

# Publications

FEATURED REPORTS



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## Plagiarism and Other Types of Electronic Cheating



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Electronically assisted plagiarism seems convenient and current. What measures can the instructor take to detect it?

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## The Issue

Plagiarism has been a fact of life in academia from the start. Technology, however, has transported the practice from the confines of the library to the Internet, and in doing so has created a student-generated nightmare. [A recent French survey](#), indicated that 97.6% of students in that country used the Internet as their principal resource for research and that only 57.2% still went to a library.

Recent statistics about Internet plagiarism have revealed the importance of this issue within the Quebec college system which had been in question notwithstanding the little known study by the Science and Technology Ethics Committee (CEST-Jeunesse), which will be discussed later, as well as an article in the newsletter '[Clic' in 2003](#). Within the university system, there has been an increasingly concrete response, yet the following figures indicate a problem common to all levels of study.

- [A 2005 survey on Internet study habits](#) revealed:
  - 75% of all responding students copied and pasted into their work without citing their sources.
  - 91% of teachers had to deal with plagiarism.
  - 69.8% of students estimated that unattributed text from the Internet comprised one quarter of the typical homework assignment.
- In the United States, [The Center for Academic Integrity \(CAI\)](#) conducted a survey among 60,000 freshmen indicating that:
  - 70% of students responding cheated using technology and that the figures were similar among high school students.
  - 50% of students admitted to major Internet cheating one or several times in written work.
  - Without clear indication otherwise, 77% of all students did not feel that copying and pasting information into their work was wrong.
  - 95% of those cheating were not caught.
- In Canada:
  - A 2006 study among postsecondary students (college, university) revealed that :
    - 53% of university freshman cheated electronically in their written assignments.

- 73% of students in the study cheated in high school;
- According to the students; 80% who cheated electronically were not caught.
- The most frequent type of electronic cheating was copying and pasting without attribution of sources.
- [200 cases of plagiarism are recorded by the University of Toronto annually.](#)
- [In 2002, the University of Ottawa disciplined 100 students for plagiarism.](#) Punishments were as severe as expulsion.
- As part of a [study by l'Université de Montréal in 2006](#) of 10,214 students, a significant number expressed their discontent at the ease of access of work done in past semesters which facilitated cheating.

Every field of study, from mathematics to history, from management to philosophy, is concerned by plagiarism as well as other forms of electronically assisted cheating which will be on the rise with the proliferation of technology within the standard classroom as well as the growth of on-line courses.

In the Quebec college system, students provided with portable computers used personal messaging to cheat. In a survey among [Information technology counsellors in this system](#) 90% of responses communicated concern on the part of instructors over the issue of electronic plagiarism. Over half of respondents had already dealt with cases of digital cheating. 77% had counseled their teaching staff on informal or formal measures to be taken to counter this phenomenon, yet only 30% of these counselors felt that these measures had been of use.

Plagiarism and other forms of electronic cheating are issues of deep concern within the Quebec system. Electronic cheating has shown itself to be a complex issue which has many aspects, notably prevention, detection, effect on learning, current means of evaluation of student knowledge as well as moral issues.

This study does not purport to propose solutions to the issues that it raises, rather it seeks to sensitize collegial teachers and professionals to the extent of this problem in order that these people on the front lines of this technologically engendered dilemma can propose ways to solve it.

This section describes electronic cheating in its various forms with particular attention paid to plagiarism. It seeks to determine what motivates students to behave in such a manner. The 'Practical Applications' section proposes solutions to prevent and detect plagiarism and other forms of electronic cheating among students. Finally in the 'Useful references' section there are links to on-line documents and websites pertaining to this issue.

As a college teacher or other professional, if you find the degree of electronic plagiarism and cheating that this report treats is alarming, you are invited to contribute to the feedback area at the end of each section in Profweb as well as the 'Comments' section.

First, we will define electronic cheating in its various forms and why students are using it.

## Plagiarism and other forms of electronic cheating

In most college disciplines, students are called upon to produce research or take exams either in a traditional classroom, a computer laboratory or at home. Students can be seduced into using electronic cheating, most frequently plagiarism, in the accomplishment of these tasks. This section will examine the complex issue of plagiarism and touch upon other forms of electronic cheating further on.

### Computer-assisted Plagiarism

When students do research, they are required most of the time to indicate their sources according to recognized academic conventions. However, as indicated in the study undertaken by the Science and Technology Ethics Committee (CEST-Jeunesse), these conventions repose on the intellectual honesty of the student and as such are not a foolproof protection against plagiarism or other cheating.

Let us now attach a precise definition to the word 'plagiarism'!

CEST-Jeunesse defines plagiarism as the act of incorporating, either in whole or in part, the contents of another work within one's own work without indicating the source. If the other work comes from whatever electronic source, the terms "electronic plagiarism" or "technologically assisted plagiarism" can be used. In an academic context, copy-paste and the purchase of third party work, authorized or not ([copyleft](#) is an example) are forms of this abuse.

### Copy-Paste

One of the characteristics of electronic plagiarism is the ease with which it can be done. A classic example of this is copy-paste. It can take the following forms:

- To copy a sentence, a paragraph or an entire page coming from an electronic source (e.g. Webpage, blog, forum, e-mail, Word or PowerPoint document, CD Rom) without placing the text between quotation marks and without citing the source.
- To insert images, graphic designs, data (e.g. an Excel file, an on-line data file) without attribution.
- To totally or partially translate a text and to paste the translation without mentioning the source.

### Reusing Existing Work

Another form that technologically assisted plagiarism can take is for the student to reuse previously created electronic assignments from third parties or other classes. Here are some examples:

- Downloading from the Web.

- In spite of their best intentions, Websites give access to a host of downloadable material which can be used for academic assignments. Sections of sites such as [Thèses électroniques](#) at the *Université de Lyon 2*, [Wikipedia](#) and the [Agora](#) encyclopedia can also be the source of this type of material.
- Conversely, Websites devoted to cheating provide free academic downloads. A site with the evocative name, [School Sucks](#), has an on-line library of 50,000 titles.
- Copying the work or the laboratory report of another student, with their permission, and claiming it as their own.
- Reusing work produced for another course without having obtained permission from the instructor to do so beforehand.

### The Purchase of Academic Work

The purchase of student work on-line has grown exponentially. This material can be bought already written or be written to suit.

For several years, francophone and anglophone Websites have offered material from a multitude of disciplines for around ten dollars each.

The francophone site [Oboulo.com](#) is an example of such a site. It offers its clients thousands of titles ranging from 'Visionary Geniuses' to 'The Economic Situation in China' and passing by 'Suicide Among the Elderly'. The students can specify the length of the work required (less than 10 pages, more than 10, than 20 pages etc.) and the format (Word, .pdf, PowerPoint, etc.). [Zetud.net](#) and the anglophone site [CheatHouse.com](#) offer a service similar to [Oboulo.com](#).

Other sites offer to do the student's work for them. The student can custom order a project specifying level of language and whether or not to include errors in order to avoid suspicion. There is an additional charge for delivery within 48 hours. [Finis les devoirs](#) is an example of this type of business. Notwithstanding the name, the site assures its 'customers' that the work is done by students more advanced than themselves.

For a look at various francophone and anglophone Websites which offer downloading course notes and student work as well as the purchase or the writing of student work, consult a study by Thot called "*Étudier, plagier, tricher, empêcher la triche ou ne pas tricher – des ressources.*"

### Other Types of Electronic Cheating

If during a test, students use their cell phones to get answers to questions, or names and passwords of friends' accounts to use the information within, we are dealing with another type of electronic cheating. This is generally found during exam situations and can occur in the following ways:

- In a computer lab, students exchange answers using text messaging on MSN. Even if many cégeps and colleges block sites like these, they can be accessed by using their Internet interface.
- When a student uses a portable computer, information can be found on the Internet and used in responses.
- Students can text message using cell phones and receive answers from someone outside of the classroom.
- Using the name and password of another student, additional information can be accessed.

## Why do students resort to technologically assisted plagiarism?

### Ignorance about standard practices for attributing sources

Beginning in elementary school, students do research using the Internet. Often unwittingly, teachers encourage copy-paste activities to obtain images and text. On line resources are frequently seen as in the public domain and not subject to the same protection as hardcopy resources. This situation can continue into secondary and college where the student can view copy-paste plagiarism as normal.

Computer to computer file transfer via Internet enables the rapid and free transfer of music files, videos, images and software among other things without obtaining or paying for rights of use. Since 1999, this worldwide phenomenon has become omnipresent among youth and transformed into a culture of sharing without paying heed to legal barriers. Speed of transfer and lack of payment fuel its growth.

Some students are therefore plagiarizing unconsciously, lacking the training that would make them aware of standards for the attribution of sources..

### Saving time

Student responses in Michelle Bergadaà's [electronic plagiarism group site](#) indicate that for some students plagiarize to save time. In the (translated) words of one respondent, "We are obliged to cheat at some point to meet our deadlines." Plagiarism is ... "like having someone on your team who is quick, efficient and free!" and ... "it's all at hand so why put out the effort?"

### Everybody's doing it!

Many students experience peer pressure to plagiarize! Another student account explained that plagiarism produced guilt free high grades because... "actually, everybody's doing it."

[Bergadaà](#) and CEST-Jeunesse wonder about the example being set by teachers in the matter of citing (or not citing) sources. According to them what students observe going on around them influences their own actions.

There's no danger of being caught!

A significant number of student plagiarizers explained that if they felt that there was a real chance of getting caught, they wouldn't cheat. What gave them pause was the possibility of a sanction and... "the tougher the punishment, the less one takes the chance of copying." Paradoxically, respondents felt that sanctions should be severe. One student counseled monumental punishment... "to put the fear of god into plagiarists with punishment beyond reason."

## Practical Applications

This section proposes ways to solve the dilemma of technologically assisted plagiarism. It contains two sections – Prevention and Detection.

### Prevention

The work of [Bergadaà](#) and [CEST-Jeunesse](#) are unanimous in proposing significant preventative measures before concentrating on detection and sanctions at all academic levels. This work should be done with teachers as well as students, in ministerial offices as well as in courses. Let us now explore the nature of these activities.

#### At the ministerial and network levels

Awareness about electronic plagiarism and its consequences is recent. As seen before, its spread is linked to ignorance about rules for attributing Internet sources among students from their arrival at primary school. This is the reason why [CEST-Jeunesse](#) recommended to the *Ministre de l'Éducation, du Loisir et du Sport* (which was at the time the *Ministre de l'Éducation du Québec*) to inform students of the nature and the consequences of electronic plagiarism beginning in primary school, but also at all levels of instruction in an age and level appropriate manner.

In the university network, various initiatives for promoting awareness have been undertaken, for example, UQAM has developed a [plagiarism website](#) for professors detailing its consequences and ways to avoid it. Laval University has developed a site explaining [how to cite electronic sources](#) and the science and administration faculty has established a site [explaining ways to prevent plagiarism](#). Similarly the University of Montreal has a site called "[Intégrité, fraude et plagiat – prévention](#)". All universities have created a code of conduct dealing with electronic plagiarism.

According to [CEST-Jeunesse](#), it is important to define electronic plagiarism and to define punishment and rules. In the collegiate network, the site Profweb offers information about the nature and severity of electronic plagiarism and other forms of electronic cheating as well as a code of ethics for attribution of electronic sources suitable for the collegiate level. On the site there is a proposal for the creation of a forum on the issue as well as documentation on the topic of electronic plagiarism and other forms of cheating. If you are interested in the participating in the creation of such a space, please let us know in the comments section

of this report.

Within the Information Technology Representatives network there is an [exit profile for IT and other computer related activities for collegel level students](#). This profile indicates normal procedures to follow when citing sources. In the following months the IT Representatives will offer students (and teachers) a dynamic website focused on eithical practices related to the use of electronic sources and ways to avoid plagiarism while writing research reports.

## At the cegep and college level

### The PIEA

All Quebec cegeps and colleges have adopted an institutional policy of learning evaluation which includes a section dealing with plagiarism. More and more of these policies deal specifically with electronic plagiarism, what it is and how it can be sanctioned. This information is related to the [CEST-Jeunesse](#) article which indicates that the incidence of electronic plagiarism cannot decrease without the institution of rigorous and clear rules and sanctions.

### A focus group on electronic plagiarism?

According to a survey of collegiate IT Respondents done in December 2006, several schools have already struck working committees to study the problem of electronically assisted plagiarism. Generally, these committees contain teachers, students, administrators and professionals and their mandate is to identify strategies to promote awareness and to react to electronically assisted plagiarism and cheating. One assumes that the work of these committees will contribute to a more sensitive response to this issue within the PIEAs.

### Teacher training

Like many of your colleagues, you may be less at ease with the Internet than your students. It is therefore possible that you feel inadequate faced with the task of preventing and detecting electronic plagiarism. APOP offers a training course called [The digital era and plagiarism: how to deal with the question and develop ethical student attitudes](#) (This link is to an article about this activity on the French side of Profweb). An upcoming activity outlining different types of electronic plagiarism and cheating will be offered by the author in French at the AQPC Colloquium in June 2007.

If you would like one of these activities in your school, contact your [IT Representative!](#)

## At the programme and course level

### The anti-plagiarism contract

An increasing number of teachers have decided to have their students sign an anti-plagiarism at the beginning of the year. The document defines plagiarism, noting that copy-past without attribution is within the



definition of the term, and it gives pointers on how to correctly cite sources. The document explains that plagiarism is not uniquely a question of copyright but rather an issue of intellectual honesty. It continues making the point that plagiarism can impede learning and prevent the acquisition of proper research and writing techniques. The contract can define punishment for plagiarism as well. This document insures that all students understand what electronic plagiarism and cheating is and the simple act of signing such a contract can discourage those who would otherwise be tempted to resort to such activities.

### Tips for teachers to discourage electronic cheating in student research

Vary your questions – As with research, if you give the same exam year after year, there is an excellent chance that your students will have a copy.

### Tips for Examinations

- Favor class evaluations over take home exams – Frequent in-class evaluation, either summative or formative, forces students to stay up to date.
- Vary exam questions within each group – Software like [Netquiz Pro](#) or [Exam Studio](#) allow you to create different versions of exams by varying the order of the questions.
- Limit the time allowed for on-line exams – Determine a maximum time for the test. In [DECclicExamStudio](#) has this feature.
- If the exam is given in a computer lab or class:
  - Alert students to the importance of protecting their user name and password when they leave their workstation.
  - Make sure screens are easy to monitor – If the exam is in a lab, work with your college to arrange computers so as to minimize visibility from unit to unit for example in a horseshoe pattern.
  - Insure units are not WiFi enabled.
  - Make log-ins with passwords a requirement.
  - Forbid the use of cellphones.
  - Monitor USB key memory use – We all are familiar with these small finger-like gadgets that hold a wealth of information. IT\_Reps know they can be quickly inserted and retracted!
- Be curious – Asking questions about methodology, sources of information and conclusions is a powerful dissuasion.
- Be cagey about your ability on the computer – Tell students that you can easily verify the origin of plagiarism on the Internet without going into details.
- Verify student process – A complex work can be evaluated progressively. Work in stages permits

effectively targeted correction while verifying that the methodology required for the assignment is being respected. This staging puts the emphasis on learning (and intellectual development) rather than on results (and grades). Plagiarized work is difficult to use in such a fragmented process because it is complete.

- Require personal input – Insisting on examples from personal experience complicates the use of third party material.
- Propose precise and practical research – Research assignments that have limited scope and precise objectives are difficult to find on the Web. Establish precise objectives requiring personal observation and opinion as well as comparisons of results.
- Vary research and laboratory subjects – If you have not changed an assignment over several years (such as a report on Margaret Atwood or the same laboratory experiment), there's a good chance that good examples of what to do are available in cyberspace and elsewhere as well. A rotation of assignments makes plagiarism more difficult because they cannot predict which material needs to be accessed.
- Make an interview template – If an interview is a course requirement, make a template mandatory as well as contact information of all participants.
- Insist on a complete bibliography as well as complete source information for all quotes – Ask students to prepare a bibliography or mediagraphy. Require a copy of all texts used in reports with relevant passages underlined.
- Make an integrity clause obligatory – Insist on a signed statement such as: 'I attest that this work is my own and that all work of others has been indicated as such with sources cited.' Although similar to the anti-plagiarism contract discussed above, it is directly linked to the specific assignment.
- Make an oral explanation a part of the assignment – Students who have done their own work will be better able to explain it than those who resorted to copy-paste.

## Detection

You are evaluating an extremely well-written research paper. Is it too well written to be the work of your student? This section gives you simple and effective tips to help you confirm or eliminate your suspicions. Afterwards, it will present an option used by American, Canadian and European universities, namely plagiarism-detecting software.

## Tips

- Evaluate style changes – Compare the style of the paper in question with other written work (e-mails, exams, exercises) already submitted by the student. One can anticipate more care being put into a major work which is probably the result of several revisions, but too great a difference could indicate

outside input.

- Look for copy-paste markers – The absence of logical transitions from one paragraph to another or abrupt changes in style within the same text could be indicators of telltale stylistic overlap when the work of one writer meets that of another.
- Verify enriched bibliographies – The work contains abundant, pertinent references that are unavailable at the library. The student should be able to provide the sources where these sources are available.
- Question page layout variation – An integrally written text has the same formatting unless there is a valid reason to change. Blocks of text with different fonts, spacing or margins are the smoking gun of copy-paste plagiarism indicating Internet origins with different layouts.
- Inaccurate references to graphics or tables – A text which refers to a table that does not appear in the work or figures with numbering out of sequence are also strong indicators of plagiarized text.
- Inactive Websites in the mediagraphy - Websites become out of date and are removed from the web or change address, but an abnormal amount of unavailable sites in the mediagraphy are a sign of text written in the past.
- Submit extracts of the work to a search engine like Google – Even if you do not use a computer regularly, learn to check for plagiarism in less than two minutes using a search engine. To search for a site with words in the same order as your text, enclose it in quotation marks. Remember that this method is not foolproof. Search engines do not have access to sites that sell student work or password protected pages. If there are two spaces between words instead of one, the search engine can fail to recognize the source of the text.

## Plagiarism-detecting software

- The software will compare work against the following material.
  - The Internet.
  - Student work in electronic format on the server of the service provider.
  - On-line publications and magazines which are generally not indexed by Google because of their controlled access or their limitation to only subscribers.
- The software will then generate a report containing an ‘originality rate’ for each submitted work as well as a combined score for the group. Plagiarized work is underlined and sources are indicated.

For several years, a growing number of academic institutions have turned to plagiarism-detecting software which compares student work with a data base maintained by the service provider.

Even if there are ethical questions raised around this popular tool in the fight against plagiarism (see the

discussion of this issue in the [CEST-Jeunesse](#) report), its small but critical difference is that abovementioned database.

Among service providers for this type of software, one of the most reputable is [Turnitin](#). Service fees include an US \$800 annual license as well as a US\$1.50 per student charge. In a video broadcast on the Fox network and now available on the web, one can hear [an instructor's endorsement](#) of Turnitin software through his own concrete experience using the product.

Turnitin has many competitors. A cegep or college faces a difficult choice when purchasing this type of service. The [Thot site](#) names several French and English options. Bergadaà suggests [10 questions to select the right anti-plagiarism software](#). The characteristics evaluated include ease of operation, software efficiency and operating time among others.

How does one act on this report?

As we have seen, electronic plagiarism and cheating is an extremely current issue which is legitimately the object of concern. Luckily, there are a several ways to deal with it, one being to make students aware of the principle of intellectual honesty which is at its core, as well as to insure awareness of plagiarism's consequences. This report also contains practical tips to reduce electronic plagiarism and cheating, at the ministerial level and the collegiate level as well as the programme and course level.

Once again, please share your opinions and experiences about electronic plagiarism and cheating in the discussion space below or in Profweb's comments section.

## Useful References

### Additional French Material

#### ■ *Internet : Fraude et déontologie selon les acteurs universitaires*

This Website conceived by Michelle Bergadaà, a professor at Université de Genève, contains accounts of students who have cheated electronically and teachers who have had to deal with them. It proposes a slide show to use during activities to combat electronic plagiarism as well as tips to prevent and detect it. It also contains criteria for selecting anti-plagiarism software. This is an extremely rich and useful resource.

#### ■ *Le pl@giat électronique dans les travaux scolaires – une pratique qui soulève des questions éthiques.*

*Commission de l'éthique de la science et de la Technologie – Avis de la CEST-Jeunesse 2005*

Science and Technology Ethics Committee – Report of CEST-Jeunesse 2005: This report was written with input from collegiate level teachers and students defines electronic plagiarism, suggests solutions and values to promote, and discusses the pros and cons of plagiarism-detecting software.

### ■ *Le plagiat universitaire*

A programme broadcast on Radio-Canada on January 8, 2007 presents results published in the Canadian Journal for Higher Education in September 2006. This study indicated that one student out of two used electronic plagiarism for written work. The programme discussed other forms of electronically assisted cheating, such as purchasing reports on-line, and proposed measures for prevention and detection. This programme can be viewed on Radio-Canada's Website for two months after the broadcast date.

### ■ [Results of a search on the Thot site using the word "plagiat"](#)

The results of this search yielded much useful information on electronic plagiarism including courses, other references and remedies.

### ■ [Comment citer un document électronique?](#)

Produced at the library of Université Laval, this reference is very thorough in explaining how to attribute various electronic documents (e-mail, Website, on-line magazines, software, etc.)

### ■ [Internet, copier-coller-tricher](#)

This site has five video clips. They deal with electronically assisted plagiarism in academic work, profile the typical Internet cheater and list anti-plagiarism measures. These videos can be used in workshops and courses dealing with this problem.

## Additional English Material

### Quizzing and Testing

- [Grading Homework and Quizzing on the Web](#) - What to look for when selecting online quizzing packages.
- [Quizzing, Testing, and Homework on the Internet](#) - Performing assessments online

### Academic Honesty issues for online teaching and learning

- [Academic Honesty in Online Education](#), by Virgil Varvel
  - [Strategies to Minimize Cheating Online](#) - Strategies to minimize a student's temptation to cheat.
  - [Curbing Academic Dishonesty in Online Courses](#), by Mike McNett - How can you be sure that the person taking the test is actually your student? And that they are acting alone, without the book?
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## Resources suggested by the author

- Examples of the state of plagiarism: "*Le plagiat*" report produced by Infosphère. [www.bibliotheques.uqam.ca/plagiat](http://www.bibliotheques.uqam.ca/plagiat) [on line]. Page consulted November 29, 2006;
- Science and Technology Ethics Committee – *avis de la CEST-Jeunesse 2005. "Le plagiat électronique dans les travaux scolaires – une pratique qui soulève des questions éthiques"*. Report adopted June 14, 2005.
- Bergadaà, M. *Internet : fraude et déontologie selon les enseignants universitaires*. <http://responsable.unige.ch/index.php> [on line]. Site consulted - November 29, 2006.
- Réseau Éducation-Médias. *Comment décourager le plagiat*. [on line]. Page consulted – December 28, 2006. Faculté des Sciences de l'administration de l'Université Laval.
- *Trucs et stratégies à l'intention de l'enseignant pour la prévention du plagiat*. [on line]. Site consulted January 1, 2007.
- *Le plagiat, comment le prévenir*. In *Université de Sherbrooke, Le Trait d'Union*. [www.usherbrooke.ca/ssf/tu/vol\\_5/no\\_2/plagiat.html](http://www.usherbrooke.ca/ssf/tu/vol_5/no_2/plagiat.html). [on line]. Page consulted December 27, 2006.
- Thot/Cursus. *Comment limiter la tricherie dans les examens en ligne* – by the University of Illinois. [;thot.cursus.edu/rubrique.asp](http://thot.cursus.edu/rubrique.asp). [on line]. Page consulted November 10, 2006.
- *Saut quantique. Dossier Tricherie sur Internet*. [www.apsq.org/sautquantique/doss/d-tricherie.html](http://www.apsq.org/sautquantique/doss/d-tricherie.html). [on line]. Page consulted January 4, 2007.