proposed.

Calculate quantities of materials

The representatives employed in the field deem this competency relevant. However, they note that apprentices are rarely called upon to calculate materials or work on stairs.

The teachers deem this competency feasible and coherent. They question the relevance of the evaluation relating to stairs and mention that calculations are also done in the module on drawings and specifications. One teacher would like to see 45 hours devoted to this competency.

Select installation products

The representatives employed in the field deem this competency relevant. However, they note that products are selected by employers or architects.

The teachers deem this competency feasible and coherent. They note that it is important to mention the safety rules for handling epoxies.

Prevent health and safety problems on construction sites

The representatives employed in the field and in education deem this competency relevant because it allows graduates to obtain the card issued by the Association paritaire pour la santé et la sécurité du travail du secteur de la construction (ASP Construction), which is mandatory for anyone working on a construction site.

Translator's note: Since validation reports are never published, they are not normally translated into English. The following text, however, will give readers an idea of their content.

Appendix VI

Excerpt of an Update Report

Introduction

The proposed training plan in *Production acéricole* (maple syrup production) is based on the aims and orientations of vocational training set by the Direction générale de la formation professionnelle et technique, which call for the participation of experts from the workplace and the field of education. The development framework calls for a meeting to validate the proposed training plan before the development team goes on to establish the objectives of the program of study. This meeting was held in February 2000, once the competencies and goals of the training plan had been defined. The purpose of validation is to obtain the partners' opinions about the proposed training plan, in particular about the coherence, feasibility and relevance of the program goals and the competencies to be acquired. A document containing the comments of participants at the validation meeting was produced by the Ministère.

In order to ensure a high-quality product, all of the opinions offered by the participants were taken into account and analyzed by the program development team, which resulted in certain changes to the initial proposal. This document briefly describes the results of this analysis and contains the revised training plan. It also contains an updated list of competencies, grid of competencies and table of correspondence. The revised training plan is used for the remainder of the program development process.

Analysis results

Following the validation meeting, the members of the development team met to analyze the opinions of the participants. Generally speaking, opinions that were the subject of a consensus and those that were supported by the majority were taken into consideration and the relevant changes were made to the table of correspondence.

Note that the development team deemed it appropriate to make changes to the statements of certain competencies and to the number of hours allotted to them in order to better reflect their content. In addition, as a result of comments made during the meeting, details of the competencies were either added, deleted or reformulated. These changes appear in Section 2.4 of this document, which includes the revised table of correspondence.

Coherence of the proposed training plan

<i>Comments/Suggestions</i>	<i>Changes</i>
Skills related to shipping and receiving of merchandise should be included.	Details were added to the competencies "Install and maintain vacuum lines" and "Package the syrup."
Someone suggested that the concept of cleanliness be integrated into the steps in the work process.	Although this proposal was not adopted, observance of hygiene rules will be included in the general performance criteria for most objectives.

Translator's note: Since update reports are never published, they are not normally translated into English. The following text, however, will give readers an idea of their content.

Competencies

<i>Competencies</i>	<i>Changes</i>
Determine their suitability for the trade and the training process	Duration changed from 45 to 30 hours
Get their bearings in the forest	All proposals adopted
Prevent occupational health and safety problems	Proposal adopted
Maintain the health of the sugar bush	Duration increased to 90 hours and statement of the competency changed to: "Establish relationships between the anatomy and physiology of maples, and the sugar bush ecosystem"
Work in a team	No changes suggested
Determine the vocation of a wooded area	<ul style="list-style-type: none"> Competency 6 deleted and related details added to competency 7, which becomes: "Perform tasks related to the landscaping of the sugar bush" Duration increased to 120 hours Proposals related to the addition of details all adopted The development team checked with the CSST and there is no legal obligation to undergo 90 hours of training in order to qualify to use a chainsaw. There is training recommended by the CSST and required by a number of forestry employers but it lasts 16 hours. Although it is not mandatory, this training is useful for agricultural workers. The health and safety module includes elements to meet this need.
Perform landscaping tasks in the sugar bush	

	Appendix VII Excerpt of the Educational Aims of a Program
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Educational Aims

Educational aims are based on important values and concerns and serve as guidelines for interactions with students. As a general rule, educational aims focus on important aspects of the students' professional and personal development, such as attitudes, work habits and intellectual skills that have not been explicitly formulated in the program goals and objectives.

Educational aims encourage teachers to follow a certain direction in their interactions with students. Promoted on an ongoing basis, educational aims are specifically designed to help students develop habits, attitudes and other attributes that are beyond the scope of the program objectives.

The *Networked Office Equipment* program encourages students to develop their:

- autonomy and sense of responsibility
- communication skills
- perseverance and resourcefulness

Appendix VIII Behavioural Objectives

Calculations Related to Source Documents

Code: 961 042

Module 4 Duration: 30 hours

Behavioural Objective

Statement of the Competency

Do calculations and prepare source documents.

Achievement Context

- Given instructions and source documents
- Using spreadsheet software, a business calculator, interest tables and currency tables
- Using reference materials
- Working with the following source documents: requisitions, purchase orders, invoices, receiving slips, statements of account, tenders, shipping slips, credit notes, waybills, cheques, money orders, drafts, letters of exchange

Elements of the Competency

Performance Criteria

- | | |
|---|---|
| 1. Do calculations and prepare source documents related to purchases and sales. | <ul style="list-style-type: none"> • Consistency of information between source documents • Writing of information in appropriate places • Correct calculations |
| 2. Calculate discounts and prepare source documents. | <ul style="list-style-type: none"> • Accurate determination of type of discount (cash or volume) and the cash rebate • Correct calculations • Writing of information in appropriate places • Numbers written without spelling errors |
| 3. Calculate international payments and prepare source documents. | <ul style="list-style-type: none"> • Accurate conversion of amounts into foreign currencies • Accurate determination of type of documents to be used (money orders, drafts or bills of exchange) |
| 4. Calculate simple interest. | <ul style="list-style-type: none"> • Accurate determination of the term used to calculate interest • Correct application of formula |
| 5. Calculate compound interest and prepare loan amortization tables. | <ul style="list-style-type: none"> • Accurate determination of the number of payments and the applicable interest rate • Appropriate choice of interest table • Correct calculations • Observance of instructions regarding the preparation of the tables |

For the Competency as a Whole

- Correct use of a business calculator
- Neat, legible documents
- Accurate calculations
- Appropriate use of software functions
- Observance of ergonomic rules

Suggestions for Competency-Related Knowledge, Skills, Perceptions and Attitudes

The following is a list of knowledge, skills, perceptions, attitudes and guidelines related to each element of the competency.

1. Do calculations and prepare source documents related to purchases and sales.

Do basic arithmetic operations.	Review of basic operations, priority of operations and parentheses; conversion of whole numbers and decimals into percentages and vice-versa; rule of three; cross products
Use the functions of a business calculator.	Application of keying method; use of tape; rounding off and number of decimal places; keypad functions
Recognize the source documents related to purchases and sales.	Purpose of each source document and of the information it contains
Associate the source documents with the steps in the internal control process related to purchases and sales.	Sample documents for purchases and sales
Using a spreadsheet program, produce models of source documents.	Format of document; sample invoices; automatic calculations
Show concern for the presentation of the model.	Neatness; legibility; general presentation

2. Calculate discounts and prepare source documents.

Identify the different types of discounts.	Types of discounts that affect sales price and taxes; those that do not; impact on the business
Apply a type of discount.	Method of calculation: impact on taxes, payment and credit notes
Issue source documents related to payments.	Preparation of the following documents: receipt, cheque, stub, draft, money order

3. Calculate international payments and prepare source documents.

Apply the formulas for converting foreign currencies.	Definition of the elements of the equation used to calculate the conversion of foreign currencies; application of formulas using rate tables
Prepare a bank draft.	Information to be included in a bank draft

4. Calculate simple interest.

Calculate simple interest.

Elements of the equation used to calculate simple interest

5. Calculate compound interest and prepare loan amortization tables.

Recognize the elements of an amortization table.

Columns of loan amortization table

Identify the elements used to calculate compound interest.

Elements used to calculate compound interest

Use interest tables.

Purpose, use, choice of table; calculations using the table

Use the financial functions of a spreadsheet program to prepare loan amortization tables.

Automatic calculations: initial capital, payments, calculation of interest, remaining capital, etc.

Behavioural Objective
Statement of the Competency

Assemble sportswear garments.

Achievement Context

- Given instructions, prototypes, measurements and cut pieces
- Using sewing machines and accessories
- In the context of serial production

Elements of the Competency
Performance Criteria

1. Become familiar with the work to be done.

- Careful examination of prototypes
- Accurate measurement of stretch fabrics when stretched and relaxed
- Recognition of assembly sequence
- Consideration of outlets produced by the machines

2. Organize the work.

- Efficient organization of workstation
- Careful verification of number of pieces in each package and widths of elastic bands
- Proper choice of machines and accessories
- Conformity of elasticity tests with expected results

3. Assemble sections of garments.

- Precise assembly
- Observance of logical production sequence
- Appropriate performance of operations
- Solid attachments and seams
- Seam tensions adapted to the elasticity of the clothing
- Precise correspondence of notches and cut-outs
- Precise correspondence of ends of elastics
- Regular, precise alignment of elastic bands and top stitching

4. Finish sportswear garments.

- Careful performance of finishing operations

5. Check the quality of the work.

- Uniformity and proper distribution of fullness and elasticity
- Conformity with specified measurements
- Absence of stretching and creases
- Detection of defective pieces
- Appropriate preparation of garments for storage

For the Competency as a Whole

- Observance of occupational health and safety rules
- Use of efficient work methods
- Appropriate preparation and adjustment of machines
- Observance of outlets
- Precise, solid barring
- Conformity of products with prototypes
- Conformity with specified measurements
- Observance of the particular characteristics of stretch fabrics
- Sustained work pace

Suggestions for Competency-Related Knowledge, Skills, Perceptions and Attitudes

The following is a list of knowledge, skills, perceptions, attitudes and guidelines related to each element of the competency.

1. Become familiar with the work to be done.

Interpret sportswear terms in English and French.

Types of garments; characteristics of garments; types of equipment; types of fabric

Compare the elasticity of fabrics and elastics.

Properties; materials used to manufacture fabrics and elastics; width of elastics; types of fabric

Recognize the purpose of the supplies used in sportswear production.

Most common supplies; types of labels and their characteristics

Identify the outlets included in cut pieces and those obtained using machines.

Examination of prototype; quality criteria; tolerances

Measure stretch fabrics.

Stretched and relaxed; stretch method; measuring instruments

Analyze a prototype sportswear garment.

Elements of the garment; production stages; properties of fabric and supplies; necessary equipment; quality (requirements and tolerances); recognition of cut pieces

Recognize the steps in the assembly of a sportswear garment.

Preparation, assembly and finishing sequence; work method; steps in the verification process

2. Organize the work.

Recognize the importance of adjusting machines for stretch fabrics.

Specialized machines; use of special feet; threads used; elasticity; comfort

Sort sportswear garments.

Classification of pieces in accordance with routing sheet

Plan the purchase of sportswear production supplies.

Interfaced pieces; supplies; equipment; procurement method; evaluation method

Sportswear

Code: 926 744

Adjust a banding machine for performance and ergonomic purposes.	Size of elastics; necessary accessories; health and safety rules; work areas; maximum performance; fabric test
Organize the work.	Serial production
3. Assemble sections of garments.	
Interpret measurement tables.	Sizes, tolerances
Recognize the importance of tension and the size of elastic parts of a garment.	Comfort, fit
Sew sections of stretchy garments.	Straight, cornered or curved seams; techniques specific to stretch garments
Sew shoulders in stretch fabric.	Binding
Assemble sections of garments.	Fullness; assembly method; position of hands; control of fabric under presser foot; assembly of pieces with different elastic properties
4. Finish sportswear garments.	
Recognize the finishing techniques used on sportswear garments.	Types of machines; characteristics of garments; types of finishing: hem, ribbing, special fasteners, snaps, etc.
Adjust the machines used to finish sportswear garments for performance and ergonomic purposes.	Fabric test; accessories; health and safety rules; work areas; maximum performance
5. Check the quality of the work.	
Recognize the importance of measuring certain parts of stretch garments during production.	Adjustment of machines; quality control; measuring methods; checkpoints
Measure elastics in their stretched and relaxed states.	Stretch method; measurement table
Check the solidity of stretch seams.	Verification and stretch methods; thread tension; adjustment of differential
Assess the possibility of recovering a defective sportswear garment.	Repairs to be made; condition of fabric and supplies
Prepare sportswear garments for storage.	Removal of rejects; labelling, folding, bagging, etc.

Appendix IX

Situational Objectives

Entering the Work Force

Code: 961 012

Module 13 Duration: 120 hours

Situational Objective

Statement of the Competency

To enter the work force.

Elements of the Competency

- Become familiar with the nature of the trade.
- Integrate the knowledge, skills, attitudes and habits acquired during training.
- Become aware of the changes in perception resulting from a practicum in the workplace.

Learning Context

Information Phase

- Learning about the terms and conditions of the practicum.
- Taking steps to obtain a practicum position.
- Learning about the physical organization of the host company.

Participation Phase

- Observing the work context: socioeconomic environment (products and market), professional associations, structure of the company, equipment, technological development, working conditions, interpersonal relationships, health and safety.
- Becoming part of the work team.
- Performing different trade-related tasks or participating in their performance.
- Producing a brief report on their observations of the work context and on the main tasks performed in the company.
- Keeping a log of the tasks performed during the practicum.

Synthesis Phase

- Relating their actions in the workplace to the knowledge acquired during training.
- Discussing the accuracy of their perception of the trade before and after the practicum: workplace, trade practices.
- Discussing the effects of the practicum on their choice of job (aptitudes and preferences).

Instructional Guidelines

- Provide students with the means of choosing a practicum position wisely.
- Maintain close cooperation between the school and the company.
- Promote the observation and performance of a variety of trade-related tasks.
- Provide students with ongoing support.
- Ensure that student trainees are supervised by a supervisor in the company.
- Intervene effectively and diligently in the event of difficulties or problems.
- Encourage students to express themselves and share their point of view.

Participation Criteria

Information Phase

- Learn about the terms and conditions of the practicum and their responsibilities.

Participation Phase

- Respect the company's policies concerning the work schedules and activities that student trainees are permitted to perform.
- Participate in the performance of trade-related tasks.
- Record their observations about the tasks performed in their log book.

Synthesis Phase

- Share their experience in the workplace with the rest of the class.

Suggestions for Competency-Related Knowledge, Skills, Perceptions and Attitudes

The following is a list of knowledge, skills, perceptions, attitudes and guidelines related to each element of the learning context.

Information Phase

Situating the competency with respect to the other modules in the program.

Purpose of the competency; course outline; relationship with other modules

Describing the elements to be recorded during the practicum.

Describing the behaviour to adopt in the workplace.

Attitudes

Learning about the terms and conditions of the practicum.

Employers' and employees' expectations; evaluation method; purpose and duration of practicum; company practices and rules

Taking steps to obtain a practicum position.

Contacting the company; making an application

Learning about the physical organization of the company.

Location; available equipment

Participation Phase

Observing the work context.

Socioeconomic environment (products and market); professional associations; structure of the company; equipment; technological development; working conditions; interpersonal relationships; health and safety

Becoming part of the work team.

Cooperation; initiative; adaptation; teamwork

Performing different trade-related tasks or participating in their performance.

Versatility; cooperation

Producing a brief report on their observations of the work context and of the main tasks performed in the company.

Summary of observations

Keeping a log of the tasks performed during the practicum.

List of tasks and frequency of performance; comments; support and supervision received;

comparison with the practicum outline

Synthesis Phase

Listing their aptitudes, preferences and fields of interest.

Relating their actions in the workplace to the knowledge acquired during training.

Discussing the accuracy of their perception of the trade before and after the practicum.

Discussing the effect of the practicum on their choice of job.

Applicability in the workplace of principles learned in school; similarities and differences in application; adaptation to stress

Work environment; trade practices; differences between their perceptions and reality

Aptitudes, preferences and fields of interest; effect of environmental factors

Situational Objective

Statement of the Competency

To determine their suitability for the occupation and the training process.

Elements of the Competency

- Be familiar with the nature of the occupation.
- Understand the training process.
- Confirm their career choice.

Learning Context

Information Phase

- Learning about the job market in accounting: job prospects, remuneration, opportunities for promotion and transfer, criteria and process for the selection of candidates.
- Learning about how businesses are organized: legal structures, fields of activity, organizational structures, organization of work, work environment, work tools, etc.
- Learning about the nature and requirements of the occupation.
- Learning about risk factors pertaining to the health and safety of workers.
- Learning about the program of study.

Participation Phase

- Listing the skills, aptitudes, attitudes and knowledge required to practise the occupation.
- Checking how the training program compares with the actual occupation.
- Sharing their initial reactions to the occupation and the training process.
- Assessing the possibility of starting up a business or being self-employed.
- Presenting the information gathered and discussing their views on the occupation and the training process.

Synthesis Phase

- Listing their preferences, aptitudes and knowledge with regard to the occupation, as well as their personal qualities.
- Relating the various requirements of the training program and the occupation to their own preferences, aptitudes, knowledge and personal qualities.
- Identifying the personal strengths that will facilitate their work as well as the weaknesses they must overcome.
- Explaining why they choose to continue or abandon the training process.

Instructional Guidelines

- Encourage students to engage in discussions and express their opinions.
- Motivate students to take part in the suggested activities.
- Help students arrive at an accurate perception of the occupation and the training process.
- Provide students with the means to assess their career choice honestly and objectively.
- Provide the students with information about the recognition of prior learning.
- Organize visits to businesses representative of the main workplaces in the field.
- Make it possible for students to become familiar with the work environment and tools through the use of the lab.
- Make all pertinent reference materials available: information on the organization of companies and the occupation, training programs, guides, etc.
- Organize meetings with specialists in the field.

Participation Criteria

Information Phase

- Gather information on most of the topics to be covered.

Participation Phase

- Give their opinion on some of the requirements that they will have to meet in order to practise the occupation.
- Express their views on the training program, referring to the information gathered.

Synthesis Phase

- Present their preferences, aptitudes and knowledge with regard to the occupation, as well as their personal qualities.
- Explain why they choose to continue or abandon the training process.

Suggestions for Competency-Related Knowledge, Skills, Perceptions and Attitudes

The following is a list of knowledge, skills, perceptions, attitudes and guidelines related to each element of the learning context.

Information Phase

Situating the competency with respect to the other modules in the program.

Purpose of the competency; relationship with other competencies; course outline

Being open to information about the occupation and the training process.

Conditions for openness: visual attention; auditory attention; favourable climate; interest; concentration; physical and psychological well-being

Finding a way of recording information.

Note-taking method

Learning about the occupation.

Participation Phase

Finding a way of presenting information.

Rules of presentation; structure of a report

Learning about the training process and participating in it.

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Agreeing to share their views on the occupation with their classmates.

Advantages of sharing their point of view and hearing that of others

Recognizing the main rules governing group discussion.

Basic rules: participation; waiting their turn to speak; sticking to the topic; listening to others; accepting that others have different points of view

Assessing the possibility of starting up a business or being self-employed.

Connection between the current economic situation and the field of accounting; characteristics of entrepreneurs; motivation to start a business

Synthesis Phase

Distinguishing between preferences and aptitudes on the one hand, and interests on the other.

Definition of terms

Assessing and confirming their career choice.

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