Integrative Project

13-0023-09A

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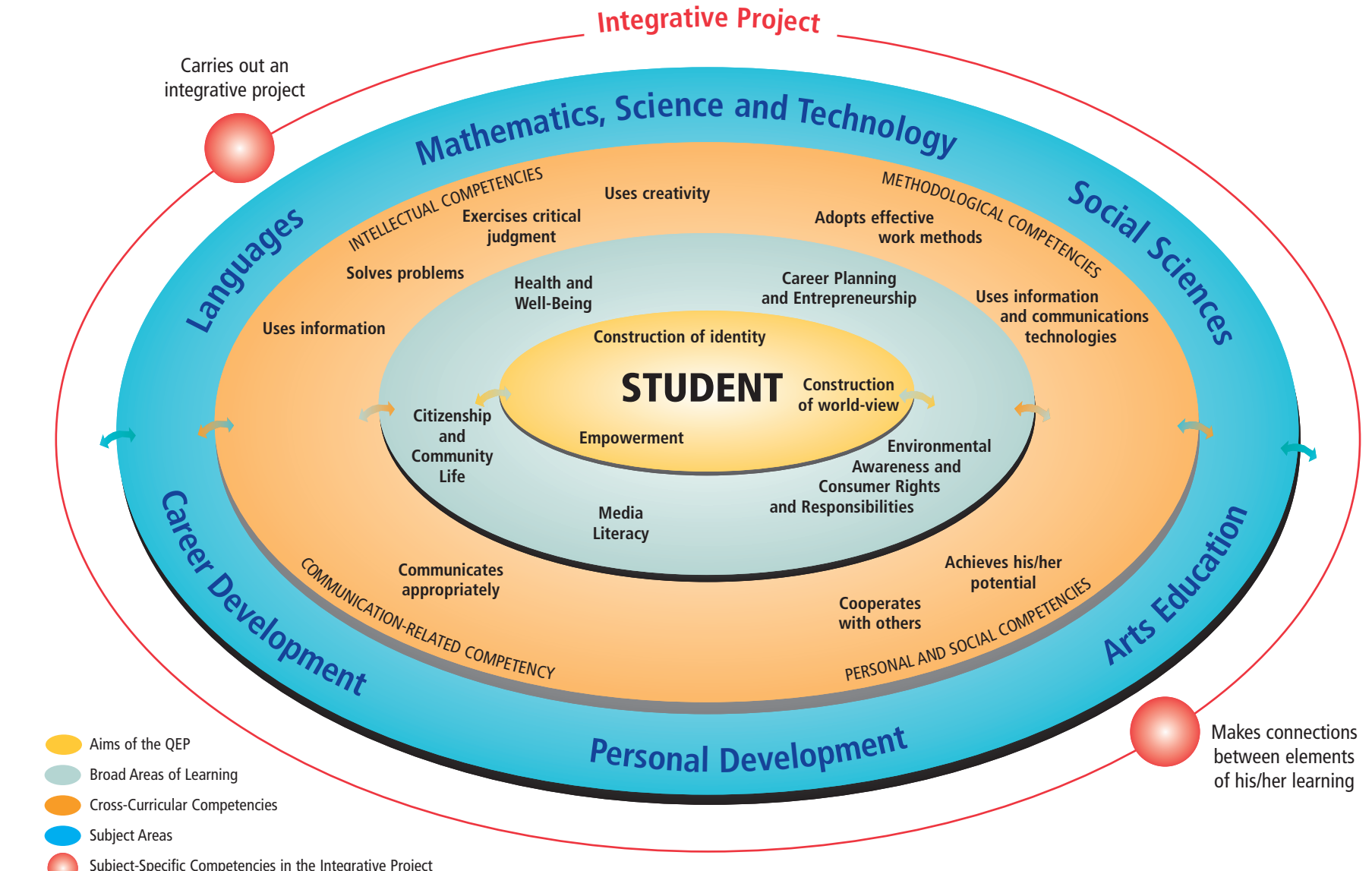


Québec Education Program

Introduction to the Integrative Project

Program Rationale

The Integrative Project, a compulsory two-credit program for all students in Secondary V, provides an opportunity for students to engage in personal, stimulating, creative work making use of the learning and competencies developed throughout their schooling. By allowing them to think ahead to future accomplishments, this program aims to help them develop greater awareness of integrating their learning than in previous years. Thus, the program reflects the intent formulated in the Educational Policy Statement, *Québec Schools on Course*, which is to consolidate the foundations of continuing education and training by "paying attention to the integration of knowledge, i.e., the ability to make connections between fields of knowledge and to reorganize them."[1]

Drawing on the foundations of active learning, this approach has been in use for several years in countries around the world, both for students with learning disabilities and high-performing students. The *itinéraires de découverte* or *travaux personnels encadrés* in France are based on student participation in integrative projects. In the English-speaking world, the Coalition of Essential Schools (United States) and the Independent Studies (United States and Great Britain) are based on similar concepts.

In Québec, students at the various levels of instruction have benefited from this approach for nearly three decades, engaging in personal projects similar to those targeted in this program. The Integrative Project most closely resembles the personal project of the International Baccalaureate Middle Years Programme (MYP), and is somewhat similar to the college-level Comprehensive Assessment.

1. Québec, Ministère de l'Éducation, du Loisir et du Sport, *Québec Schools on Course: Educational Policy Statement* (Québec, 1997), 15.

The Concept of Project

Project usually refers to a structured set of activities aimed at complex learning that must result in a concrete production. The idea must originate in the student's personal interests. In the context of the Integrative Project, the production must also be of sufficient scope to require several weeks to carry it out: an essay, artwork, dance or theatrical performance, scientific research, the construction of a technological object, organization of an event, etc.

Moreover, besides being interesting and motivating, the project must also be educational and should promote specific learning. The choice of project should reflect learning goals the student has formulated largely independently. Accordingly, the project cannot be prescribed or dictated by the teacher, nor can it be subject to a preestablished scenario.[2] Students are also primarily responsible for translating this goal into concrete tasks and activities, determining the resources needed, planning the periods of reflection required, and establishing a schedule that they will have to abide by. It is important that students present the underlying idea of their chosen project and a plan detailing the steps for carrying it out in a written document at the end of the first step and that they obtain the teacher's formal approval. The students' commitment to their project thus has a contractual nature, so that they feel obligated to invest the time and energy required to carry it out.

2. Despite the merits of certain types of "challenge" activities proposed by various organizations, it is not advisable to make them the subject of the Integrative Project, since the learning goal, planning and organization of activities required, as well as the constraints, are not determined by the students themselves.

Importance of the Connection Between Project and Integration

As the title suggests, the Integrative Project program has two essential aspects—project and integration—which are related to each program competency. However, it is integration that gives the program its distinctive character. This is what distinguishes projects in this program from those undertaken in the other programs.

Here, *integration* means the ability to clearly make connections between elements of learning, to recombine them in various ways and to put them to use in order to adapt to new situations. Thus it reflects the competency-based approach and leads to a search for conditions conducive to the transfer of learning. Carrying out a project is an excellent and concrete way of integrating learning, but experience shows that integration remains relatively shallow unless students engage in a rigorous explanation of the process and a metacognitive reflection on the knowledge acquired and the competencies developed.

The two key elements, the execution of a project and the integration of learning, must be closely combined in implementing this program. This means that teachers must provide sustained guidance and support throughout the course of situations, and the nature and process of the situations will be determined by the specific requirements of the students' projects.

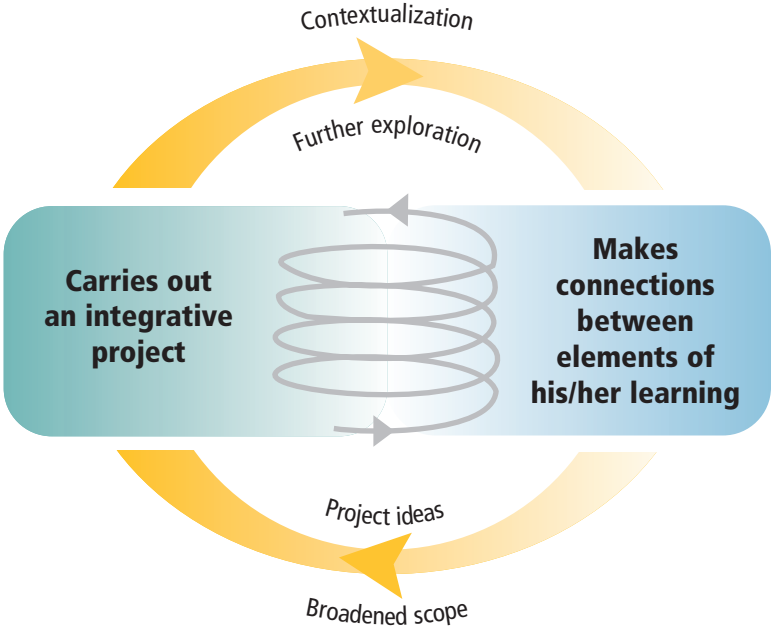
How the Competencies Work Together

The Integrative Project program targets the development of two closely linked competencies:

– Carries out an integrative project

– Makes connections between elements of his/her learning

At first glance, the first competency appears to be more concrete and action-oriented. However, it is important to understand that this competency is not limited to simply carrying out a given project; it also involves learning how to formulate a relevant project in the future and bringing it to completion. The second competency is developed at the same time as the first, through situations that should allow students to recognize the complementary nature of their learning and to consider the connections that may be established between knowledge and competencies acquired over the course of their schooling. Although distinct, these two competencies complement and fuel each other.



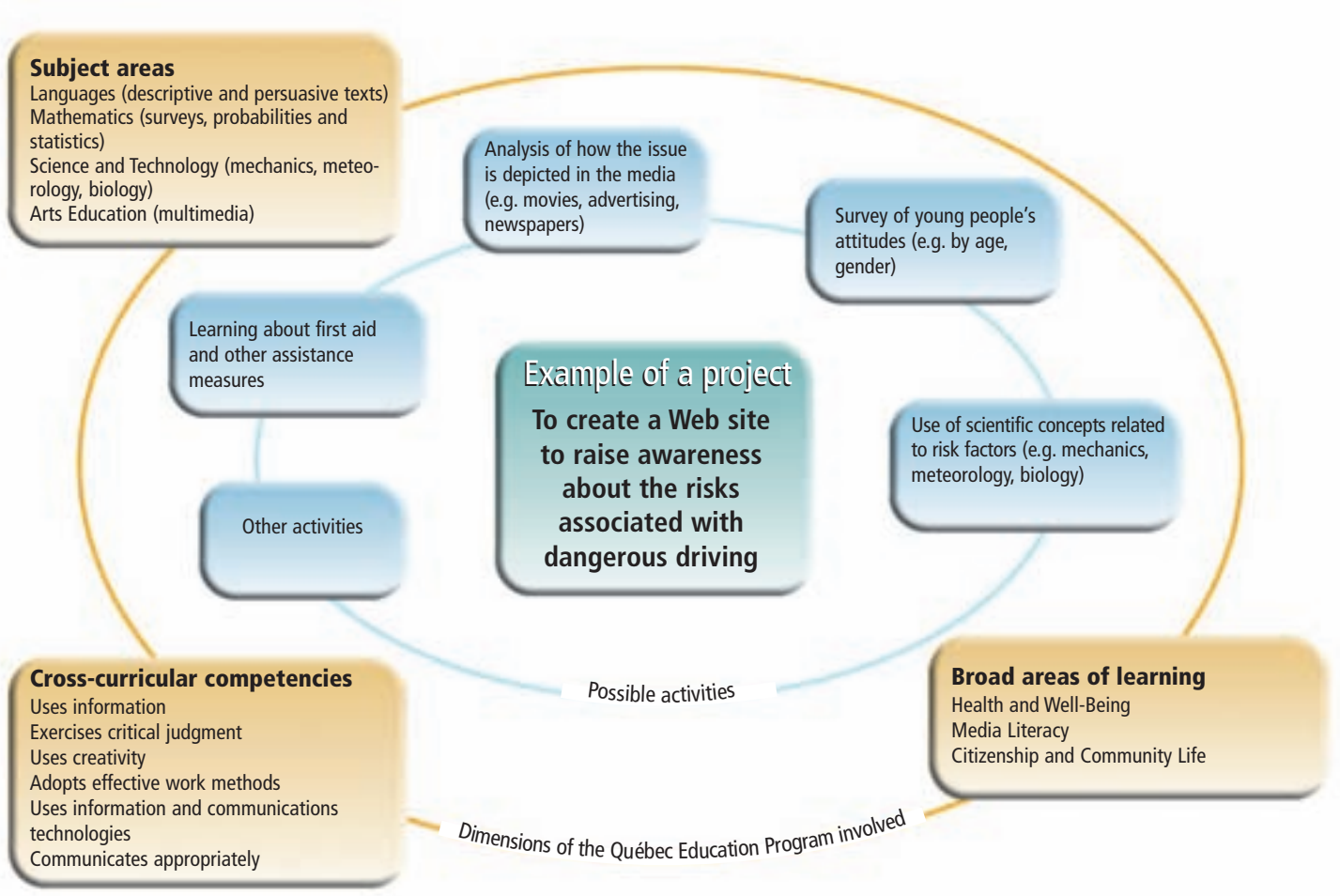
In carrying out their projects, students will be able to build on the previous learning they use and gain a more concrete understanding of concepts and strategies they have yet to explore more fully. Similarly, making connections between elements of their learning can lead students to reconsider previously unexplored areas, which then serve as triggers for stimulating ideas for new projects. The integration of cross-curricular competencies and of major contemporary issues associated with the broad areas of learning will improve the formulation of the project and broaden its scope.

For example, a science fair project may help a student better understand the importance of certain mathematical concepts in modelling the phenomena he or she is trying to explain and provide an opportunity to use the integration process to consolidate the connections he or she has made among elements of content in mathematics. Similarly, a student who has focused more on developing competencies in mathematics and science and technology in view of a particular career choice may rediscover the pleasure of writing by undertaking a project with a strong writing component.

Example of an Integrative Project

The following example illustrates how a project may call on competencies and knowledge from various subject areas and allow the integration of a wide range of learning. A student who is friends with someone who was injured in a car accident could choose to create a pamphlet, Web site or other promotional tool to raise awareness about the consequences of dangerous driving. The student could analyze the way in which movies, automobile advertising and the media in general encourage this type of behaviour. Another interesting possibility could be to conduct a brief survey on young people's attitudes to driving according to gender and age group.

The student could also decide to study some of the conditions that increase risks, using concepts from mechanics, kinematics or meteorology and considering cases in which a driver's faculties are impaired as a result of alcohol or drug consumption or simply by fatigue. The student could also look at the care to be provided or the measures to be taken at the scene of an accident. The learning goals underlying this type of project may thus draw on several broad areas of learning and cross-curricular competencies as well as a variety of subjects.



Making Connections: The Integrative Project and the Other Dimensions of the Québec Education Program

Connections With the Aims of the Québec Education Program

The benefits an integrative project can provide may be understood by relating it to the three aims of the Québec Education Program: construction of world-view, construction of identity and empowerment. In choosing a project based on their personal interests, students are already able to express a view of the world that they will endeavour to refine, consolidate, broaden and develop. In progressing from an area of personal interest to a production process that aims to engage the interest of others, students have an opportunity to enrich their own view by comparing it with those of their peers and elders. Because it involves an integration process, the project also provides an opportunity for students to consolidate their identity. It also helps empower students by allowing them to appreciate the usefulness of their knowledge, giving them control over their learning and allowing them to plan some of the activities through which they develop their competencies.

Connections With the Broad Areas of Learning

The program aims to ensure the integration of various elements, of which the broad areas of learning are among the most important. The requirement to explicitly address the broad areas of learning is stated in the guidelines for choosing and carrying out the project, recalling the importance the Québec Education Program places on the educational aims related to these broad areas. The broad areas of learning are more than just themes or areas of interest, as they cover the major issues facing citizens today.

A great many possibilities exist for projects that match the focuses of development of the broad areas of learning. Students may choose to study the impact of young people's lifestyle on health, examine the environmental impacts of various types of human activity or analyze problems related to crime, violence, xenophobia, etc. They may participate in community activities, explore the dynamics of the world of work and the challenges of entrepreneurship, or study the possibilities of the media with regard to information and expression as well as the danger of manipulation of public opinion.

Connections With the Cross-Curricular Competencies

The Integrative Project also requires the explicit use of several cross-curricular competencies, since a major project cannot be completed without systematically drawing on these competencies.

How indeed can anyone carry out a project without properly *using information*, being attentive to the information available, evaluating its validity and distinguishing between what is essential and what is secondary? Any project undertaken also requires students to surmount difficulties, solve problems, consider and choose solutions, make corrections and reflect on their process. Projects also require students to meet challenges, take risks, confront the unknown, explore new avenues, find new ways of doing things, and give free rein to their creativity. They demand that students adopt effective work methods in order to carry out complex tasks, and they invariably require the use of information and communications technologies.

Because it emphasizes the sharing of ideas, the Integrative Project also draws on the cross-curricular competency *Cooperates with others*, which allows students to give and receive feedback and thus contribute to their own progress and that of their peers. The competency *Communicates appropriately*, which relies on solid language skills and a concern for the quality of language, permeates all stages of the process.

Connections With Other Subjects

By allowing students to review the subject-specific knowledge they have acquired and the competencies they have developed, either by using them or developing them further, the Integrative Project is closely linked to the programs in all the subject areas. However, these links vary a great deal, depending on the students and the nature of their projects. The knowledge and competencies associated with a given subject will be used in a more sustained way if they offer resources useful in carrying out the project or are of special interest to the student after he or she has accomplished work to integrate his or her previous learning.

Thus, a project to write an essay or a literary work will intensively call on knowledge and competencies in the Languages subject area. Other types of projects, such as an exhibition of paintings by the student or a dance performance, will call on knowledge and competencies in Arts Education. It is difficult to determine in advance which particular elements of previous learning can be integrated and put to use, because the range of choices can be very broad. However it is quite likely that the diversity of the students' choices will culminate in a need for support focusing on the particular requirements of the subjects involved. The collaboration of colleagues or specialists in these areas would then be welcome.

The Integrative Project is closely related to two other programs that are also structured around projects or learning processes: the Personal Orientation Project and Entrepreneurship. In each of these programs, students must formulate and carry out major projects or explorations and are largely responsible for determining their own learning goal. However, as the program titles clearly indicate, the focus of these programs differs from that of the Integrative Project.

The Personal Orientation Project specifically concentrates on exploration that helps students reflect on their future careers. It allows students to explore several personal interests and to test their choices by experimenting with a variety of job tasks, researching information and visiting workplaces or training centres.

The Entrepreneurship program aims above all to help students develop entrepreneurial qualities. In this program, the projects chosen must meet community needs in innovative ways and foster the development of a culture and spirit of entrepreneurship.

The Integrative Project is distinguished from these two programs in that students are explicitly required to integrate the learning they have accomplished throughout the course of their schooling. This does not mean that the objective of the project cannot deal with a career choice process or develop entrepreneurial qualities, but the project must be rooted in a conscious process of integrating previous learning.

Although their specific objectives seem different, these programs complement each other, if only because they share common methodological concerns. Thus, the knowledge and competencies acquired in each program can be put to use and further developed through participation in the other programs. Competency in completing projects and in integrating and transferring learning are essential in planning and carrying out all activities in life and are always improved through practice and development.

A Context Adapted to the Nature of the Program

The pedagogical context of the Integrative Project is largely determined by the central role of the student and the importance of the integration of learning in the program. Although the project-based approach usually provides a context that favours the integration of learning, the requirement for integration underlying the program involves additional efforts. Research on the transfer of learning reveals that before this can become a real skill that can be used spontaneously, students must make dynamic connections between elements of knowledge under the guidance of an adult—parent, teacher or expert, depending on the context.

A number of guidelines have been formulated to help students to fully benefit from the potential for integration and transfer involved in their projects. Thus, for a project to be considered integrative, it must, in both its formulation and execution, address various essential elements of learning students have acquired during their schooling, such as the broad areas of learning, cross-curricular competencies and subject-specific competencies. In concrete terms, for a project to be eligible, the student must:

– explicitly address the focuses of development of at least one broad area of learning

– call on at least three cross-curricular competencies, including the competency *Communicates appropriately* and the competency *Adopts effective work methods*

– clearly make use of knowledge and competencies associated with the subject areas

Given the principles underlying the Québec Education Program, it is difficult to imagine a project that does not possess these characteristics. How can a project have any kind of resonance, for the student or others, if it does not address the major contemporary issues dealt with in the broad areas of learning? How can a student accomplish any kind of complex task unless he or she uses sound work methods, creativity and solid problem-solving strategies and shows concern for the quality of discussion and communication at every stage of the process? Finally, how can a student carry out a social science or arts project unless he or she makes use of the knowledge and competencies associated with the programs in these areas and others, such as languages?

However, students should always base their choice of project on their personal interests (that is, start with an idea that appeals to them) and then consider the guidelines to improve the formulation and broaden the scope of their projects.

Several students may take part in a project, as long as each student has the opportunity to define his or her personal learning goal and the activities and resources required to achieve it. For example, two students may decide to work together to compile a CD of songs, with one student writing the lyrics and the other providing the music and arrangements. Such collaboration can be stimulating and beneficial for both students: not only does it allow them both to pursue their personal interests and learn, but they also benefit from the synergy that such a partnership provides. From this perspective, a group project should always, in principle, be broader in scope than an individual one.

Experience has shown that projects naturally fall into three broad categories: essays, productions or events.[3] *Essays* are generally the result of philosophical, literary or scientific research. Their purpose is to articulate a personal point of view on a topic dealing with a problem or issue. They are generally presented in written form but they may be abundantly illustrated with figures, photographs, diagrams, graphs or tables. They can thus be easily presented on a Web site. The research on which they are based may include

3. This was shown in the implementation of the various project models cited in the introduction to the Integrative Project program and observed in the experimental classes visited.

surveys, observation, data gathering, studies, etc. *Productions* may be artistic (e.g. painting, sculpture, piece of music, dance), literary (e.g. novel, short story collection, songs, play), scientific (e.g. survey, experiment, science fair project), technological (e.g. invention, toy, instrument), or craft-related (furniture, clothing, utilitarian objects, etc.). Finally, *events* may consist in organizing a show, sports competition or awareness-raising activity (on themes such as poverty, violence, pollution) or setting up an association or small business, etc.

The end result of a project is usually presented to an audience, be it a publication, an exhibition, a production, a performance, a report, a show, a play, etc. This end result adds value to the students' experience in that it allows them to learn about the medium they have chosen, the communication strategy used, content organization, the quality of language used, etc. However, in certain exceptional cases, unforeseen or insurmountable obstacles may prevent a student from fully achieving the end result envisioned. In such cases, the student should still be able to give a clear, articulate presentation of the work accomplished based on the existing results and provide a rigorous analysis of the process. Failures can be as educational as successes, provided students are able to learn from them.

Students' Role

As in all other programs, students in the Integrative Project program must play an active role in their learning process. In this program, however, the fact that they are the ones who choose their projects and carry them out demands a high degree of autonomy. Students in this program are therefore expected to show curiosity, a willingness to take risks and creativity as well as greater responsibility for their learning. This responsibility is expressed in the contractual nature of their commitment to the project.

The program calls on the students' perseverance and their ability to regulate their own activities. Students may find that their initial idea is too vague or too ambitious, and they will face difficulties along the way, regardless of the type of project or how much planning they have done. They must therefore be able to get back on track, explore new possibilities and modify or reorient their project without becoming discouraged.

Sharing, cooperation and communication also play an important role in the program. Because peers are an important resource, all students must contribute to group discussions. When communicating orally or in writing, in discussions, presentations or reflective periods, students must always use precise, appropriate language and abide by the terminology and conventions of the subjects covered in the project.

In addition, students are responsible for selecting and keeping all parts of their work that can be used to regulate learning and to allow the teacher to establish their level of competency developement.

Students' role in integrative projects

- Play an active role in their learning process by demonstrating curiosity, a willingness to take risks and creativity in choosing and producing their projects
- Respect the contractual nature of their commitment
- Persevere despite obstacles, get back on track without becoming discouraged, explore new possibilities and reorient the project as necessary
- Use discussion with the peer group to improve their project and contribute feedback on others' projects
- Use appropriate, correct, precise language at all times, orally and in writing
- Select and keep all parts of their work that can be used to regulate learning and to allow the teacher to establish their level of competency development

Teacher's Role

The teacher in charge of the integrative project must above all provide support and guidance. The teacher uses his or her knowledge of the students in order to help them make the most of their interests and previous learning and take into account their strengths and weaknesses. The teacher must supervise students in a way that is both flexible and rigorous, give them regular feedback on their progress and help them acquire discipline and establish a realistic schedule. This guidance and support covers both the project execution and the learning integration process. The teacher should help students choose and formulate their projects and make and use connections between their previous knowledge, existing subject-specific and cross-curricular competencies, and the broad areas of learning. The teacher should guide students in planning the tasks and activities required to complete the project, and help them to draw on the complementarity of their previous learning in carrying out the project.

The teacher also acts as a catalyst, motivating students, serving as a role model by displaying open-mindedness and curiosity and naturally encouraging students to explore and excel. He or she must be self-confident, recognize that it is not necessary to be an expert in every field, and be willing to refer students to appropriate resource persons, colleagues, parents and specialists who can provide additional support.

The teacher also has the primary responsibility for designing and directing learning and evaluation situations to help students complete their projects and develop their competency in integrating their learning. Certain situations will require the assimilation of the project execution and learning integration processes that are part of the compulsory program content. The teacher can also have students take part in roundtables throughout the year, at the beginning to allow students to discuss their ideas for projects and to improve them, and then along the way to allow them to take stock of difficulties encountered and discuss possible solutions. Another possibility would be to examine previously completed projects and comment on their originality, connections with the students' interests or the conditions in which they were carried out.

Some situations may cover more practical aspects: using the Integrative Project Web site, using a portfolio, organizing a presentation, requesting a meeting, conducting an interview, seeking sponsors, writing a thank-you letter, etc. The possibilities are numerous, and will vary depending on the students' needs.

Finally, the teacher bears primary responsibility for the evaluation of competency development.

Teacher's role in integrative projects

- Help the students to make the most of their areas of interest and their previous learning and to take into account their strengths and weaknesses
- Help the students to acquire self-discipline and sound work methods by supervising them in a flexible but rigorous way and providing them with regular feedback
- Help the students choose and formulate their projects
- Motivate the students by displaying open-mindedness and curiosity
- Direct the students toward appropriate sources of information and refer them to other resource persons
- Design and direct learning and evaluation situations to support students throughout every phase of their projects
- Evaluate competency development

Role of the Administration and the School Team

Because of the nature of the integrative project, implementing the program requires specific support from the school administration and close collaboration among members of the school team. The administration must provide support to teachers, because they are undertaking a task that often causes greater anxiety than others, precisely because it is difficult to define ahead of time since it is dependent on what the students decide to explore and can be quite broad, given the diversity of possible topics. The administration must therefore ensure that working conditions facilitate the teachers' task and must mobilize the many forms of expertise of the various members of the school team. The school administration should also maintain openness to the community and promote the involvement of parents and the community in guiding students and supervising projects.

It would also be worthwhile for the administration to design a project-approval mechanism that would allow them to identify logistical difficulties that are likely to arise. Some projects may be unrealistic; others may adversely affect the image of a school, involve sensitive economic or legal issues or require resources that are in short supply (such as an amphitheatre).

In addition, because the program provides the opportunity for students to engage in a comprehensive project whose outcome will be strongly influenced by the image students have of it and their preparation, students should gradually be introduced to project-based learning in various subject areas and should give some thought to their choice of project before Secondary V. Publicizing projects carried out in the school or school board would be a good way to motivate students.

In addition, several teachers and, often, members of complementary services personnel have become acquainted with students over the years of their schooling; they also have a role to play in providing individualized supervision for students' projects. Finally, various other members of the school team can also be involved. Secretaries, school psychologists, librarians, lab attendants, technicians and counsellors—all members of the school team can make a valuable contribution to the integrative project.

Appropriate Resources

Resource Persons in the Community

Parents can also be called upon to play an important role in supporting, encouraging and inspiring students. It is hoped that parents will take an interest in their children's projects, that they will follow their progress and, where possible, help them become better organized. Occasionally, parents may be able to call upon their own support networks, in collaboration with the school, to put students in touch with outside resource persons who can act as consultants or experts.

Various community groups may be called upon: citizens' groups, organizations, environmental groups, cultural groups, heritage protection committees or local networks involved in social issues. Each school should draw up a list of local or regional resources that students can consult when carrying out their projects.

Material Resources

Because secondary schools in Québec differ so greatly in terms of their material resources, it is difficult to dictate exactly what each one should have on hand. Nevertheless, certain minimum conditions must be provided. First, a suitable multipurpose room must be made available. This room will be used for supervision meetings and other regular exchanges. Students must also have access to a sufficient number of computers at different times during the school day. These computers should be equipped with a relatively quick Internet connection and office and presentation applications. Many projects will also require the use of a telephone located in a quiet, accessible place.

Other material resources can be very useful, such as access to a theatre for presenting shows, a laboratory for conducting scientific experiments or facilities and materials for various types of artistic productions. However, students will be responsible for choosing realistic projects that require resources that have already been identified and seem relatively easy to obtain.

Lastly, students and teachers will have access to a Web site dedicated specifically to the program, which combines various functions, allowing them to exchange ideas, create a portfolio, do research, post multimedia presentations and archive personal files. It also contains references to components of the Québec Education Program and the Integrative Project, examples of learning and evaluation situations, examples of student projects, evaluation checklists, tools to help students choose projects, and links to useful approaches and processes associated with various subject areas (e.g. the creative dynamic, the experimental method, the technological design process, analysis of communication situations, textual organization strategies), etc.

Evaluation That Promotes Learning

In the spirit of the Québec Education Program and in accordance with the *Policy on the Evaluation of Learning*, evaluation has two functions: to support learning and to recognize competencies. It is through a series of learning and evaluation situations that teachers will be able to collect meaningful information on the development of the two program competencies. Collecting examples of the students' work involves much more than merely accumulating information, and it allows teachers to provide students with regular feedback. It allows teachers to formulate a judgment on competency development during the year and, combined with the scales of competency levels, on the level of development attained on the competency report.

In addition, teachers can also ask students to carry out self-evaluation and peer-evaluation activities so that they can regulate their project execution and learning integration processes and thereby improve their learning process.

In order to integrate evaluation into the teaching and learning process, teachers should plan a continuum of learning and evaluation situations that bring the students to the end-of-year outcomes. Thus, during the course of the comprehensive planning of evaluation, teachers determine the approach they want to take to the broad areas of learning, the cross-curricular competencies and the Integrative Project competencies, taking into consideration their key features, their evaluation criteria and the program content. The following diagram provides an example of the continuum of situations that may be provided for students. However, several combinations and several trajectories are possible, depending on the requirements of the students' projects and their integration process.

Times for reflection must also be built into each situation in order to provide solid anchor points for the regulation of both student learning and teacher intervention. These reflective periods also constitute a point of entry for the development of cross-curricular competencies, which all contain a strong metacognitive component. As far as the projects are concerned, allowing students to plan reflective periods at critical times in the learning process should also get them used to self-regulation and metacognitive work.

Example of a continuum of learning and evaluation situations

Situation 1:
Project ideas

Tasks:
– List my resources
– Explore project ideas in relation to my resources

C2*: *Makes connections between elements of his/her learning* (key features 1 and 2; criteria 1 and 2)

C.C.*: *Uses creativity* (key features 1 and 2; criteria 1, 2 and 4)

Learning-related activities:
Development of strategies to take stock of his/her previous learning and to make explicit connections between the project and his/her previous learning

Situation 2:
Planning my project

Tasks:
– Formulate my project
– Determine the steps involved in my project and my timetable

C1: *Carries out an integrative project* (key features 1 and 2; criteria 1 and 2)

C.C.: *Adopts effective work methods* (key features 1 and 2; criteria 2, 3 and 5)

Learning-related activities:
Development of strategies to plan the execution

Situation 3:
Executing my project – 1

Tasks:
– Describe the progress I have made
– Begin analyzing my integration process

C1: *Carries out an integrative project* (key features 1 and 2; criteria 1 and 2)

C2: *Makes connections between elements of his/her learning* (key feature 2; criterion 2

C.C.: *Uses information* (key features 1, 2 and 3; criteria 1, 2, 3 and 4)

Learning-related activities:
Development of strategies to plan the execution, perform the required tasks and make explicit connections between the project and his/her previous learning

Situation 4:
Executing my project – 2

Tasks:
– Describe the progress I have made
– Begin analyzing my execution process

C1: *Carries out an integrative project* (key features 1, 2 and 3; criteria 2 and 3)

C.C.: *Adopts effective work methods* (key features 2 and 3; criteria 3 and 4)

Learning-related activities:
Development of strategies to perform the required tasks and organize the presentation of the end result

Situation 5:
Executing my project – 3

Tasks:
– Describe the progress I have made
– Continue analyzing my execution and integration processes

C1: *Carries out an integrative project* (key features 2 and 3; criteria 2 and 3)

C2: *Makes connections between elements of his/her learning* (key features 2 and 3; criteria 2 and 3)

C.C.: *Exercises critical judgment* (key features 1 and 2; criteria 3 and 4)

Learning-related activities:
Development of strategies to perform the required tasks and to observe the contribution of his/her learning to the project and make the most of it

Situation 6:
Presenting my project

Tasks:
– Prepare the presentation of my project
– Present my project

C1: *Carries out an integrative project* (key features 2 and 3; criteria 2 and 3)

C2: *Makes connections between elements of his/her learning* (key feature 3; criterion 3)

C.C.: *Communicates appropriately* (key features 1, 2 and 3; criteria 3, 4 and 6)

Learning-related activities:
Development of strategies to organize the presentation of the end result

Situation 7:
Reflecting on what I have learned

Tasks:
– Recognize what I have learned from this project

C1: *Carries out an integrative project* (key feature 3; criterion 3)

C2: *Makes connections between elements of his/her learning* (key feature 3; criterion 3)

C.C.: *Exercises critical judgment* (key features 1, 2 and 3; criteria 3, 4 and 5)

Learning-related activities:
Development of strategies to include an analysis of his/her process in the presentation

*C1 and C2: Competencies in the Integrative Project

*C.C.: Cross-curricular competencies

Focus of the Competency

The Integrative Project benefits from a broad pool of subject-specific and cross-curricular resources. Its basic feature is that students are for the most part responsible for determining the project's underlying learning goal and for choosing the end result and the process. Moreover, students must commit to a contract to take the measures required to carry it out. This is what is involved in the first competency, *Carries out an integrative project*. As they near the end of secondary school, students are expected to demonstrate greater autonomy in planning their own learning and to create the conditions that will allow them to ensure and regulate their progress.

The first key feature of this competency involves choosing a topic that reflects the students' interests and will give rise to significant learning. Various guidelines frame the choice of topic, but they also broaden its scope. The initial choice is accompanied by a detailed description of the end result that students expect to achieve and by a statement of the learning goals they set as they carry out the project. Students must get approval from their teacher before they begin performing the planned activities for completing the project.

The fact that students manage their own projects is another key feature of the competency. Students must carefully list and plan the required tasks and then they must approach them methodically based on the production schedule they have established. Records of the work on each step must be kept throughout the process, which should help students overcome difficulties and make adjustments along the way. The process of managing the project culminates in a final presentation of the project and the main steps that led to the end result.

Finally, this competency involves the students' ability to critically assess their process through discussion with peers, using the work they have kept, looking at their commitment to their project and their ability to overcome obstacles. This analysis, integrated into the final presentation, should assess the results achieved and the process followed. It also focuses on developing students' aptitude for continued learning in future projects and identifying improvements that should be made to a project's design, formulation, plan or execution. In addition, it is important for students to assess the effects of their project on their learning progress. This feature is essential if we want students to develop a lifelong ability to formulate projects that will increase their autonomy and give them greater control over their own learning process.

Key Features of Competency 1

Formulates a project

Chooses a project idea based on his/her previous learning and interests • Describes the expected production or end result • Defines the learning goal underlying the project • Adjusts the formulation in the course of the project

Manages the execution of the project

Determines the tasks to be accomplished and establishes the schedule • Lists available or relevant resources • Performs tasks on schedule • Adjusts his/her process, based on the progress made and difficulties encountered • Presents his/her project and the steps in the process

Carries out an integrative project

Analyzes his/her process

Makes a judgment on the result attained in relation to the goal • Determines the improvements to be made to project planning • Discusses the difficulties encountered and the solutions found during the project's execution • Considers the project's impact on his/her personal and social development

End-of-Year Outcomes

At the end of the program, students are able to implement a project planning and execution process. They are able to choose a realistic project idea, based on their previous learning, their personal interests and learning goals, and they are able to formulate a clear, articulate plan. They can carry out a project by executing the tasks they have planned and adjust their process based on the difficulties they encounter. They can give a clear presentation on the project's development and results and use feedback provided by the teacher and classmates. They are able to analyze their project execution process and determine how they can improve future projects.

Evaluation Criteria

– Clarity, relevance and precision of the project formulation
– Effectiveness of the project management process
– Relevance of the analysis of his/her process

Focus of the Competency

The Integrative Project closely links the concept of project and the concept of integration of previous learning. The integration of previous learning is what distinguishes this program from all the other projects carried out over the course of schooling. While carrying out a project is usually conducive to the integration of learning, integration is further developed here by explicitly reflecting on the connections established between the knowledge acquired and the competencies developed. The competency *Makes connections between elements of his/her learning* is what makes the program distinctive.

What this means in concrete terms is that, although it is important for students to be enthusiastic about an idea, or excited about organizing an event or letting their creative juices flow, the activities they carry out must provide excellent opportunities for the transfer of learning. The key is to help students understand the benefit of stepping back in order to discover how elements of their learning are interrelated and complementary, and determine which of their skills may be useful or effective in certain circumstances and which could be improved or added to their resources.

This program gives students an opportunity to step back to reflect more autonomously in a context that has been largely defined by themselves. It also requires students to draw on their learning and transfer it in concrete, real situations. This should enable students to derive benefits not only in direct relation to their project, but also beyond their schooling.

This competency consists of three key features. The first encourages students to take stock of what they have learned so that they can better define the diverse nature of their previous learning, assess how they use it and determine how the elements are connected and how they relate to the major issues facing society. This exercise should not be a one-time event, but should rather be undertaken periodically, one of the objectives being to support the process involved in the second key feature of the competency.

The second key feature of the competency refers to the students' ability to systematically draw upon the complementarity of their learning in carrying out a project. They must make the most of the context of the project in order to gain a more concrete understanding of how the various elements of their learning over the course of their schooling provide them with appropriate tools for resolving the difficulties encountered and at the same time enable them to broaden the scope of their project.

Finally, the third key feature underscores the importance of reflection in the development of any competency. It involves continually reflecting on and reviewing the process, in order to control it better and learn from it.

Key Features of Competency 2

Takes stock of his/her learning

Makes a list of his/her personal characteristics and competencies • Recognizes the connections between various elements of subject-specific learning • Becomes aware of his/her use of cross-curricular competencies • Recognizes connections between his/her personal interests and certain broad areas of learning

Explores the complementarity of his/her learning in carrying out the project

Recognizes how his/her personal characteristics contribute to a project • Identifies the subject-specific competencies that are useful to his/her project • Is aware of how cross-curricular competencies contribute to his/her project • Examines how the focuses of development of the broad areas of learning can broaden the scope of his/her project

Makes connections between elements of his/her learning

Analyzes his/her integration process

Evaluates the relevance and scope of the connections made between elements of his/her learning • Determines the strengths and weaknesses of his/her process • Shares the results of his/her process • Considers the impact of his/her integration process on the consolidation of his/her learning and on the ability to transfer it

Evaluation Criteria

– Quality of the list and connections made between elements of his/her learning
– Appropriate demonstration of the integration of learning in carrying out the project
– Relevance of the analysis of his/her integration process

End-of-Year Outcomes

At the end of the program, students are able to implement a process of integration of learning and make the most of it. Once they have taken stock of their learning and highlighted the complementarity of the elements, they are able to use their learning in carrying out and improving their project. They are able to analyze their integration process and determine how their project has affected their learning.

Program Content

The program content takes on a special connotation in the Integrative Project because of the variability of the students' project choices and the concern for integration that characterizes the program. The following sections describe the concepts that are put to use in carrying out projects, the project execution and learning integration processes that students must acquire to support the development of the targeted competencies, and a number of attitudes that promote these processes.

Basic Concepts

Carrying out a project provides an opportunity to mobilize and consolidate a large amount of existing knowledge and to acquire new knowledge. However, this knowledge varies considerably among students, because it directly depends on the subjects involved in the students' projects. It thus cannot be described here. Detailed descriptions may be found in the subject programs. The same reservation applies to the various competencies developed over the course of the students' schooling, because they are now part of their internal resources and can be mobilized just as their knowledge can. Again, it is not possible to determine in advance which specific competencies will have to be used in a given project. Moreover, the goal of the integration process is that students consider their previous learning as a vast repertoire of resources that can be mobilized to deal with various situations and solve different problems.

Processes to Be Developed

In addition to the basic concepts in the specific subjects the projects call upon, students carrying out an integrative project must master two specific processes related to the program's competencies: the execution of a project and the integration of previous learning. These processes are prescribed in the program and are accompanied by a range of optional strategies that give concrete expression to the steps. Unlike the processes, the strategies presented below are not obligatory; the choice of strategies is left to the discretion of the teacher, based on the individual needs of the students.

Project Execution Process

The project execution process is intended to give students a common framework for choosing, formulating, implementing and presenting their projects. It provides them with a structure and a memory aid for carrying out their projects and gives the teacher possibilities for guidance and support.

Project execution process	Suggested strategies
1. Choosing a project Making a link to a personal interest, complying with instructions, defining the expected result, defining the learning goal, formulating clearly, obtaining approval **2. Planning the execution** Listing required resources, defining tasks to be executed, choosing appropriate methods, establishing the production schedule, assessing how realistic the project is **3. Performing the required tasks** Information gathering, dividing up tasks, resolving difficulties, regulating progress, recording work, discussing the process with others **4. Organizing the presentation of the end result** Choosing an appropriate means of communication, preparing the presentation, reflecting on the project execution process	– Formulate a few project ideas based on his or her personal interests – Compare his or her ideas with examples of previous projects – Rank the possible projects according to their interest (to himself or herself and others) and their feasibility – Make a choice that takes into account his or her personal interests and the guidelines to be followed – Ensure that the project culminates in an end result that involves making a presentation – Define the learning targeted by the project – Submit a clear description of the project and obtain approval from the teacher (and from the administration, if necessary) – List the resources required and ensure that they are available – Describe the steps to be followed and the tasks to be executed to attain the targeted goal – Adopt appropriate methods – Establish realistic schedules for each step – Ensure that the constraints involved in the project do not make it unworkable within the established schedule – Adopt an effective, structured way of keeping a record of work accomplished in the process – Use a variety of sources to gather as much information as possible that is useful in executing the project – Execute the required tasks in the planned order – Keep detailed records of mistakes and difficulties as well as successes – Use discussion with others to clarify difficulties and identify possible solutions – Adjust his or her process, based on the difficulties encountered – Choose an appropriate means of communication for the presentation of the project – Identify the target (or potential) audience – Use discussion with others to analyze his or her process – In the presentation, discuss the choices made, the main adjustments made along the way, the steps in the execution, the difficulties encountered and how they were overcome, the judgment made on the overall process and the result obtained in relation to the goal targeted

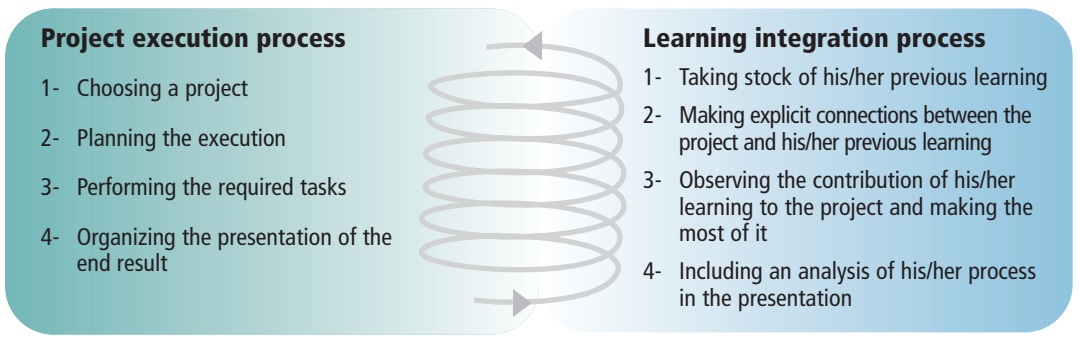
Learning Integration Process

The learning integration process aims to allow students to draw on their personal characteristics and the connections they make between elements of their previous learning in order to choose and carry out a project. Since the process is based on the broad areas of learning, cross-curricular competencies and subject areas, it is important for students to update their knowledge of these aspects of their education. Like the other process, this one aims to provide them with a rigorous framework, in this case for taking stock of their previous learning, defining the connections for the transfer of previous learning to the execution of the project, making the most of both previous knowledge and what they learned from the project, and reflecting on their learning throughout their schooling.

Learning integration process	Suggested strategies
1. Taking stock of his or her previous learning Identifying his or her personal characteristics, knowledge and competencies, both subject-specific and cross-curricular, making connections between his or her personal interests and the broad areas of learning **2. Making explicit connections between the project and his or her previous learning** Identifying previous knowledge to be used or consolidated, making explicit use of cross-curricular competencies, using the broad areas of learning to expand the scope of the project **3. Observing the contribution of his or her learning to the project and making the most of it** Analyzing records of work gathered in terms of the benefits, discussing this with others **4. Including an analysis of his or her process in the presentation** Identifying new learning, evaluating the impact of his or her integration process on the quality of the project	– List his or her personal interests and rank them in order of importance – Identify his or her strengths and weaknesses with respect to learning – Seek connections between elements of knowledge associated with various subject areas – Update his or her knowledge of the cross-curricular competencies and broad areas of learning – List cross-curricular competencies that are regularly used – Make connections between his or her personal interests and the broad areas of learning – Recognize the impact of having chosen the project based on personal interests on his or her commitment – Identify processes or concepts associated with the subject-specific competencies that could be useful in executing the project – Reflect on the usefulness of a given cross-curricular competency in carrying out the project – Make use of the focuses of development of the broad areas of learning to enrich the project's formulation and expand its scope – Discuss with other students the connections between the various dimensions of the Québec Education Program and the carrying out of the projects – Review the records of work gathered while executing the project – Examine the impact of previously acquired knowledge and competencies on the project's quality – Examine, in turn, the impact of the project on the consolidation of previous knowledge and the acquisition of new knowledge – Consider how executing the project has contributed to the further development of cross-curricular competencies – Reflect on the possible effects of the project on one of the problems associated with the broad areas of learning – Discuss the impact of the project on his or her personal and social development with other students – Complete his or her presentation with an analysis of the integration process

Interdependence of the Two Processes

The structure of the project execution and learning integration processes closely reflects the structure of the program's two competencies, particularly the development of their key features. As a result, they should also be viewed as closely interrelated, because their application is interdependent. Of course, in a different context, an elaborate learning integration process is not required in order to undertake a project, just as a process of project execution is not required in order to engage in a process of integration of previous learning. The distinctive feature of the Integrative Project is that it builds on the benefits derived from the synergy of the two processes. For this reason, both processes must be understood and engaged in concurrently.



Attitudes That Promote the Development of the Competencies

The ability to commit to an integration process and to persevere in order to complete a project that constitutes a significant challenge also depends on the adoption of sound intellectual and behavioural attitudes. These attitudes are resources that students must acquire and cultivate as they carry out tasks. As with most learning, attitudes are best developed explicitly; they require deliberate action on the part of the teacher and should be considered in the students' periods of reflection.

Intellectual Attitudes	Behavioural Attitudes
Curiosity	Autonomy
Open-mindedness	Self-discipline
Creativity	Commitment
Ingenuity	Initiative
Willingness to take intellectual risks	Sense of organization
Tolerance of ambiguity	Perseverance
Interest in comparing ideas	Willingness to make an effort
Critical thinking	Concern for a job well done
Realism	Ability to listen
Intellectual rigour	Respect for self and others
Striving for objectivity	Respect for intellectual property
Methodical approach to work	Cooperativeness
Concern for accurate, precise language	Concern for major contemporary issues

It is important to note that the large degree of autonomy that is essential in the integration process and to the implementation of projects formulated by students based on personal interests provides a context that promotes the development and consolidation of these attitudes. Choosing their own projects is an ideal opportunity for students to demonstrate curiosity, open-mindedness, initiative, creativity, ingenuity, willingness to take risks, and tolerance of ambiguity. The rigour and realism required when carrying out a project involve critical thinking, striving for objectivity, a sense of organization and a methodical approach. Discussion sessions should stimulate the students' interest in comparing ideas and require them to develop their ability to listen, respect for others and cooperativeness. Their commitment to completing a project of which they can be proud calls for perseverance, self-discipline, willingness to make an effort, concern for a job well done and concern for using accurate, precise language. Choosing a project gives students the opportunity to reflect on major contemporary issues and to develop an informed, personal position on them.

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