

Evaluation of Functional Prerequisites for Admission of Adults to Vocational Education

Guide for administrators and professionals

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Formation professionnelle et technique
et formation continue

Direction générale des programmes
et du développement

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Ministère de l'Éducation, 2004 — 03-00810

ISBN 2-550-41738-0

Legal Deposit – Bibliothèque nationale du Québec, 2004

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1 ORIGIN AND NATURE OF FUNCTIONAL PREREQUISITES

1.1 Origin

This new admission category was created in 1993 as part of a broad operation aimed at giving adults greater access to vocational education.

When the vocational education reform became official in 1986, admission requirements were raised, requiring students enrolling in vocational education to have a Secondary School Diploma (SSD) or recognized equivalences. Applicants over the age of 16 were also required to have credits or equivalences in language of instruction, second language and mathematics at the Secondary III, IV or V levels, depending on the program selected.

Some organizations involved in adult education or retraining felt that these purely academic admission requirements were clearly restrictive and too rigorous. According to the Table des responsables de l'éducation des adultes au Québec (TREAQ) and the Ministère de la Main-d'oeuvre, de la Sécurité du revenu et de la Formation professionnelle (MMSRFP), it was important to bear in mind that adults also acquired a basic education through their personal, professional and social experiences.

This is how a preliminary study conducted by the then Ministère de l'Éducation et de la Science in conjunction with the MMSRFP led to a proposal for a third admission category based on what are called “functional” prerequisites, intended for adults entering vocational education programs.

Moreover, as of 1996, students could enroll in vocational education programs requiring Secondary IV or V credits after successfully completing the Secondary III level and concurrently pursue the missing Secondary IV or V credits in language of instruction, second language and mathematics.

1.2 New Admission Requirements

Since 1993-1994, the annual vocational education Directives¹ state that any person who has reached the age of 18 is eligible for a program leading to a Diploma of Vocational Studies (DVS), provided he or she has:

- obtained the credits for specific prerequisites in language of instruction and mathematics required for the program
- completed a test measuring his or her level of general development

Both of these requirements (the specific prerequisites and a passing score on a general development test) must be met. They are known as “functional prerequisites.”

¹ GOUVERNEMENT DU QUÉBEC, Ministère de l'Éducation, Vocational Education, Directives, Section 3, Admission, Requirements.

Today, these conditions are still part of the admission requirements outlined in the vocational education Directives.

This new admission category did not serve to eliminate procedures already in effect but was an addition to existing procedures.

Since the establishment of linguistic school boards in 1998, all school boards are now authorized to offer adult education services. All school boards must therefore comply with the functional prerequisites of the new admission category.

1.3 Level of General Development

The level of general development refers to the general competencies required to progress and succeed in vocational education and subsequently in the work force.

In a preliminary study led by the Ministère de l'Éducation, 14 intellectual competencies were identified as relevant to the definition of general development (e.g. judging, inventing, explaining, deciding, organizing).

Following a study based on measurement instruments available at the time, the Ministère de l'Éducation narrowed down these 14 qualities to four essential competencies:

- information processing
- written communication
- understanding of concepts
- problem solving

General development is the foundation of vocational education. It consists of several dimensions which correspond to those targeted by secondary-level courses in general education such as language of instruction, second language, mathematics, science, social studies and arts. General development plays a major role not only in vocational education learning activities, but also in the practice of any future occupation.

The level of general development required for adults entering vocational education is the same for all programs. It corresponds to the level attained by students who have completed Secondary IV in general education.

Adults must demonstrate the same competencies as young persons coming from secondary school in order to progress and succeed in vocational education; to this end, they must pass the *General Development Test* (GDT).

1.4 Specific Prerequisites

Specific prerequisites are subject-related concepts necessary to certain types of learning (e.g. mathematical concepts needed to learn to make specialized calculations useful for performing a task). Specific prerequisites have been established to fulfill the requirements of each vocational education program.

1.5 Essential Distinctions

The notion of necessity may be associated with that of prerequisite. With respect to specific prerequisites, the necessity is strictly pedagogical: it involves prior learnings in a given sequence without which subsequent success is exceptional, if not impossible. They are subject-specific skills that the students must master in order to pursue their studies. In other words, specific prerequisites are, strictly speaking, subject-related concepts and skills targeted by courses in general education at the secondary level. These concepts and skills are deemed necessary to successfully undertake a vocational education program.

The achievement of a level of general development serves to fulfill much broader requirements. The concept of general development includes several dimensions, ranging from intellectual functioning to other types of basic abilities. With regard to vocational education, general development is the foundation on which competencies are developed through learning that may vary from program to program. Thus, the forms of contribution of general development to vocational education are not instrumental, as is the case for specific prerequisites, but rather fundamental.

A person with a wide range of rich and constructive life experiences may attain an acceptable level of general development without necessarily having completed, for example, Secondary III. However, this same person could pass the GDT and thereby be deemed eligible for a vocational education program, yet may be unable to master certain very specific mathematical concepts used in, for example, machining techniques. Conversely, mastery of specific prerequisites for a given program does not guarantee the achievement of an acceptable level of general development.

Hypothetically, a number of vocational education programs may have no specific prerequisites; a significant proportion of them may require only Secondary I and II, while a smaller number of other programs may require Secondary III, and fewer still may require Secondary IV or V. This situation also reflects a specific decision not to demand more of adults who have an adequate and recognized level of general development but lack a secondary school diploma than is demanded of secondary school graduates in the youth sector (general education).

On the other hand, some vocational education programs may have additional requirements. These requirements are specified for each program of study and are presented in Schedule 1 of the Directives.

The specific prerequisites are in no way related to other types of requirements that usually arise out of societal expectations. For example, to qualify for jobs as nursing assistants, candidates must have completed a course in Secondary V language of instruction.

2 DEVELOPMENT OF THE GDT

2.1 Selection of the Basic Instrument

The then Direction générale de la formation professionnelle et technique (DGFPT) was mandated to develop a general development test based on existing instruments. Initially, 14 competencies were determined to be relevant to the definition of general development. Samples of 35 tests were collected in Québec, Canada and the United States from universities, test libraries, publishers and various organizations. Of these 35 tests, 24 were analyzed for content.

Once the analysis was completed, the definition of general development was pared down to four competencies that were considered essential. Of all the tests, five subtests of the *Test de rendement pour francophones (TRF)* level C were selected as the basic instrument.

This test was selected because it conformed to the requirements and evaluation practices for vocational programs across the province. It was developed on the basis of the following principles:

- 1) content is focused on the needs and areas of interests of adults
- 2) testing is based on a wide range of competencies and skills essential to vocational education, and relevant for selection purposes
- 3) format is immediately and easily accessible to candidates
- 4) content is focused on basic competencies
- 5) format is easy to administer

Since the TRF (level C) was translated and adapted from the *Canadian Adult Achievement Test (CAAT)* level C, the corresponding five subtests from the CAAT were selected for the development of the GDT.

2.2 Summary of Field Tests

The five subtests of the CAAT (246 items) were field tested in the fall of 1993 on the following population:

- 599 persons, young and adult, entering vocational education (normed group)
- 313 adults in Secondary I to V (reference group)

Representative samples were taken from 10 school boards offering English-language adult education programs.

After the results were analyzed, unnecessary items were eliminated. The 100 items that were selected measure general development with a high level of reliability with respect to the usual norms (0.94 for vocational education students and 0.95 for secondary level adults). The data was analyzed in the laboratory of the Faculté des sciences de l'éducation at the Université de Montréal, under the supervision of Professor Michel Laurier.

2.3 Minimum Performance Standard

The required level of general development for adults entering vocational education programs must be equivalent to that attained by young persons who have completed Secondary IV and thus possess the academic prerequisites to undertake a vocational education program. The minimum performance standard has been established primarily with this premise in mind.

The data from the field tests carried out in the fall of 1993 made it possible to establish, on the basis of a representative sample and a large number of subjects (599), the distribution of scores for the final version of the test in a population of persons entering vocational programs. These students had already been admitted and fulfilled the academic prerequisites for entering vocational education programs. The majority of them were therefore considered to have attained the required level of general development within the sample group; only a marginal percentage should not have attained it.

Since fewer than five percent of the subjects in the normed group obtained a score below 38, this constitutes an appropriate minimum performance standard. However, given that the standard error of measurement for the test was estimated at 4.323 for the secondary adult sample in the field test, the minimum performance standard was set at 43 for added assurance that virtually all candidates admitted on the basis of the test had a level of general development equal to or greater than that corresponding to a score of 38.

The secondary adult sample in the field test consisted of 118 students who had just entered Secondary I, II or III. With a minimum performance standard set at 43, 29 percent of these students would have failed the test (71 percent of the students would have passed). Since these students probably fall within the average or lower range of the test's target group, the failure rate for candidates taking the GDT is expected to be lower (around 20 percent).

2.4 Implementation Follow-Up

After over five years of research into the third admission category for vocational education and thanks to the educational institutions, the Ministère de l'Éducation now has enough data to conduct follow-up studies. Here are the main findings:

- More and more young adults aged 18 to 22 enroll in vocational education by complying with the functional prerequisites of the new admission category.

- Persons admitted through the GDT do as well as those enrolled after completing Secondary III or IV. Only those who had already obtained their secondary school diploma at the time of the admission had a significantly higher graduation rate.
- The GDT enables the vocational education community to recruit new students, since close to half of candidates admitted through the functional prerequisites category had not acquired the Secondary IV or V credits in English or mathematics.

Moreover, available data regarding the relationship between the test score and the graduation rate does not justify changing the minimum performance standard.

3 DETERMINING OF SPECIFIC PREREQUISITES

3.1 Decisions Made

It was decided that the prerequisite subject-related concepts would be limited to **language of instruction** and **mathematics**.

Concepts related to second language and science, which are essential to some vocational programs or to the practice of a trade, will be covered within the specific programs. For example, whenever training activities require the use of instructional or technical materials available in English only (e.g. reading technical sheets or using American catalogues), the program will ensure the mastery of the necessary English-language competencies by means of relevant modules. Similarly, for programs that require an understanding of specific scientific concepts as direct prerequisites for certain types of learning (for example, the concept of pressure essential to the calculation of stack pressure when selecting a lift pump), these concepts will be covered in the programs if not done so already.

Whenever warranted, programs will include entire modules designed to help students acquire skills required in the practice of a specific trade. For example, in automobile mechanics, a module dealing with electricity as it is applied to automotive technology is warranted by the fact that the mechanic uses, among other things, electronic instruments and must be able to interpret electromechanical data. Some trades in other fields such as tourism and hotel and restaurant services require specific communication skills. In such cases, modules dealing with the requisite skills are included in the programs concerned.

It may be that some programs will not require the mastery of entire English or mathematics courses, but only of specific well-defined concepts. Adults will not be required to take complete courses, either in adult education or elsewhere, when only less than one third of the concepts of a course are prerequisites. These specific concepts in language of instruction or mathematics will be incorporated into the vocational education programs as required, if this has not already been done.

Nowadays, the process of defining specific prerequisites is carried out each time a program is revised.

3.2 Summary of the Operation

The determination of specific prerequisites affects more than 140 programs offered in French and about 70 offered in English, certified by a Diploma of Vocational Studies (DVS) and distributed in 21 sectors under the responsibility of 30 people in charge in the Montréal and Québec City offices of the Direction générale de la formation professionnelle et technique. The coordinators of the program sectors at the DGFPT were closely involved in the organization of this operation. Approximately 60 educational development officers, who were well acquainted with the programs through past or present involvement, reviewed each module of the programs in order to determine the language and mathematics skills and concepts required to begin or pursue activities within the modules.

For this operation, two lists were developed with the assistance of French-language and mathematics specialists in adult education. These lists contained a summary of related content, terminal objectives, intermediate objectives and, if possible, the skills confirming that the objectives for each subject had been mastered.

In November 1992, the educational development officers met in work groups to produce the data for their respective programs. French and mathematics specialists then examined the data to confirm the needs expressed and to incorporate the skills and concepts identified by the educational development officers into courses or parts of courses.

The specific prerequisites in mathematics for programs given in English were determined in conjunction with those of the programs given in French, so that both mathematics programs were very similar with respect to course content.

The specific prerequisites in English (language of instruction) were determined after a comparative analysis of content, objectives and skills indicators of both French- and English-language adult education programs, with the assistance of S.E.A.L. (Secondary English for Adult Learners) program specialists Denise Morel and June Bolger.

The specific prerequisites are presented in Schedule 1 of the Directives (*List of Vocational Education Programs Leading to a DVS or an AVS*)² and in Annex III of the *Guide de vérification des conditions d'admission*³. They are expressed in terms of general education courses in the adult sector that the applicants must have passed or for which they must have obtained equivalent credits. This list also correlates current codes for general education courses in the adult sector with those of former courses in adult education as well as with codes for general education courses in the youth sector.

² GOUVERNEMENT DU QUÉBEC, Ministère de l'Éducation, *Vocational Education Directives*, Section 3 Admission Requirements.

³ GOUVERNEMENT DU QUÉBEC, Ministère de l'Éducation, *Guide de vérification des conditions d'admission*, Annexe 3.

4 USE OF THE EVALUATION INSTRUMENTS

4.1 Purchasing GDT Materials

The Ministère de l'Éducation will provide school boards with copies of the GDT Examiner's Guide. School boards must purchase other GDT materials, however, from the supplier authorized by the Ministère de l'Éducation at the following address:

Customer Service
The Psychological Corporation
55 Horner Avenue
Toronto (Ontario) M8Z 4X6
Telephone: 1 (800) 387-7278
Fax: (416) 255-4046

Each school board may order individually from the supplier authorized by the Ministère de l'Éducation.

It should be noted that the candidate's booklet is reusable. School boards must therefore regularly reorder answer sheets, or better yet, anticipate their needs and order accordingly in advance.

4.2 Funding

The GDT and the specific prerequisites are funded by the Ministère de l'Éducation out of the envelope earmarked for the adult sector of general education.

4.3 Transmitting Results

Candidates' test results must be entered into the SIFCA (TX-43) and SAGE systems as soon as possible after the test, using the code GEN-T002-0 for the French sector and GST-T002-0 for the English sector.

If the candidate's score is equal to or higher than the minimum performance standard, it must be transmitted with the indication **Pass**.

If the candidate's score is below the minimum performance standard, it must be transmitted with the indication **Fail**.

School boards must transmit all results, including failures.

The minimum performance standard has been set at 43.

4.4 Applying Rules for Admission to Vocational Education

Candidates will be required to fulfill the requirements set forth in the Directives.

In order to be admitted to a vocational education program offered in English, candidates must fulfill specific prerequisites for the program and pass the GDT.

In order to be admitted to a vocational education program offered in French, applicants must fulfill specific prerequisites for the program and pass the *Test de développement général* in french.

Candidates who fail the GDT will be required to pursue their studies in general education in order to meet the academic prerequisites for the other admission categories.

Specific prerequisites in English (language of instruction) are expressed separately for each of the four main language skills (speaking, listening, writing and reading). Candidates who have not completed one or several of these courses (or did not obtain equivalent credits) can still be admitted. The Ministère has prepared examinations for each of these prerequisites. Candidates will have to pass only these examinations to fulfill the corresponding prerequisites.

Candidates who do not fulfill the specific prerequisites for a given program must complete the missing courses in adult education to be eligible. Instruction leading to the achievement of these prerequisites is recognized for the purposes of Ministère de l'Éducation funding and is subject to verification by regional offices.

Documents confirming that the student has met the specific prerequisites must be kept in his or her file.

4.5 Retaking the Test

In general, candidates who fail the GDT are not entitled to a retake, unless it is believed that their general development has improved following significant experiences or that they present medical proof confirming an illness at the time of the test administration. In such cases, the Ministère de l'Éducation will analyze the requests in order to allow for retakes in situations deemed appropriate. Requests should be addressed to:

Marie Fluet
Coordinator of vocational education certification
Direction de la sanction des études
Ministère de l'Éducation
1035, rue De La Chevrotière, 13^e étage
Québec (Québec) G1R 5A5
Telephone: (418) 646-0323
Fax: (418) 644-6909

Candidates will also have the opportunity to retake the test provided they have already passed the GDT in one language and that they now want to enroll in a program offered in the other language. Students will therefore be granted permission to do the test in the language of instruction of the vocational education program they wish to enroll in.

4.6 Eligibility

A person may take the test before the age of 18. However, a pass mark on the test renders a person eligible for a vocational education program only when he or she reaches the age of 18. The school board can confirm whether or not the candidate has already taken the GDT by consulting his or her student record in the SAGE system or the Système de soutien aux organismes scolaires (SOS), where the GDT result will be mentioned (before the statement of marks).

4.7 Candidate's Identity

The school board must confirm the identity of the person taking the test.

To simplify this procedure, candidates will provide a signed photograph at the time of registration. They will also be required to provide identification.

4.8 Test Used

The school board must use the GDT developed by the Ministère. All sections of the test must be used.

4.9 Reproduction of Materials

Any reproduction of the documents comprising the GDT (candidate's booklet, examiner's guide, answer sheets, correction keys) is prohibited without the written consent of the publisher (The Psychological Corporation). Unauthorized reproduction may result in prosecution under the *Copyright Act*.

4.10 Lost or Stolen Tests

Should a test be lost or stolen, the school board must report it in writing to the Direction générale des programmes et du développement (DGPD). The report must specify the name of the missing test and the known circumstances surrounding the loss or theft.

4.11 Answer Sheets

School boards must keep the answer sheet in the candidate's school record for a period of one year.

5 PROCEDURES FOR ADMINISTERING THE GDT

5.1 Materials

The GDT materials consist of the following documents:

- Candidate's booklet: this booklet contains the questions and written instructions for the candidates.
- Examiner's guide: this guide describes the procedures for administering the test. In addition to providing detailed instructions for administering the subtests, it gives a general overview of the GDT, describes the subtests and the skills they measure, and provides general instructions on administering the test.
- Answer sheets and correction keys: the answers are entered on the separate answer sheets, which may be corrected by hand using a template designed for this purpose.

Candidates must have the following materials when taking the GDT:

- a copy of the candidate's booklet
- two sharpened pencils with erasers
- an answer sheet
- blank paper for the problem-solving subtest, which will be provided by the examiner (pocket calculators may be used)

5.2 Testing Procedure

The five GDT subtests must be taken in the sequence indicated in the candidate's booklet and on the answer sheet. The total duration of the test session is 2 hours and 30 minutes. However, to allow for any unforeseen circumstances, it is preferable to schedule a three-hour period. The time allotted to each subtest is as follows:

Basic Instructions

Information on the testing procedure, how to fill in the answer sheet, distribution of materials, etc.	15 minutes
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Subtest One: Mechanical Reasoning (11 items)

Reading of instructions and examples	5 minutes
Time allotted for Subtest One	8 minutes

Subtest Two: Science (16 items)

Reading of instructions and examples	5 minutes
Time allotted for Subtest Two	12 minutes

Subtest Three: Problem Solving (32 items)	
Reading of instructions and examples	5 minutes
Time allotted for Subtest Three	35 minutes
Break	15 minutes
Subtest Four: Written Comprehension (13 items)	
Reading of instructions and examples	5 minutes
Time allotted for Subtest Four	18 minutes
Subtest Five: Language Proficiency (28 items)	
Reading of instructions and examples	3 minutes
Time allotted for Subtest Five	24 minutes
	<hr/>
TOTAL DURATION	150 minutes

The period allotted for each subtest must be timed using a stopwatch.

5.3 Confidentiality

The school board must take all the necessary measures to ensure the confidentiality of the GDT, including the following:

- No information on the content of the test is to be divulged to the candidates before they take the test.
- Copies of the tests and answer sheets are never to be left with the candidates once they have completed the test.
- The tests and the accompanying materials are to be stored in a safe place as soon as they are received. The same applies after the test has been completed.
- The test is to be used for its intended purpose only. At no time is it to be used as an exercise or a pre-test.

5.4 Invigilators

The test is to be completed under supervision. Invigilators must distribute and collect the materials, ensure that the instructions are followed and that the candidates mark their answers in the spaces provided. They must answer candidates' questions without helping them with the test questions.

5.5 Cheating

The school board must take measures to prevent cheating during test sessions. Candidates who cheat or knowingly help another candidate must immediately hand in their test materials and leave the premises. They will automatically get a Fail.

5.6 Scoring

The school board must ensure that the tests are scored according to the instructions that accompany the correction keys. The minimum performance standard is set at 43.

5.7 Notification of Results

It is the school board's responsibility to notify all candidates of their results.

School boards should use a Pass or Fail verdict to transmit the results.

