

Publications

FEATURED REPORTS



Published May 10, 2005 | Multidisciplinary

Computer Literacy and IT Leaving Profiles



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The Issue

By now, everyone feels that students must attain a minimal mastery of Information Technology to research and process information. We are adding computer literacy into the toolbox of the Everyman of the Twenty-First Century where many feel that it has as much relevance as literacy with the written word. The need for training in IT has been demonstrated in studies by l'OCDE, de [Statistics Canada](#) et de la [CRÉPUQ \(in French\)](#).

This article is a glimpse into the two year long process to develop an exit profile for students in the Humanities Programme and the Accounting and Management Technologies Programme.

Two Programmes Targeted

As the creation of new programmes with greater local options occurred in colleges, the *Ministère de l'Éducation* (MEQ) created a task force to find someone in each school to function as an IT representative. This experimental grouping was to study the use of Information Technology in the programme of Humanities and the programme of Business Administration Accounting and Management Technologies. The network of IT Representatives met for the first time in November 2002 in a effervescently creative atmosphere. This meeting resulted in the formation of a working committee to develop an IT exit standard for each of the two programmes under study.

Practical Applications

The Exit Standard for Humanities

As with any programme revision, the local programme committees in each school were asked to participate in the development of an IT exit standard by researching the place of Information Technology within their programme. With Humanities, this was largely a description of a sixth goal of the programme which involved determining how courses would contribute to the development of appropriate IT attitudes and habits.

The first year, the working committee formed by the MEQ decided to concentrate on the IT exit standard for Humanities. Three IT Representatives, accepted prime responsibility for the work in partnership with other network members. The core team included Bernard Bérubé of *Collège Gérald-Godin*, Raymond Boulanger and Lyse Favreau of the MEQ, René Fradette of *Cégep de La Pocatière*, Richard Lafaille of *Collège de Maisonneuve* and André Lecomte of the provincial teachers' committee for Humanities (*Comité des enseignantes et des enseignants du programme de Sciences humaines*) and teacher at *Cégep de Trois-Rivières*. First the members of the committee had to determine how the staff in their own colleges was making links between Information Technology and Humanities and then research the situation in other colleges of the network. The synthesis of this research resulted in a proposed exit standard which was presented to the IT Representatives on April 23, 2003. Following modification by this group, the document was finalized and made available to teachers in the Quebec College Network to use as they wished in the preparation of their courses.

The standard consisted of a generalized statement of ability that was subdivided into four components. It underscored those aspects of the programme that had an IT dimension.

Proposed Information Technology Exit Standard for Humanities

"To use Information Technology for the acquisition and transmission of knowledge in Humanities."

Graduates in the Social Sciences should be able to:

1. Search for relevant information on a given topic
 - Use resources from a workstation or computer network
 - Perform keyword searches using correct syntax
 - Determine the authority and credibility of sources in a context of information overabundance
 - Cite the sources consulted according to established standards
2. Organize information on a given topic
 - Use data processing software (spreadsheet programs, SPSS, etc.)
 - Present data according to established standards (graphs, diagrams, charts, etc.)
3. Communicate information
 - Use communication tools
 - Comply with ethical rules regarding ICT
 - Edit the results by taking into account the medium used
 - Use multimedia presentation tools
4. Solve a problem related to the study of human activity
 - Choose the technological tools suited to the context of the study
 - Master the functional capabilities of ICT according to the particular problem involved

Members of the student profile committee: Bernard Bérubé (*Cégep Gérald-Godin*), Raymond Boulanger (*MEQ*), Lyse Favreau (*MEQ*), René Fradette (*Cégep de La Pocatière*), Richard Lafaille (*Cégep de Maisonneuve*), André Lecomte (*Cégep de Trois-Rivières*)

The work of the members of the task force didn't stop there. After producing the exit standard, they had to test it to make sure that it could be used by Humanities teachers in *cégeps*. The organizers of a provincial meeting

of the teachers committee of the Humanities programme took place on May 30, 2003 with a technological theme, and the participants indicated their great satisfaction in regard to the proposed exit standard by adopting it unanimously.

The Exit Standard for the Accounting and Management Technologies Programme

Flushed with success from the first exercise, the members of the task force forged on with a slightly modified cast of team members. Bernard Bérubé and Richard Lafaille remained and invited Jean-Marie Riopel of Cégep de Sorel-Tracy to join the group.

A similar procedure to the creation of the Technology Exit Standard for Humanities was followed with the Exit Standard for the Accounting and Management Technologies Programme, however, the many and diverse technological requirements of the programme had to be organized into a teaching plan that would be comprehensible to the student.

Exit standards used throughout the network were solicited and analyzed in terms of their IT content. A preliminary technological IT standard was submitted to other IT Representatives on May 21, 2004 and to other interested people during the AQPC Symposium in June 2004.

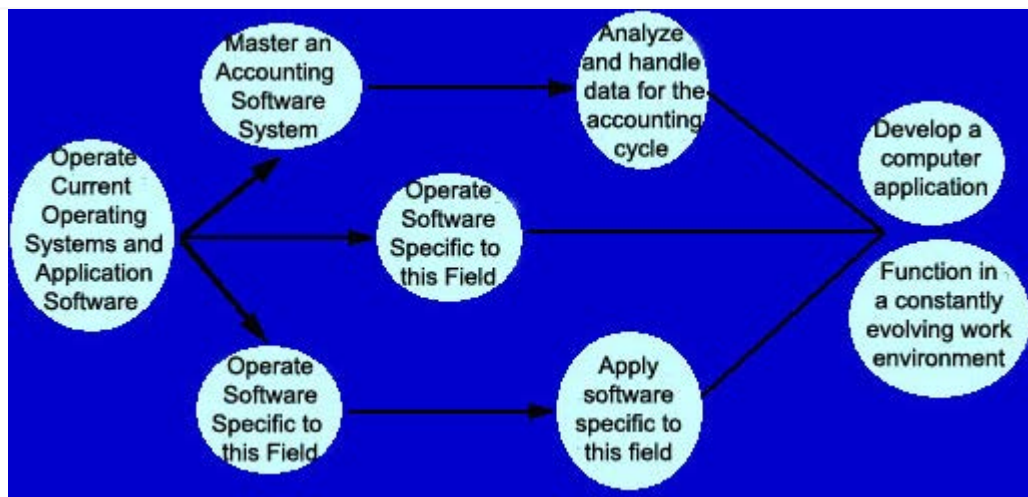
The proposed standard divided the profil into three ability categories:

1. Instrumental: abilities for mastering IT tools.
2. Intermediate: abilities linked to the use of software to solve field-related complex tasks.
3. Integrative: abilities linked to autonomous production and creative use as well as the transfer of knowledge of IT to others.

Proposed IT Exit Standard for the Accounting and Management Technologies Programme

"Processing administrative information using Information Technology."

The graduate in Accounting and Management Technologies must be able to:



Competencies of the Accounting and Management Technologies Programme

Instrumental competencies

- Operate current operating systems and application software for administrative purposes
 - Use a computer workstation effectively
 - Process text using computer tools
 - Format a document (page setup) using appropriate software
 - Prepare a presentation using multimedia software
 - Design a database using a computer program
 - Be at ease with email managers
 - Optimize browser usage
- Master an accounting software system
 - Use accounting software to collect and validate data in an efficient manner.
 - Use a computer spreadsheet in an efficient manner.
- Operate software specific to this field
 - Adequate use of project management software
 - Efficient use of software for tax returns
 - Use of an integrated management system

Intermediate competencies

- Analyze and handle data for the accounting cycle using data processing tools

- Complete transactions required for accounting analysis
- Produce financial and management reports pertinent to requested information
- Communicate results
- Set up an accounting program
- Apply software specific to this field
 - Manage a project using appropriate computer tools
 - Prepare current tax returns
 - Explain data structure in an integrated management system
 - Produce relevant reports using an integrated management system
- Research and handle data online for management purposes
 - Research pertinent data on a given subject
 - Perform searches using keywords and proper syntax
 - Validate sources, given the abundance of information available
- Communicate the information
 - Organize data on a given subject
 - Present data based on established standards (graphs, diagrams, tables, etc.)
 - Plan and optimize communication tools
 - Cite sources consulted as per established standards
 - Comply with rules of ethics relative to ICT
 - Format results taking into consideration the media used

Integrative competencies

- Develop a computer application that meets a need for administrative information
 - Select the appropriate software (spreadsheet, database)
 - Produce supporting documents
 - Ensure technical support
- Function in a constantly evolving work environment
 - Demonstrate self-sufficiency in the learning of any new software used within a company
 - Adapt to the changes in the profession by keeping one's computer and organizational skills up to

date.

Members of the student profile committee: Bernard Bérubé (*Cégep Gérard-Godin*), Richard Lafaille (*Cégep de Maisonneuve*), Jean-Marie Riopel (*Cégep de Sorel-Tracy*). May 2004

A Common Technological Exit Standard for All College Level Students

February 25, 2005 was the first meeting of the IT Representatives Network since the MEQ transferred responsibility for this organization to the Fédération des cégeps. One of the most popular workshops that was presented discussed Student IT skills ([the French PowerPoint presentation made at this workshop is presented here](#)). The desire to advance this work was evident at the meeting.

The meeting's resulting work schedule indicated several priorities which included student IT skills development. Two resulting objectives were as follows:

1. Communicate the result of the committee's work to college administrations underscoring its impact on pedagogy in their institutions.
2. Advance the work done to date by developing a General IT Exit Standard for College level Students.

The representatives network delegated responsibility for developing a general IT exit standard to the task force as well as to the college committees that had developed IT teaching plans, most notably *Collège Gérard-Godin* ([see the French PowerPoint presentation](#)). There were similarities evident among the different colleges' exit profiles. From the start, four groupings of abilities surfaced: information, communication, problem solving and integration (production, autonomy, etc.).

Comparison of the standards

Gérard-Godin

Objective: actively use IT skills to learn and to output work.

1. Remain up-to-date
2. Communicate
3. Field specific problem solving
4. Independent learning

Humanities

Objective: use IT to actively learn and output work in Humanities.

1. Discover information pertinent to the field
2. Organize information on a given subject
3. Transmit this information
4. Resolve a problem related to the study of the human condition

Accounting and Management Technologies Programme

Objective: process administrative information using IT skills.

1. Employ current versions of administrative software in an administrative operation
2. Master an accounting software
3. Be aware of field-specific software
4. Analyze and process business cycle information using computers
5. Use field-specific software
6. Use on-line information for management
7. Produce software to perform a specific administrative task
8. Continue to grow in a constantly changing business environment

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