

RESEARCH: AT THE VERY HEART OF COLLEGE NETWORK DEVELOPMENT*

* Traduction: Jim Ross, revision: Susanne de Lotbinière-Harwood.

What are the historical milestones that enable us to understand the development of college research? What role did linking establishments into a network play in this development? What about the initiatives of researchers themselves? Such are the questions we want to address in this article.

THE DEVELOPMENT OF COLLEGE RESEARCH AND ITS BUILDERS

AN EXCITING BEGINNING

Québec created 34 CEGEPs between 1967 and 1969. This being a new teaching order, with no existing equivalent and no tradition, it had no other choice but to define and invent itself. All those involved in founding the new CEGEPs were convinced of the need to experiment and even to invent new pedagogical approaches. So, in 1968, at least seven CEGEPs and one private college implemented research and experimentation, recruited research and experimentation consultants, created educational documentation centres, promoted animation and pedagogical development, etc.

The 40-year anniversary of CEGEPs is also the 40th anniversary of college research and development.

In recent celebrations to mark this anniversary, very little was said about the proliferation of schools of thought that permeated the educational milieu and society back then. In the 1960s and the beginning of the 1970s, there was an abundance of new theories, new models and ideological trends that originated from all over and fuelled reflection, debate and teaching: the general rejection



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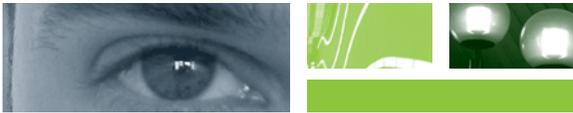
of authority, the theories of Carl Rogers on non-directivity and the importance of student-centred learning, the “liberal” views on education of Alexander S. Neill presented in the famous *Summerhill: A Radical Approach to Child Rearing*, the Rousseauist thinking of Ivan Illich that questioned the role of the school, the idea of a “school without walls”, the importance of autonomy and self-direction, etc. Not to mention a 1971 report of the *Conseil supérieur de l'éducation* which rejected what it called the “mechanistic concept” of education and favoured a more “organic concept”, one that is more focused on the student, on learning and on basic education. These different currents took on a variety of forms of expression within different establishments. In those days, in almost all colleges, one or more pedagogical experiments were taking place, some of them quite avant-garde. This abundance of projects illustrates the fact that even before the advent of research funding, major studies were already being completed using the colleges’ internal resources.

INITIAL RECOGNITION

In 1972, the *Ministère de l'Éducation* made available to college researchers a program of funding for research and development called PROSURE. In the wake of new support services for pedagogical research and development, this backing helped research to expand very quickly resulting in the gradual emanation of a veritable body of knowledge and useful repercussions.

At the end of the 1970s, when CEGEPs had been around for 10 years, they were subject to a number of evaluations and an exhaustive assessment of college research preceded the preparation for the white paper (*Ministère de l'Éducation*, 1978) which detailed the Québec government’s intentions with regard to the college network. Out of this assessment came a strong appreciation for the quality of the research, as well as for its relevance and impact. Also, when in 1980 the Québec government identified CEGEPs as research players in its scientific policy, it was on the basis of work already carried out by college researchers, that those who held this position, notably Camille Laurin, defended this view. Among others, they referred to Pierre Désautels, a Physics teacher at Collège de Rosemont and to his work on formal thought as well as to the prolific research projects of Fernand Landy and his colleagues at Cégep de La Pocatière’s *Département de technologie physique*, such as the famous magnetic retention system for hockey nets and other experiments conducted on fibre optics.

Obviously, this recognition and the resulting creation of funding programs led to the development of other types of researchers. For example, they enabled Michel Perron and Suzanne Veillette to undertake their work on Steinert’s myotonic dystrophy, the starting point for ECOBES (*Groupe d'étude des conditions de vie et des besoins de la population*) at Cégep de Jonquière. Similarly, the work in Physical Technology at La Pocatière, in Metallurgy at Trois-Rivières or in Electronics at Lionel-Groulx led to the creation, in 1983, of specialized centres, now known as college centres for technology transfer (CCTT).



THE STRENGTH OF THE NETWORK

The period which followed, from 1983 to 1988, saw the development of active forces in college research. The credit goes to Bernard Morin and the founders of the *Association québécoise de pédagogie collégiale* (AQPC) for being the first to bring together researchers and practitioners in the Education field. Steeped in the network culture, this new organization was set up to promote the circulation of information on educational innovations and to disseminate the research done in colleges. Professional development was also undergoing rapid expansion during this period and new colleges joined the PERFORMA network. These local players began holding a major role in the distribution of pedagogical innovations and they made good use of knowledge emanating from research and the evaluation of practices being implemented in colleges. Developments in information technologies and the founding of the *Association pour les applications pédagogiques de l'ordinateur au postsecondaire* (APOP) also generated a growing interest in research and development.

The year 1985 is marked by the organization by AQPC of a major conference on research. Also, in 1987, AQPC published a pilot issue of the journal *Pédagogie collégiale*, dedicated, among other objectives, to disseminating pedagogical research and its results. It is also during this period of developing a genuine network—which explains in part the success of college research at the turn of the 1990s—that college researchers gathered to establish ARC (*Association pour la recherche au collégial*). Bruno Geslain, then Educational Advisor in Research and Development at Dawson College, invited all those interested in college research to come together, a call heard by Robert Ducharme who was himself a researcher. Together they founded ARC to support and represent college researchers as well as the people who manage and administer college-level research activities.

In the face of this mobilization of research in the college research milieu and in recognition for the quality of work conducted, in 1987 the *ministère de l'Éducation* created PAREA (*Programme d'aide à la recherche sur l'enseignement et l'apprentissage*) and PART (*Programme d'aide à la recherche technologique*), which paved the way for a very productive period.

[...] this period of developing a genuine network [...] explains in part the success of college research at the turn of the 1990s [...].

A SECOND WAVE OF APPRECIATION AND THE GOLDEN AGE OF COLLEGE RESEARCH

The year 1993 produced a second wave of appreciation for the quality of college research: Pierre Lucier, then Deputy Minister of Education, convinced Minister Lucienne Robillard that it was time to officially recognize the research that had been conducted in colleges for more than 20 years and to write it into the law governing the functioning of CEGEPs. Elsewhere, that same year saw the growth of the networking of college research by the founding of the Réseau Trans-tech designed to support CCTTs and to promote the sharing of expertise among them.

Between 1988 and 1995, thanks notably to the impetus provided by the PAREA program, the number of publications by college researchers reached its highest

level in college history. It is during this period that studies were conducted which are considered to be an essential part of a college's pedagogical life today. Works that come to mind include those of Claude Péloquin on the sequence of intellectual skills in teaching philosophy, the works of Christian Barrette and Jean-Pierre Regnault as well as those of Robert Howe and Louise Ménard on evaluation, the work of Louise Lafortune and Lise Saint-Pierre on thought and emotions in mathematics or those of Marie Soukini and Jacques Fortier on problem-based learning.

THE DESTRUCTURING OF COLLEGE RESEARCH

Despite this success, research activity fell dramatically between 1996 and 1999. To this day, the dynamism experienced at the beginning of the 1990s has still not returned. The reasons for this decline are well documented: they are associated with budget cuts resulting from the "zero deficit" objective that led to the abolition of the "*banque des 150 ETC*" that was used for release time for researchers and also to reductions in funding programs. This situation was even more difficult for researchers to accept given that they had just received outstanding recognition. Indeed, a study conducted by FCAR on the evaluation of researchers' scientific productivity (Brochu, 1996) showed that their productivity was considered to be equal to that of university researchers. In some colleges, where research enthusiasts decided to fight it out and where management was convinced that this was the wrong path, resources that had previously been reserved for college research were protected. However, in most colleges, research almost came to a standstill. At the same time, new government directives linked to the Reform which brought some improvements to college teaching, also had the



effect of taking up a major portion of the colleges' pedagogical resources. In such a context, it is easy to understand why college research was put on the back burner, despite the interest in maintaining it, especially during this period of transformation in teaching.

[...] the development of college research is closely linked to circumstances, to the development of the network and of the groups of recognized and well-organized specialists that had been established, as well as to the quality of college research itself.

TOWARDS A RENAISSANCE OF COLLEGE RESEARCH?

Since 1999, several initiatives have led to the hope that there would soon be a renaissance of college research: the funding agencies have agreed to provide resources for releasing researchers who are collaborating with university teams from their teaching duties, while the Natural Sciences and Engineering Research Council of Canada has introduced a college program, and at the same time, the *Ministère de l'Éducation, du Loisir et du Sport* and the *Ministère du Développement économique, de l'Innovation et de l'Exportation* has considerably increased the amount of funding available for college research.

In this context of openness, more and more colleges are adopting institutional policies linked to research. Because research has thus acquired an official status in some establishments, it may become a greater priority in many colleges. Furthermore, the increasing number of CCTTs raises the hope that technological research will experience strong growth in the coming years.

Also, following the benefits of applied research in the social domain, especially the studies by ECOBES on the drop-out rate, the Québec government announced the creation of three CCTTs in innovative social practices, thereby identifying colleges as potential players in social innovation research.

CONCLUSION

Clearly, the development of college research is closely linked to circumstances, to the development of the network and of the groups of recognized and well-organized specialists that had been established, as well as to the quality of college research itself.

Since the founding of CEGEPs, the work of teachers and professionals has become richer and more complex. There are of course increasing demands and there is a need to be competent in several areas; and that opens the door to more varied, stimulating and rich careers. If we succeed in gaining recognition for research as more than an accidental or exceptional element of this work, college teaching career prospects will certainly seem to be more appealing in the eyes of many.

After a slow period in college research, events of the last few years lead us to see better days ahead and to hope that the college network will mobilize its forces and rise to the challenge of innovation. ●

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MOVING ON TO RESEARCH 2.0!*

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Has funding for research and innovation in the college network evolved over the last 40 years? What has this network contributed to activity in the fields of science and technology in Québec? One of the objectives of the project on the history of college research presently being conducted by ARC (*Association pour la recherche au collégial*) is to retrace the evolution of the funding and the conditions under which research and innovation have taken place at the college level; another objective is to measure the activity in the fields of science and technology among college researchers.

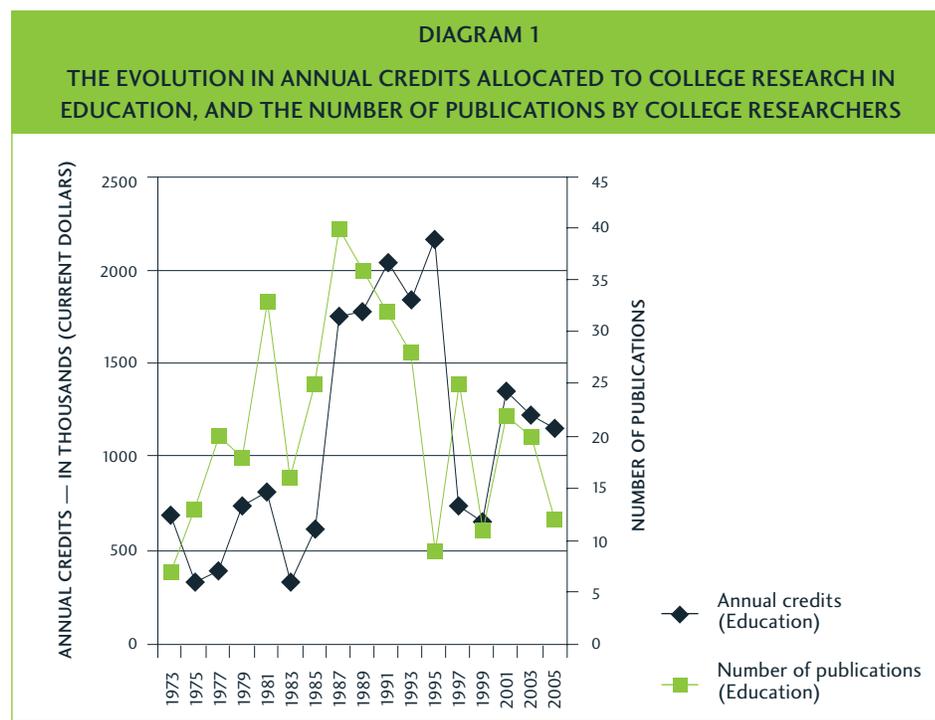
While it is relatively easy to review the data dealing with research funding – the input –, things are quite different when it comes to the output. Moreover, since the inventory taken by Gadbois and Gingras (1981) and the portrait sketched by Ducharme, Bois, Poirier and Stern (1988), the scientific and technological activity conducted in the college network has not been totally reviewed. So we undertook the task of assembling all the publications listed in existing inventories into one database; we then added the information contained in the Canadian bibliometric database developed by the *Observatoire des sciences et des technologies* at UQAM.

¹ In order to measure this type of research, where the results are often confidential because of partnerships established with private enterprises, we have based our analysis on results from projects funded by the Québec government's PART program (*Programme d'aide à la recherche technologique*), even though these are not scientific publications in the strict sense of the word.

Although still incomplete, the resulting database offers the largest overview of college research and innovation produced to this date. It lists 2,539 publications: 47% originating from technological research¹, 22% from disciplinary research, excluding educational research, and 28% from the latter. An analysis of the data collected yielded astonishing results concerning scientific and technological research. We were able to determine that our work methods, especially in the Francophone college network, can at times be archaic and is due for a cultural change. Following the lead of Web 2.0, where Internet users meet and collaborate on common platforms, should we now look forward to moving on to "Research 2.0"?

DO CREDITS EQUAL PUBLICATIONS?

A comparison of the number of annual credits issued by the Québec government for college research in education with the number of scientific publications written by college researchers provides interesting results (Diagram 1). At first glance, there seems to be a certain correlation between the two with the overall number of publications seeming to correspond to the curve of credits. However, further analysis reveals that funding is not the only factor affecting the variation



Sources : Ministère de l'Éducation, du Loisir et du Sport, Observatoire des sciences et des technologies, Association pour la recherche au collégial, Fonds pour les chercheurs et l'aide à la recherche, and Institut de la statistique du Québec



in the number of publications. The number of publications peaked in 1987, just before the period when credits reached their highest level, that is, between 1990 and 1995. Furthermore, there was considerable growth in the years following a mobilization in the areas of pedagogy and research: 1980, the year the *Association québécoise de pédagogie collégiale* (AQPC) was founded; 1982, the year the *Association pour les applications pédagogiques de l'ordinateur au postsecondaire* (APOP) was founded; 1985, the year AQPC held a symposium on research; 1987, the year the *Fédération des cégeps* also held a symposium on research; and 1988, the year ARC was founded. By contrast, the number of publications declined dramatically after 1993, which coincides with the start of the reform in college education, a mission to which the network devoted much of its resources.

INDIVIDUAL OR TEAM RESEARCH?

The advantages of team research are well known and well documented. Teamwork allows for interdisciplinary research, the study of problems in both practical and scholarly environments, the sharing of expertise, a high level of specialization and, finally, the distribution of research results within the discipline as well as throughout the collaborating social networks. According to Gibbons, Limoges, Nowotny, Schwartzman, Scott and Trow (1994), this way of generating knowledge began on an international scale after World War II. It brought the growing number of research teams into conflict with individual researchers whose numbers were in decline. With regard to technological research in college education, almost all the work is done in teams. Given that this type of research almost always involves a partnership, it is very rare to find an isolated researcher. Therefore, in matters of scientific research, when research in education is compared to research in other disciplines, the result is quite surprising. In fact, when educational research is excluded, college research is increasingly done in teams (Table 1). The opposite is true for projects in the education field, where the work is generally done independently and the percentage of studies completed in this way remained basically unchanged from 1972 to 2005. Finally, this type of research continues to be done for the most part in an independent manner, which is somewhat perplexing given the trend observed on an international scale.

results, we have schematized the collaborations between colleges and universities using data from the Canadian bibliometric database (Diagram 2).

[...] a striking conclusion becomes evident: inter-order collaborations are much more frequent in the Anglophone community!

When we exclude single collaborations (those with only one research team) in order to simplify the diagram, a striking conclusion becomes evident: inter-order collaborations are much more frequent in the Anglophone community! Cégep de Sherbrooke, the Francophone college with the most collaborations with universities, has 14 collaborations; the college teaching establishment with the most collaborations is the *Institut de technologie agroalimentaire*, which has 33 collaborations. On the Anglophone side, the situation is quite different: Vanier College reaches 65 collaborations and John Abbott College, 46. The Anglophone college with the most collaborations is Dawson College, with 192 collaborations! There is a major gap between the Francophone and Anglophone networks, and such a gap should be of concern to all those involved in college research.

Even when taking external factors into consideration, such as the existence of more distribution options in English than in French, it is still obvious that the Anglophone section of the college network has achieved a better penetration of the research network. To some extent, the French section of college research is conducted on the margins of this system. Could it be that cultural differences, for example the imposing number of Anglophone teaching personnel with a postgraduate degree, play a role in this respect?

TABLE 1 METHOD OF KNOWLEDGE PRODUCTION BY COLLEGE RESEARCHERS FROM 1972 TO 2005

	RESEARCH IN EDUCATION		RESEARCH IN OTHER DISCIPLINES	
	Independent research	Team research	Independent research	Team research
1972-1981	62.0%	38.0%	70.3%	29.7%
1982-1987	61.6%	38.4%	52.6%	47.4%
1988-1995	58.7%	41.3%	40.7%	59.3%
1996-2005	60.9%	39.1%	33.9%	66.1%

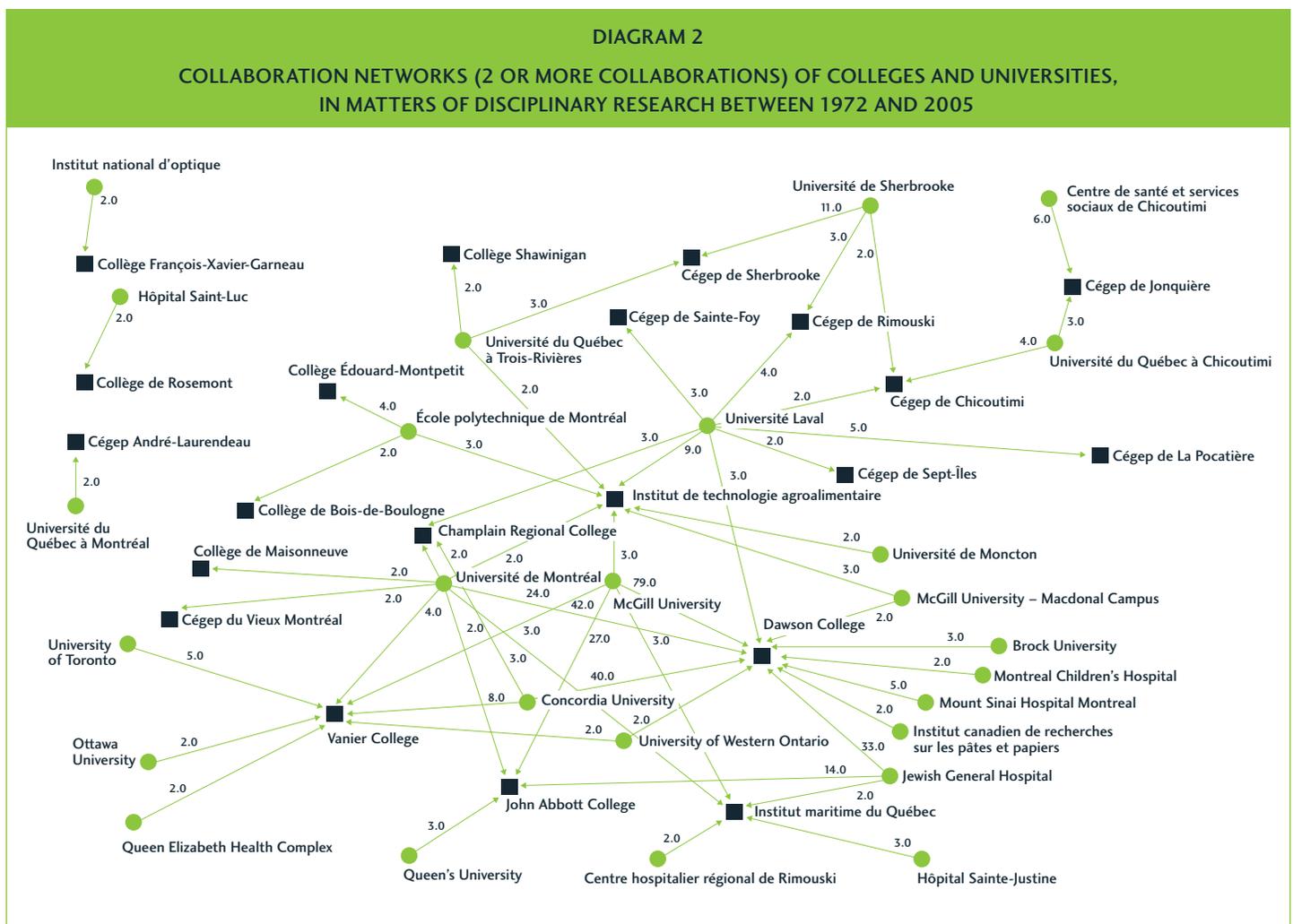
INTER-ORDER OR INTRA-ORDER COLLABORATION?

The study of collaboration networks among establishments linked to higher education is another dimension that yields surprising results. In an effort to clearly present these



When it comes to research in education, a study of the collaboration networks among the single order of college-teaching establishments is quite revealing (Diagram 3). Putting aside the small numbers involved – and keeping in mind that research in education is primarily done by individual researchers in this teaching order – we were struck by the isolation of the private college network

in comparison to CEGEPs or government schools and the quasi-disappearance of Anglophone colleges, the very group responsible for the greatest dissemination over the college network. Here again we note, without being able to explain why, the presence of barriers to research and development that consequently impede colleges' capacity for innovation.

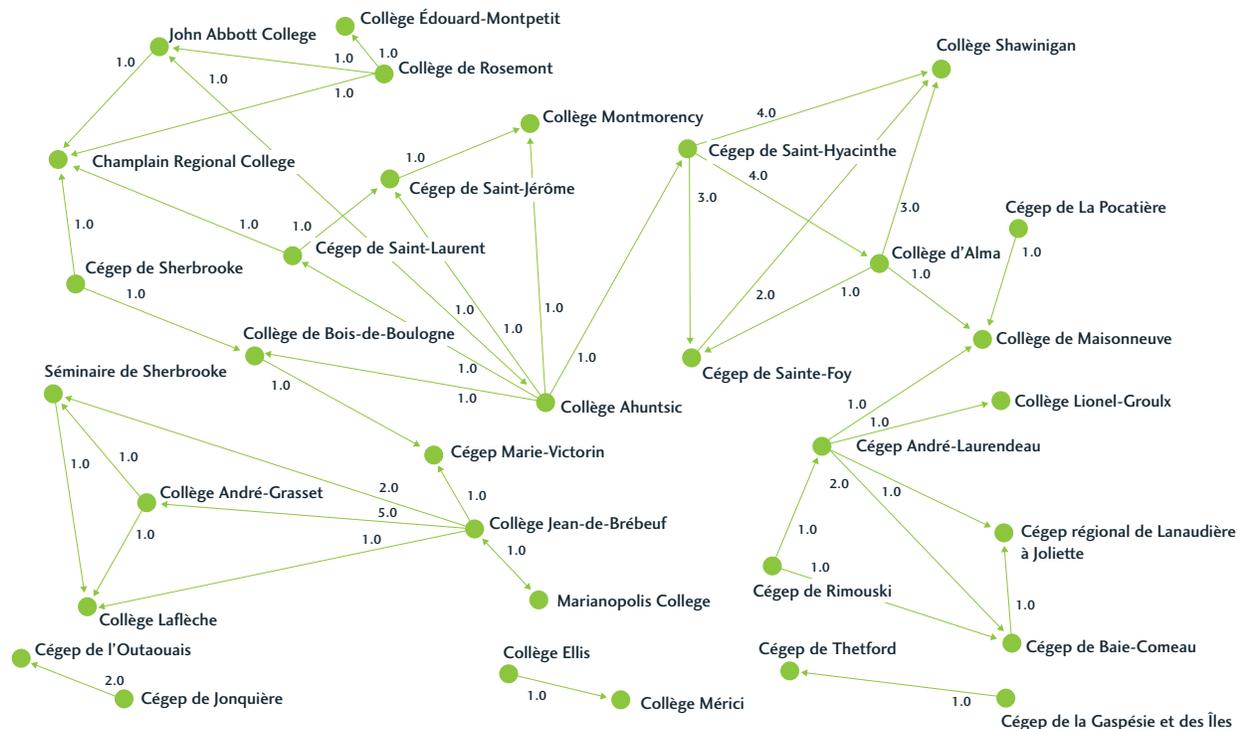


Source: *Observatoire des sciences et des technologies*



DIAGRAM 3

COLLABORATION NETWORKS BETWEEN ESTABLISHMENTS WITHIN THE COLLEGE NETWORK,
IN MATTERS OF RESEARCH IN EDUCATION, FOR THE PERIOD FROM 1972 TO 2005



Sources : Ministère de l'Éducation du Québec, Association pour la recherche au collégial and Observatoire des sciences et des technologies

CONCLUSION

By means of its history of college research project, the aim of ARC is to retrace the evolution of the financing and the conditions for carrying out college research and innovation as well as to measure the scientific and technological activity of college researchers.

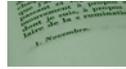
First finding: credits allocated to research are not the only determining factor for the number of research publications.

Second finding: the majority of research projects in education is done by individuals .

Third finding: there is a considerable difference in the number of collaborations according to the field of research, and this applies whether the discipline is in the field of educational sciences or not.

These findings are so astonishing that they speak volumes. In order for college research to maintain its level of activity, or indeed to increase it, these activities

must not only be funded but they must also be supported by a dynamic environment committed to developing its scientific and technological culture. In addition to this, with current research and innovation activities being carried out mainly in teams – an international trend – it seems essential that all those involved in higher education in Québec, including those funding the activities, get behind this method of producing knowledge. Finally, aware of the constantly growing importance of research ethics, we cannot overemphasize the need to make those who wish to share



the results of their work², through scientific or popular publications, aware of available resources, both in French and in English. We also want to highlight the importance of disseminating research results, and thereby increasing their impact, through closer collaboration with organizations that specialize in this area such as PERFORMA (*Perfectionnement et formation des maîtres au collégial, Université de Sherbrooke*) and the *Collegial Centre for Educational Materials Development (CCDMD)*. ◆

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² Let us mention the existence of the Québec government's PSCCC program (*Programme de Soutien aux chercheurs et aux chercheuses du collégial*) which is designed to promote the dissemination, in the national or international scientific community, of work done by researchers in college teaching establishments. This program consists of two parts: the publication of research projects and the communication of research results. In addition, ARC has implemented a coaching program whereby an ARC member who has successfully completed a research task, for example someone who knows about communicating the results in question, can guide another member who has little experience in such matters.

THE EVOLVING ROLE OF “EDUCATIONAL ADVISOR IN RESEARCH”*

The role of “educational advisor in research” has evolved over time due to the various profiles and interests of those working in the network, as well as to the socio-economic context of the last 40 years and to the general growth of CEGEPs. This role is difficult to demarcate because it is influenced by many internal and external forces that vary from one establishment to another.

Only a few years ago, in her research report on the role of the educational advisor, Lise St-Pierre (2005) divided the evolution of this role into three periods. More precisely with regard to support for research, while maintaining these divisions, today we must add a fourth period. In fact, we are presently experiencing an effervescence not in research itself, but rather in the implementation of means which aim to develop a culture of research in colleges. Here then is a four-phase overview of the role of the educational advisor in research.

THE BEGINNINGS

As early as 1964, *The Parent Report* foresaw the importance of “preparing new programs of study inspired by experiments and research taking place elsewhere” (*Commission royale d’enquête sur l’enseignement dans la province de Québec*, 1965, p. 370), thereby requiring that programs and teaching be renewed in light of relevant innovations and research. The Commission encouraged universities to develop programs that would allow teachers to pursue their training and conduct research, given that “they will soon be outdated and left behind if they do not keep abreast of the progress of knowledge in their discipline and in the sciences of education” (*Ibid.*, p.306). *The Parent Report* also proposed the creation of a new function, that of the educational advisor.

In the early years of CEGEPs, the term “educational advisor in research” was seldom mentioned in the network, and when it was used, it did not necessarily refer to people whose exclusive role was to support research. These specialists were expected to take care of teacher training, to animate the college environment, and to generate and support the carrying out of innovative projects. The very definition of “research” in this particular pioneering context comes closer to those of “creation” and “innovation” in pedagogical terms — because this is where the most work is still required. However, we should not think that there was no “classical” or disciplinary research being conducted in CEGEPs in the 1970s. As mentioned by Guy Denis, a researcher and one of the first educational advisors at Cégep de Sherbrooke,

the very existence of colleges represents a willingness on the part of society to set itself apart from the traditional educational system in existence up until then. Moreover, simultaneous major advances in the Humanities and Social Sciences have enjoyed a significant development, opening new research avenues, particularly through the growth of qualitative research and action research which clearly became preferred methodologies. In colleges, therefore, new ways of understanding, analyzing and learning are being discovered, in some cases from actual practice.

Gradually, educational advisors who were associated with research, whatever their titles were at the time, became responsible for coordinating research and trying out new pedagogical methods, including those calling for new teaching technologies. We are referring here to audiovisual techniques, since the computer had not yet permeated the education field. Suddenly, research and pedagogical experiments, which aimed to develop a global approach for intervening with students, were undertaken by teaching teams and educational advisors, notably at Cégep Lionel-Groulx and Cégep de Sherbrooke. In 1972, the latter’s initiative led to the creation of the PERFORMA program¹. From 1972 to 1980, the PERFORMA network spread quickly through the college network, generating numerous research projects and, in return, reaping the results of this research. During this same period, over 800 research projects were conducted thanks to the new funding programs of the *Ministère de l’Éducation* (Gadbois et Gingras, 1981). Many of these projects received the support and advice of educational advisors, as much in advance (funding application, definition of research problem, etc.) as later (methodological support, budget follow-up, etc.).

* This article was written with the valuable collaboration of Guy Denis and Solange Ducharme, retired educational advisors from Cégep de Sherbrooke, and of Bruno Geslain, coordinator of the *Entente Canada-Québec* for the college-teaching sector and educational advisor at Dawson College from 1984 to 2005.

¹ Back then, the PERFORMA (*Perfectionnement et formation des maîtres*) program was a certificate program at the *Université de Sherbrooke* with the aim of providing CEGEP teachers with pedagogical training. The courses were generally given in the CEGEPs themselves, most often by an educational advisor.



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During these years, a good part of the work of educational advisors consisted further in disseminating the results of these various projects as well as those of scientific research beneficial to education (such as Bloom's taxonomy or objective-based pedagogy) during professional improvement sessions. As stated by Solange Ducharme, a long-time educational advisor at Cégep de Sherbrooke, «We were often used as transfer tools.»²

With the 1980s the role of supporting the development of didactic material was added to that of supporting research and innovation [...].

The role of educational advisor in research was the focus of a study published in 1975 (Lévesque, 1975) the purpose of which was to describe the situation and to analyze the relevance of this function. The report of this study clarified the tasks relating to the position and concluded that included among the tasks of pedagogical animation, pedagogical consultation and teacher training were also tasks related to providing information and support for pedagogical research and development activities (Houle and Pratte, 2007).

THE GOOD TIMES

In 1980, the *Commission des conseillers en recherche et en expérimentation*, which had provided educational advisors with a place for important exchanges, disbanded under the threat of being abolished by the *Fédération des cégeps*.

Responding to the call sent out by Bernard Morin, its members created the *Association québécoise de pédagogie collégiale* (AQPC) which became the first organization to bring college researchers together. Its annual symposium is the ideal place for creating a network, disseminating the results of experiments and exchanging ideas. Since 1987, the AQPC has published a magazine called *Pédagogie collégiale* which has become a vehicle for communicating the results of pedagogical research.

In 1982, in an effort to complement existing research funding programs, the *Fonds pour la formation de chercheurs et l'aide à la recherche* (FCAR) created a new initiative called the *Programme d'aide aux chercheurs de collège ou sans affiliation institutionnelle reconnue* (ACSAIR). This program opened the door to disciplinary research and had an impact on the work of educational advisors who were now called upon to advise researchers in a variety of fields of research. Additionally, the creation in 1987 of the *Programme d'aide à la recherche sur l'éducation et l'apprentissage* (PAREA) and the *Programme d'aide à la recherche technologique* (PART) resulted in a considerable increase in the number of projects requiring support. To top it off, with regard to technological research, the limited number of specialized centres (CCTTs) meant that a significant number of projects came from teachers who did not receive support from such a centre. So, educational advisors in research were called upon to support a new research field, one that was very different from their initial training. As a result, the activity of educational advisor in research became considerably diversified. During this period, in colleges that were most actively involved in research, some educational advisors began working on more technical aspects, such as methodology. As stated by Bruno Geslain, an educational advisor who lived through the intense period of development in research at Dawson College in the 1980s, "Having spent a lot of time with researchers, I learned to support them in all facets of their work."³

With the advent of the 1980s, in collaboration with the *Centre collégial de développement de matériel didactique* (CCDMD), the role of supporting the development of didactic material was added to that of supporting research and innovation. There were years when this task occupied a large amount of the educational advisor's time. According to Bruno Geslain:

The definition of research at Dawson at the time was quite flexible and included the production of didactic material. It was only later, following the works of Robert Ducharme, that the concept of research defined as work and studies whose end objective is to increase knowledge or its practical application became widespread in the college network.⁴

Similarly, some educational advisors who were associated with research while at the same time being local representatives of PERFORMA, were given the additional tasks of following up and transferring results, and even the carrying out of *Groupe de recherche-action* (GRA) projects.

² Comments collected by Sylvie Bessette, February 2009.

³ Comments collected in the framework of the ARC's History of Research Project, October 2007.

⁴ *Ibid.*



Keeping in mind the major development of research supported by educational advisors during these good years, it is not surprising that many of these advisors were involved in founding the *Association pour la recherche au collégial* (ARC) in 1988.

THE DIFFICULT YEARS

Colleges in the 1980s were marked by a computer revolution that met education head on, by The Reform of college teaching and by a major economic crisis that led colleges to eliminate resources intended for the provision of release time for researchers. Educational advisors, who were at that point mainly involved in the development and evaluation of programs of study, saw their tasks associated with research begin a gradual decline due to lack of time... and lack of researchers, despite the fact that a lot of work remained to be done for developing, testing and validating new approaches as well as new strategies in teaching and evaluation.

In the college network it is rare to find educational advisors who are able to devote all their energy to the development of research. In fact their role, whether associated with research or not, was transformed during this period. The arrival of The Reform of college teaching and the development of competency-based programs, a new approach, meant that educational advisors were the first ones to be trained in order to be in a position to support teachers in the process of developing new competency-based programs. The new set of processes surrounding the competency-based approach became a priority for educational advisors. Also, the advent of the *Commission d'évaluation de l'enseignement collégial* (CEEC), without the benefit of added resources to meet its demands, had a direct impact on the amount of time that educational advisors could henceforth devote to supporting teachers in research. In spite of this context, several PAREA projects, which helped energize the milieu, were supported by educational advisors.

CURRENT CHALLENGES FACING EDUCATIONAL ADVISORS IN RESEARCH

In a recent survey conducted on educational advisors, college administrators and teachers pertaining to the function of the educational advisor in college, Houle and Pratte confirm that it is "rare⁵ to find [educational advisors] who are supporting research activities, as hardly 13% of them are researchers themselves" (Houle et Pratte, 2007, p. 78). Furthermore, only 36% of administrators believe that this activity is relevant to the role of an educational advisor.

Yet, in the last two or three years, it is educational advisors who have been called upon to draft the policies on research and the grant applications that will allow colleges to obtain financial support from funding organizations that are gradually opening their programs to colleges. College administration also entrusts them with the mandate to promote research among teachers and professionals and to assist them in drafting the funding requests, as well as in managing their time and their grants. In this context, since 2000 the role of educational advisor in research has consisted in establishing research even more solidly in CEGEPs, especially research in teaching and disciplinary research, while technological research has been mainly conducted in CCTTs.

⁵ The Houle and Pratte table shows 30%.

This role has, however, become increasingly bound up with the administration of research. In this situation, educational advisors must have a good knowledge of existing programs, both internal and external, and they must be involved with information activities as well as relevant training in order to be able to effectively guide those they assist. This support function involves having a good knowledge of the available network resources, the literature and what is happening in the milieu. Moreover, educational advisors often use animation activities in the milieu to let people know about the available resources and the results of research conducted in their CEGEP or elsewhere.

[...] the role of educational advisor in research consists in establishing research even more solidly in CEGEPs, especially research in teaching and disciplinary research... [...].

In the last few years, colleges seem to be displaying a renewed interest in research. Several factors account for this change: notably the efforts of the ARC which are apparent on all fronts, and those of the Association of Canadian Community Colleges (ACCC) that is also working to see that the value of research conducted in Canadian colleges is recognized. In this new generation of college administrators, the strong presence of researchers and educational advisors who were previously associated with research may also play a role in this return to research... The admissibility criteria of the Natural Sciences and Engineering Research Council of Canada (NSERC) also constitutes an important factor in the context of promoting increased interest in research, since these criteria help to open the door to disciplinary research, and this, within a political context that is favourable to



college research. Moreover, it is also within this context that during the process of defining their institutional research programs, establishments will need to put all their research “power” to work: whether through assumed leadership, advisors to support researchers and, of course... researchers. This way, research will gradually become an integral part of college business, rather than the affair of a handful of isolated researchers, and it will require an even more coordinated effort. The challenges facing educational advisors in the matter of supporting of research are also expected to grow. In fact, the repercussions of The Reform at the college level demand even more of advisors’ time and they are obviously priority issues for college administrators.

In addition, the renewal of the teaching corps is a process that requires ongoing support for newcomers. What is more, pedagogical services in colleges are currently seeing the resignations of many experienced educational advisors, either to become administrators or to retire. Given the fact that they have devoted so much of their time to other tasks considered to be more important for almost 15 years, few educational advisors who are currently active have developed expertise in supporting researchers. At the same time, as a function of a variety of college practices, they are expected to have concrete expertise in the field of research itself in terms of designing, carrying out and writing up projects in order to respond adequately to the demands of funding organizations. And, they are also expected to provide the administrative follow-up and even, in certain cases, the scientific follow-up on research projects in order to help researchers write the progress reports which are essential for ensuring ongoing funding.

In this specific context, a new generation of educational advisors in research is

emerging with duties and functions that differ from those of their predecessors. The tasks associated with the administration of research and the research fields in which they must intervene have greatly evolved. Given these conditions, there is a great need for support and training.

In this specific context, a new generation of educational advisors in research is emerging with duties and functions that differ from those of their predecessors.

The ARC plays a crucial role with regard to the support and training of educational advisors associated with research. For example, this organization was responsible for the virtual exchanges which took place last winter on the writing of grant proposals for programs offered by Canadian funding agencies. More virtual exchanges are planned in the near future to allow advisors to discuss various ways of generating teacher interest in research and to explore the topic of managing research grants.

CONCLUSION

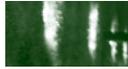
Educational advisors occupy a central position which affords them a global view of the various programs of study and of the disciplinary and pedagogical work undertaken by teachers. On the one hand, this position allows them to foresee an establishment’s research potential. On the other hand in addition to providing advisors with an opportunity to promote cross-disciplinary networking, it also allows them to contribute to the valorization of doing research. In this respect, educational advisors must be attentive to the needs and expertise of the personnel in college institutions in order to encourage research initiatives and to effectively disseminate the fruits of this labour.

In the present context, the central position played by educational advisors in research will also allow them to work on developing new, promising paths for college research, particularly in matters of inter-collegial or inter-order research, and also to work on involving students in research work.

This global view of educational advisors in research means that they will also be called upon to play an increasingly important role in the implementation of the institutional policies on research that they helped to develop, especially with regard to the ethical issues involved in doing research. Since they are probably the ones who will most closely follow the works of the researchers that they support, they will also probably be the first to detect potential ethical deviations in research projects or possible pitfalls that policies or research ethics committees could pose for researchers. In this respect, the competencies, professional rigour and ethical sense of educational advisors in research will be determining factors. ◀

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THE IMPACT OF COLLEGE CENTRES FOR THE TRANSFER OF TECHNOLOGY ON COLLEGE TRAINING*

AN HISTORICAL

College centres for the transfer of technologies, or CCTTs, are organizations recognized by the MELS (*ministère de l'Éducation, du Loisir et du Sport*) that fall under the responsibility of various colleges or of partnerships between colleges. Most of these centres are set up as non-profit organizations to which the colleges have entrusted their management. Present in all key sectors of Quebec's economy, CCTTs rely on the expertise of college personnel in matters of research, technology transfers and training in order to offer greater technical development opportunities for a number of Quebec companies and organizations. In return, the centres help to keep up to date the teachers' expertise, the college training dispensed and the specialized equipment required for some programs. Through their activities in applied research and its transfer and also due to their proximity to the environments from which they originated, CCTTs also offer students the opportunity to be involved in innovative projects.

All in all, CCTTs have a dynamic effect both on the regions and on the teaching establishments with which they are affiliated.

* This article was written with the collaboration of Sébastien Piché.



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At the beginning of 2009, the college network counted a total of 40 CCTTs serving nearly all regions of Quebec. Of these 40 centres, 39 are affiliated with CEGEPs while one is affiliated with a private college. Much like the research and economic development missions of CEGEPs in general, CCTTs are a relatively young network: the oldest centres were opened about 25 years ago and nearly half of them have existed for less than 15 years. As a group they form the Trans-tech Network which represents them, ensures their promotion, provides administrative support and promotes the sharing of expertise among them.

CCTTs have had a positive economic impact over the years. For example, an evaluation by the National Scientific Research Institute (Trépanier, Yppersiel, Martineau and Szczepanik, 2003) concluded that:

[...] two thirds of [client companies] claim to have received as much, more or much more from CCTTs than they would usually receive from other organizations that they deal with on matters of innovation. [...] CCTTs have their greatest impact on the aspects of a company that provide the basic inputs for innovation in some way: staff competency, capacity for innovation [...], work methods. (pp. 174-175)

On the other hand, the impact of CCTTs on college education, although not excluded from the studies on CCTTs, has been much less documented and analyzed. Nevertheless, these types of evaluations were carried out in 1999-2003 and in 2004-2006 by the Quebec Government (Marchal, 2008) and these studies show the important contribution of CCTTs to college technical teaching. We will trace a brief history of the impact of CCTTs on college training and we will support this historical outline with two concrete examples from our personal experience at TransBIOTech and at the CTMP (*Centre de technologie minérale et de plasturgie*).

THE ORIGIN OF CCTTs: SPECIALIZED CENTRES AND THEIR CONNECTION TO COLLEGE EDUCATION

The first document to mention CCTTs referring to them as "specialized centres", their original name, is the government's Project for CEGEPs published in 1978. The document states that colleges no longer have the sole mandate to educate youth and adults: they are now also accorded the mission of regional development, in particular with regard to the rapid technological development occurring in Quebec. It was already apparent that the purpose of these centres should include applied research, teaching and the continuing education training of teachers. However, from the outset, their mission was intimately linked to technical training. This was confirmed in 1979 with the passing of a law allowing the creation of specialized centres. This law stipulates that "at the request of a college, the minister can grant special status to a professional teaching program that requires specific organization and support measures". (Section 17a of Statute 25).



In response to such a request from the Quebec government, the *Conseil des collèges* set up a work group on scientific research, presided over by Claude B. Simard who was then president of the *Commission de l'enseignement professionnel*. Its report, tabled in May 1980, provided an overview of college research and targeted its potential as well as the relevant college resources available. It reached the following conclusion:

For all these reasons, it is high time that colleges become very active in regional development through an industrial research endeavour in the areas of technological service and innovation in order to increase productivity for regional SMEs, the key to Quebec's development and economic independence. (Work Group on Scientific Research, 1980, pp. 46-47)

Limiting oneself to the documentation available for this period, it is easy to conclude that specialized centres were born out of a governmental desire and the ideas of educational visionaries who "imagined" the college of the future. While not taking anything away from the leadership of the day as expressed through policies and college network representatives, we should remember that the model for the specialized centre was initially developed by various departments which were performing the functions of specialized centres even before they were created, notably at the Trois-Rivières, Sainte-Foy, Lionel-Groulx and La Pocatière CEGEPs. Two colleges had already created their own centres even before the Education Minister set up a financial framework and put out a call for candidates. These are the *Centre spécialisé en technologie physique* (CSTP)¹ at La Pocatière and the *Institut d'ordinateur du Québec* at Lionel-Groulx.

It is interesting to note that, in both cases, the people who built these centres had also designed new technical training programs. The interaction between the development of companies and colleges seeking to better meet the needs of the latter were thus at once the originators of a model of services for the original community as well as of innovative training possibilities.

THE CONTRIBUTION OF THE CCTTs TO COLLEGE TEACHING

Initially, specialized centres were created to offer five types of services to their milieu: applied research, technical assistance, training, information and animation. From the start, most of the interventions of the various specialized centres dealt with the first three services.

Most of the research back then was therefore sponsored by companies hoping to improve their market position or to overcome technical difficulties. Starting in 1987, the MELS *Programme d'aide à la recherche technologique* (PART) added its financial support to technological research projects and, progressively, other research funding organizations also followed suit.

¹ Without taking anything away from the other colleges in question, the people who experienced this era all make reference to Cégep de la Pocatière and its department of Physical Technology. The teachers in this department, particularly Fernand Landry, René Beaulieu and Jean-Pierre Nérout were the true creators of the specialized centre during the 1970s. Given our limited space here, we refer the interested reader to works on this subject that will soon be published by the *Association pour la recherche au collégial* on the history of college research.

IN PRACTICE

TransBIOTech and CTMP

Established in 1999, **TransBIOTech** is born of Cégep de Lévis-Lauzon's desire to remain the leader of biotechnology in Quebec as much for its interaction with companies as for the training it offered. Teachers in the departments of Biology and Biotechnology and of Chemistry and Chemical Techniques were carrying out projects in conjunction with companies; and, the creation of a new CCTT in their field of expertise was a way to formalize their activities. By adding to this expertise the existing CEGEP scientific infrastructure with its laboratories and high-tech equipment made available to the new centre, all the components were now in place to operate a new CCTT in biotechnology.

For its part, the **CTMP** (*Centre de technologie minérale et de plasturgie inc.*) launched its activities at the Cégep de Thetford in 1984. During its early years, studies focused mainly on geology, mineral processing and the mining environment. In addition to the activities conducted in mineral technology, in 1988 the Centre began doing research and developmental work in the field of plastics and this expertise was officially recognized in 1993. From the outset, the CTMP made it a point to ensure the dissemination of technological innovations to all the teaching departments involved in order to improve the professional quality of teachers, as well as to increase links between students, the job market and industry and in this way to collaborate with the CEGEP's Continuing Education Department in order to meet the made-to-measure training needs of personnel for companies in the mineral and plastic sectors.



In 1993, applied research accounted for close to 30% of the activities of the specialized centres (Lebel, 1993, p. 10). Today, it appears that this situation prevails, since the latest CCTT evaluation report estimates that 32% of revenues generated by the centres are for products and services linked to applied research (Marchal, 2008, p. 17). The main activity in a CCTT revolves around providing technical assistance to companies, and this represents about half of the revenues for products and services. Training related to various centre partnerships (not to be confused with continuing education which the centres are not equipped to provide) represents 9% of revenues, while information and animation activities account for 3% of CCTT revenues.

However, the effects of CCTTs on college training are many and should not be evaluated on the basis of revenues generated by the centres. Since their beginnings, for teachers in programs involved with the specializations of the centres, CCTTs have become a unique platform for research and experimentation and have also enabled them to share their knowledge, to stay abreast of needs in the workplace in order to better adapt college training and to grow as professionals.

In addition, the CCTTs have been and remain very active in the pedagogical life of colleges whether it be directly through their activities or through the impact of these activities.

This contribution has long been facilitated by a release program that enabled each centre to benefit from the equivalent of two full-time teachers (FTE/Full Time Equivalent). This made it possible to maintain regular connections between departments and centres

and made it easier for teachers to participate in research projects. It should be noted that, in a majority of centres, a rotation principle had been implemented in order to allow the largest possible number of teachers to benefit from participating in CCTT activities.

Unfortunately, since the budget cuts in the second half of the 1990s, this measure no longer exists. Nevertheless, the impact of the CCTTs on college training remains strong today as confirmed by the 112 college personnel—including 81 teachers—who collaborated on a CCTT project between 2004 and 2006 (Marchal, 2008, p. 23).

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TransBIOTech and CTMP

One basic principle was established from the start at **TransBIOTech**: all teachers wanting to do research at the centre had to maintain a teaching function and thus to contribute to the advancement of teaching through the transfer of their knowledge in their courses and to their students. After a decade of operation, this way of operating is still respected and the connection with teaching departments continues to grow stronger. Since its beginning, TransBIOTech has made it possible for a number of teachers to be released from part of their teaching tasks for a total of 17 FTEs and representing an investment of nearly \$1.3 million. This significant contribution means that most young teachers being hired nowadays are holders of higher cycle university diplomas, in order to ensure continuity and to expand the pool of teacher-researchers within the institution.

The **CTMP** is located on the Cégep de Thetford campus, more precisely in the Department of Mineral Technology near the Plastics Processing Department, and it uses the same equipment as the teachers in these two departments. This therefore facilitates exchanges between project managers, CTMP technicians, teachers and students from both departments. In addition, every year since 2002, a teacher from the Plastics Processing Department and a Chemistry teacher have joined the CTMP team in order to carry out applied research projects.

As intimated earlier, CCTTs have been and still are often very active in the pedagogical life of a college, either by virtue of their direct activities or through the impact of their activities. In certain cases, members of the personnel at the centres play a determining role in revising programs or in developing new ones by incorporating the latest research advances. Also, the relationships CCTTs maintain with companies make it easier to organize regular work placements for students, when the centres themselves do not offer the necessary work placements; or they may hire students on a part-time basis during the school year or on a full-time basis during summer. In 2006 alone, 1,695 students took advantage of CCTT research facilities, whether for an internship, to take a course or to work. In addition, the presence of employers on CCTT boards of directors played a leading role in the development of cooperative teaching (work-study programs) in college education. This little-known contribution of CCTTs would certainly merit further investigation. It would also be interesting to list the cases where laboratory workshops or students' end-of-study projects have made use of technological applications developed or experimented in the CCTTs. Our personal experience, as we will testify later, leads us to believe that this is another important contribution CCTTs make to college



education. All in all, the particular place occupied by CCTTs, at the intersection of college education and the job market, has greatly benefited the quality of teaching and programs offered by colleges.

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TransBIOTech and CTMP

The technological complex at Cégep de Lévis-Lauzon, which houses **TransBIOTech**, is a place dedicated to CEGEP students: it welcomes students during their end-of-studies internship and provides teachers with an opportunity to have their students visit a research centre. It also serves as a window onto the world since every year the Centre offers students enrolled in French university-level technology institutes (IUT) the opportunity to join the Centre's research teams. In addition, since 2005, it has welcomed three university students from Mexico, France and Tunisia, recipients of bursaries from the *Fonds de la recherche sur la nature et la technologie/FQRNT*, who carried out part of their applied research at the Centre.

The committee for the protection of animals is a requirement for CCTT operation and it plays a crucial role in CEGEP pedagogical life by sensitizing teachers and students in biotechnology and those in agricultural management to the rules governing the use of animals. Also, the Centre covers the cost of having its teachers/researchers attend scientific conventions and symposia related to the Centre's fields of expertise and this has the effect of enriching their teaching.

The **CTMP** has a direct impact on the courses offered at Cégep de Thetford. Admittedly, the CTMP and the Continuing Education Department of the CEGEP have long agreed that the latter would dispense the training activities in Mineral Technology and Plastics with the exception of short-term (a few hours) tailor-made training activities. However, the CTMP also supports the Continuing Education Department in its efforts to obtain training contracts by offering support services to companies.

Moreover, during the revision of the Mineral Technology program, a number of exchanges took place between CTMP professionals and teachers in the Mineral Technology Department in order to have course content reflect the latest developments in the field. In this way, the Centre contributed to ongoing improvement in the quality of training. Also, in order to facilitate relationships between students on the one hand and the job market and industry on the other, every year since 2002, the CTMP has hired three or four students to carry out various jobs of a technical support nature for the companies and it has itself been involved in organizing work placements in companies as part of the work-studies alternation program. Finally, the Centre has presented conferences on work done for companies and has demonstrated the use of new technologies since acquiring equipment in the fields of cold stream processing of mineral substances and of formulating plastic materials.

We should also not forget the most "visible" portion of the contribution of CCTTs to college training: equipment and organization of events. In fact, CCTT-led projects usually require the purchase of technological and computer equipment which is frequently made available to various training programs, thereby contributing to the

renewal and actualization of scientific material/equipment in colleges.

In this regard, it would have been difficult for colleges to purchase certain equipment without the CCTT projects which provided the institution with access to funding programs such as the *Caisse d'accroissement des compétences professionnelles* during the 1980s or, more recently, the Canadian Foundation for Innovation. Also, several CCTT evaluation reports stated that they spend more of their budget on symposia, seminars and other personnel training activities than do CEGEP departments. Certain CCTTs even organize symposia on a regular basis thereby creating opportunities for more scientific animation and to shed light on colleges.

All in all, the particular situation of the CCTTs, [...] has greatly enhanced the quality of teaching and programs offered by colleges.

Here again, we should underline the historic role played by Fernand Landry who started this tradition by organizing an international symposium on fibre optics in 1979 in La Pocatière.

IN PRACTICE

TransBIOTech and CTMP

During the first three years of the Centre's operation, **TransBIOTech** managers worked on an application for a grant to build an infrastructure concentrating on its activities.

In 2002, the first phase of the technological complex at Cégep de Lévis-Lauzon was inaugurated and this was followed by a second phase in 2009. This \$10 million project was funded by the Canadian Foundation for Innovation, the *ministère du Développement Économique*,



TransBIOTech and CTMP

de l'Innovation et de l'Exportation (MDEIE) and contributions from organizations in the socio-cultural milieu. The technological complex is a new 20,000 square-foot building that houses specialized laboratories and an animal research centre accredited by the Canadian Council on Animal Care (CCAC). Teachers and students in the Laboratory Techniques program have access to the technological complex, particularly for using the animal house and for developing competencies linked to animal care.

The **CTMP** plays a role in improving the infrastructures needed for technical instruction. For instance, the Centre's technicians have contributed to the maintenance and the calibration of the laboratory equipment for the mineral technology and plastics processing departments, this to ensure that the tests and analyses carried out there meet the required standards. The Centre has also collaborated in the acquisition of a dust-remover to improve the air quality in the mineral processing laboratory. The Centre also covered the cost of acquiring and installing a central air-conditioning system in the room where the characterization of plastics takes place. In addition, the CTMP requested financial assistance from the MDEIE in order to increase the surface area in its laboratories by over 1,000 square metres and the overall value of its equipment by nearly \$3 million. These new infrastructures will be available to the mineral technology and plastics processing departments.

CONCLUSION

Developing New Avenues

We would like to emphasize that, except where CCTTs are involved, colleges are not in the habit of submitting funding applications for scientific research programs in which governments are investing more and more in order to stimulate innovation, even though these funding programs are a source of additional revenue that can certainly enrich college teaching. In a context of scarcity of financial resources available for education, the contribution of CCTTs is one element to consider for developing new avenues. In this respect, CCTTs offer exceptional leadership and development tools for CEGEPs, for teaching and for research. TransBIOTech and the CTMP are, for their part, eloquent examples of what the synergy between teaching and college research can accomplish. ◀

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PUTTING RESEARCH INTO PRACTICE: PASSION AND VITALITY*

* Traduction: Jim Ross, revision: Susanne de Lotbinière-Harwood.



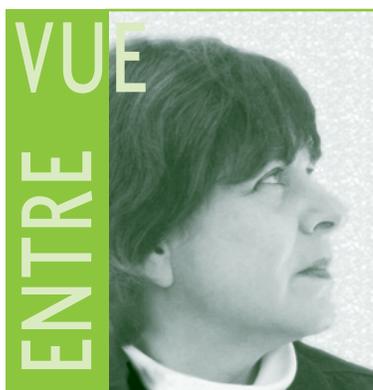
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Within the framework of this file on the history of college research, we felt it essential to include the views of a person who has exercised the dual role of teacher and researcher since the creation of CEGEPs.

Catherine Fichten is a Psychology teacher at Dawson College as well as a seasoned and prolific researcher who has experienced the recent evolution in research from within the college network. She fields questions from Sébastien Piché and Fanny Kingsbury on her personal journey as a researcher.



Catherine FICHTEN is passionate about research. Holder of a doctorate in Psychology, she is a teacher in the Psychology Department at Dawson College and an Associate Professor in the Department of Psychiatry at McGill University. She also codirects the Adaptech Research Network in addition to doing research working at the Jewish General Hospital in Montreal.

FANNY K. AND SÉBASTIEN P. :

When and how did you begin your career as a researcher?

CATHERINE FICHTEN :

It all began at Dawson College in 1969 on the very day that the institution opened its doors. I was 20 years old. In those days, there was no such thing as college research; but I was in Psychology, a discipline that is very much based on research. So, it wasn't long before I was doing research, while teaching at the same time. My mother was my research assistant and we used the Psychology Laboratory at the college, during the summer, to do our computations! Needless to say, my research was not funded in those days. Nevertheless, I still managed to have my results published.

Why did you start doing research in the first place?

cf Because I love to do research. Honestly, I cannot imagine teaching

my discipline without contributing to it. For me, research is vital. It has always been of utmost importance in my career, even though I have not always been actively involved in it. After teaching for a few years, I became department chair and I was forced to abandon research at that time. To broaden my horizons, I subsequently left teaching and administrative tasks to pursue doctoral studies in Clinical Psychology. When I returned to teaching after obtaining my doctorate, it took me just one year to realize that I was not doing research anymore, that I was no longer contributing to my discipline. At the same time I also became aware that I was teaching with the psychology textbook in hand, a far cry from reality! So I decided to return to Clinical Psychology and research. This was in 1979, a period when it was difficult to do research. Funding organizations did not yet know about CEGEPs, or college researchers for that matter, so you

had to be attached to a university or be part of a university research team in order to obtain funding. Otherwise, you conducted your research during the summer or over the weekend. There was nothing for college researchers.

How were you able to eventually get funding for your research?

cf In 1982, I read an advertisement in a newspaper inviting readers to contact the *Fonds pour la formation des chercheurs et l'aide à la recherche* (FCAR), an organization offering college researchers a program called ACSAIR (*Aide aux chercheurs de collège ou sans affiliation institutionnelle reconnue*). I immediately applied for funding and obtained a first grant from the Québec government. This is how my career as a funded researcher began, with a break from my teaching functions. This was a huge step forward: I finally had some time to devote to research!



When it comes to research, time is not a luxury. It is a necessity! You know, research is a field where the rich get richer and the poor are excluded. If you do not publish your work, you do not get new funding; if you do not receive new funding, you do not publish; and that leaves us with no time... and basically nothing. I feel that I have been privileged and lucky.

After receiving funding from the Québec government you managed to get funding from the federal government. Was this difficult to obtain?

cf To receive federal research funds, you must have a good publication record. The Social Sciences and Humanities Research Council of Canada (SSHRC) has always welcomed college researchers. It is, in fact, the only federal funding organization that allows college researchers to apply for funds as principal investigator and not as part of a university research team. For me, it is imperative to share any scientific research I am doing and I have always published my results. So, I had enough publications in my CV to obtain my first SSHRC grant.

How hard is it to get research results published?

cf It is definitely easier for Anglophones than for Francophones: Anglophones have access to all the publications in the United States and in Canada. When I want to publish my results in French, I have access to 3 journals instead of 30.

What importance do you give to scientific articles and to popular science articles? And are these two types of publications of equal importance?

cf One of my research topics deals with the factors that influence the success

of college and university students with disabilities. This is a field of applied research in the sense that I not only want to develop new knowledge on the subject, I also want to promote concrete change in the field. In light of this research objective, I am very interested in popularizing science. However, in my work on sleep disorders and insomnia, I am trying to reach a public consisting mainly of other professionals in the field, peers who read scientific journals. For this type of research, I do not feel the same need to write popular science articles.

When it comes to research, time is not a luxury. It is a necessity!

Before obtaining your own research funding, you were part of other research teams. Can you share some of that experience?

cf Before the early eighties, my only hope for doing funded research was to join other people who had received a research grant. To obtain my doctorate in Clinical Psychology, I had to complete an internship and this involved a session at the Jewish General Hospital in Montréal. After obtaining my doctorate, the people at this hospital invited me to return, asked me to see a few patients and asked me to join their applied research program. So, while remaining at Dawson College, I was able to return to the Hospital and we began to do research first on sexuality and sex therapy, then on sleep and insomnia. Presently, we are doing research in behavioural medicine mainly dealing with sleep, obstructive sleep apnea, etc. Since the beginning of our work, whether it be research on sexuality or sleep, we seem to consistently find ourselves in the bedroom!

In 1996, you set up an applied research centre called the Adaptech Research Network at Dawson College. How did you manage to create this centre and what purpose does it serve?

cf I was already conducting research on discrimination towards people with disabilities when I became interested in the attitudes of college teachers and students toward students with disabilities. During a research interview, a teacher told me about a situation he had experienced. Before the start of a class, a blind student walked into the classroom. As the student stumbled around bumping into the furniture trying to find a free seat, the teacher had no idea what to do. He hesitated to make his presence known to the student for fear of embarrassing him. This anecdote revealed to me that teachers, just like students, were unsure about how to behave toward students with disabilities: what to say, what to do, how to react. After doing some research on the subject, I felt the need to give back to the community that had participated in the study and to share the results of my studies with teachers and students with disabilities. So, by collecting funds from various sources, we were able to set up the Adaptech Research Network.

I codirect the Adaptech Research Network with Jennison Asuncion and Maria Barile, two former Dawson College students who now hold Master's degrees. This network brings together a team of researchers, students and consumers. Its mission is to conduct research on the use of adaptive computer technologies as well as other computer and information technologies by students with disabilities in Canadian colleges and universities. We are located at



Dawson College and we are funded by provincial and federal organizations. A pan-Canadian bilingual advisory committee guides us in our work. Our purpose is to provide empirical information in order to facilitate decision-making and to ensure that the policies, software and equipment in place in the various milieus reflect the real needs and concerns of the individuals involved.

This is how students learn the real process of research — because I have them participate in all aspects [...].

What impact has your research had on your teaching?

cf My work on insomnia has had a direct impact on my teaching. I work with students in Psychology who are already interested in this discipline. I can talk to them about the research in which I am currently participating, ask them to read our articles and give me their feedback; I have them point out any errors we may be committing, and suggest ways of improving our research practices. My research on sleep is very useful in class because I can talk to students about methodology and the results of several studies that are not yet published. This makes a huge difference because I can bring the discipline to life for students. My work has also shown me that universal design in education is likely to benefit students both with and without disabilities. For example, some years ago, one of my students was profoundly deaf. To allow her to read my lips, I learned to teach facing my students instead of facing the blackboard! Like any number of teachers, I was in the habit of teaching

by writing on the blackboard and talking at the same time. However this is totally ineffective for a student who reads lips: I had to face this student so she could read my lips. By becoming aware of this need, I abandoned the blackboard and learned to use an overhead and a multimedia projector, which not only enabled me to see how all my students react to what I am saying, but also to adjust my teaching in response to their reactions. Since then, I tend to respond to my students' needs rather than those of the blackboard!

Do you think there could be a link between your own dual status of researcher/teacher and the emergence of scientific careers among your students?

cf Of course! At Dawson College, I teach Psychology to students who have an interest in the discipline. Over the years, I have invited many of them to work with me on my research projects during the summer and on a part-time basis during the school year. This is how students learn the real process of research — because I have them participate in all aspects: from developing the protocol to the interpretation of results and their dissemination in written and verbal form, from selecting measurement tools, to recruiting participants and analyzing results.

Can you name some of the people or organizations that have had the most significant impact on your career as a researcher?

cf Bruno Geslain, a former research and professional development coordinator at Dawson College, is the one person who has had the most positive influence on my career

as a researcher because he has always stood up for research activities being conducted in colleges.

Being involved in grant evaluation committees for research projects by peers has also helped a great deal by contributing to the refinement of my skills as a researcher. However, as you know, part of a university professor's workload includes participating in these types of committees, which is not the case for college teachers. This is very time-consuming and I cannot do it when I am teaching full-time. This is what I mean when I say that in research the rich get richer. If I am released from teaching, I can serve on peer review committees for granting organizations; and if I am a part of these peer committees, I become a better researcher, I can submit better applications for funding, I remain informed about research opportunities, and my career as a researcher develops accordingly.

My position as an Associate Professor in the Psychiatry Department of McGill University gives me access to all the online scientific journals and resources available at the library, a precious asset indeed.

Thanks to this position, I can also make the most of McGill University's expertise when applying for funding and I can take advantage of the expensive research software packages that the University places at its teachers' disposal.

This position does not give me an additional salary — over the years I have received salary slips totalling \$0.00 — however, it does enable me to take advantage of resources to which I would not otherwise have access.



Beyond your own journey as a researcher, what stands out in your mind as being the most significant event in the history of college research?

cf In my opinion there were three major events. Two are positive: the advent of the ACSAIR program and the creation of the *Association pour la recherche au collégial* (ARC). On the negative side of things, I have to mention the abolition of the “*banque des 150 ETC*” which gave college people time to do research.

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Sébastien PICHÉ is a History teacher at Cégep régional de Lanaudière à L'Assomption. He is also in charge of the history project on college research directed by ARC (*Association pour la recherche au collégial*). It is in this capacity that he participated in this interview.

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In addition to teaching at Dawson College, you codirect the Adaptech Research Network and you do research at the Jewish General Hospital. How do you manage to reconcile all these activities?

cf Ah, that is the big question! I love what I do, so I work hard, including summers, weekends and evenings, just like I did back in the seventies. But thanks to the funding that I now receive, my mother is no longer my main research assistant!

Many readers out there are probably interested in doing research. What would you say are the essential characteristics of a researcher?

cf Certain traits are a must: a love for doing research, the ability not to be discouraged by rejections from funding organizations and journal editorial committees and the courage not to give up when you encounter your first obstacles. It is particularly important to review and revise your manuscripts and rejected applications and to resubmit them.

My motto: third time is the charm. ◀

RESEARCH AND TEACHING: AN AMBIDEXTROUS PRACTICE OR SELF-PORTRAIT OF A TEACHER AS A RESEARCHER*



LOUISE LACHAPELLE
Teacher and Researcher
French Department
Collège de Maisonneuve

Imagine, if you will, a scene from the beautiful film by Agnès Varda, *The Gleaners and I* (*Les glaneurs et la glaneuse*). A wrinkled hand is playing at capturing highway trucks or watching the other hand filming it. At the beginning of this documentary, while manipulating a small digital camera, Varda is explaining the meaning of her own project to herself: “using one hand to film the other” — she gleanes, in a way, gathering remains of herself or those of the world. “It is always a self-portrait”, she says.

As I write this article on research and its relation to teaching, I am inhabited by the image of this gleaner deep in speculation and contemplation.

My teaching and my research meet within what I would call an *ambidextrous practice*, a practice that I increasingly feel cannot be adequately defined by simply one or the other. Indeed, the relations between my various teaching activities and the diversity of my research activities are woven ever tighter — creative tensions whose focus lies elsewhere, perhaps closer to the existential plane, to the living.

For the past several years, I have been pursuing this process aimed at connecting my research and teaching practices while also developing course content.

I need to be studying in order to teach, just as I have to feel hungry, literally, before entering the classroom. In other words, I teach with questions. Research is one of the pathways that brings these inquiries towards my teaching. The objects of my studies and analyses, that which I don't understand, that which concerns me, all that I am working with — whether individually, as part of various research teams, or in collaboration with a host of different communities — and all that works on and labours within me have an impact on my teaching.

My research activities, materials and processes, enrich the content of my courses, they allow me to diversify the pedagogy that I put into practice, and they contribute to my teacher-student interactions as well as to my relationships with colleagues and the college community in general. Additionally, my commitment to doing research contributes to positioning my teaching practice within an expanded context not only in academic or institutional terms (such as by creating links with other courses or teaching institutions), but also in social, cultural, economic and political spheres.

I have been a teacher in, and a researcher associated with, the French Department at Collège de Maisonneuve for almost fifteen years. During this time, I have often focussed on working with students who were having difficulty with the written-French upgrade course and with the first course in the compulsory sequence of

French courses offered to students who have failed it one or more times.

My research preoccupations have led me to explore different ways of presenting the subject matter and to frequently use a pedagogical approach based on cooperation — both of which have proven to be effective with these students. This involvement with students experiencing difficulty coupled with my research on ethics has also led to the creation of a working group called *Groupe de travail sur le métier d'étudiant*¹. This collaborative structure involving teachers and other professionals has helped us to cast a critical eye on our own practices, to seek original pedagogical answers to problematic situations, and to implement some of the alternative support measures and resources needed to renew our teaching métier. For the past several years, I have been pursuing this process aimed at connecting my research and teaching practices, while also developing course content. I have been teaching multidisciplinary creativity as part of the *Integration Project* in the *Arts et lettres* program, as well as contemporary literature and culture, within the *Science, lettres et arts* program amongst others.

* I would like to thank Devora Neumark for her help on revising this translation, my colleague Élyse Dupras for her comments on a preliminary French version of this article and Danielle-Claude Bélanger for sharing her thoughts on the subject.

¹ This work has also been conducted over the years by Élyse Dupras and Jean Sébastien. For some of its activities, the group received support from the Collège de Maisonneuve as part of the Success and Graduation Plan, and this work was the subject of a presentation at a round table session entitled *Teachers and Students: A Mutual Learning* which was moderated in collaboration with Élyse Dupras, at the 2005 annual AQPC symposium held in Rimouski, Québec.



These reflections on the possible relations between doing research and teaching have led me to weave new connections. My choice of courses and teaching contexts have also been directly influenced by the issues common to, or even the shared contradictions of, my own teaching and research practices — each potentially disturbing the other. In short, this involves developing a critical relationship with culture; a will to examine our cultural practices from an ethical standpoint. Existence does not necessarily become “more human” through *our* various cultural expressions.

After working on the gift problematic and the process of giving in the context of a creative practice, my research moved to “the house” as a figure and expression of certain anxieties and tensions that currently characterize our relations with the world. How to inhabit *together* the contemporary world? The house is a figure of the imaginary, a focus of symbolic investment, but also an art form and raw material for artwork.

[...] the quality of the conditions for research in college has a determining influence on the vitality and integrative character of the “research and teaching” relation [...]

Entitled, “This should be housing/*Le temps de la maison est passé*”, this body of research focuses on: certain housing imagery and configurations that are specific to works of the past and to foundational texts; a literary, artistic and cultural corpus; some traditional ways of inhabiting; contemporary manifestations of houses and exemplary places such as the city of Berlin, Ground Zero in New York, and the city of Jerusalem. In the continuity of this research, my teaching is characterized by a cross-disciplinary approach both in terms of methodology and content.

I tend towards a pedagogy that supports critical reflection and creative dialogue between “co-researchers” within a teaching space conceived as a workshop. To illustrate this pedagogical stance, two of its simplest manifestations come to mind: the decision to completely eliminate lectures from my practice and the choice to organize the classroom spatially in the form of a dialogue circle. This approach to teaching and research expresses a desire to address radical questions (in the sense of root problematics) and the necessity to respond to the present with concrete gestures: how to inhabit (the world) together today? This is an age-old question. In the face of different realities and exigencies, how are we to respond?



Just as I feel the necessity to study in order to teach, it is sometimes necessary for me to not teach. This phase of my teaching practice — these periods dedicated to study and research, to reading and writing, this field work and these various professional collaborations — has fairly recently been called “research”, a designation based on a distinction from this “other” form of collaborative learning, inquiry, reflection and speculation that “teaching” represents for me.

So, although the articulation between teaching and doing research seems indispensable to me, that is, the very foundation of the specific quality of my presence in class (meaning, its necessity for me), I find that trying to link these practices is often subject to the pursuit of a dual or parallel path. When considering the conditions favourable to doing research in colleges, institutions and researchers generally focus first on the importance of the availability of time (release from teaching responsibilities), and of financial backing and institutional support (both internal and external, from the college and funding bodies). In my opinion, the integration of research and teaching activities is not raised often enough as an issue and deserves greater attention. This issue is often under-recognized by institutions, which would, however, benefit from better understanding (and communicating) the function of this integration in the college’s Educational Project. This is all the more so since students immediately recognize the potential of this “cultural resource” whether because the teachers’ interest in research fosters their interest and their motivation towards the discipline, original objects of study or research, or alternately, because they are interested in and find out about their teachers’ “extra-curricular” activities.

Reflecting on my own experience, I realize today to what extent the quality of the conditions for research in college has a determining influence on the vitality and integrative character of the “research and teaching” relation, in my own practice but also within the college community to which I belong. This dynamic is confirmed by what I have witnessed of the commitment to college life on the part of many of my colleagues, researchers who, in addition to their teaching and research activities, also contribute to the development of pedagogical tools and methodologies or to conducting and implementing various projects and measures in support of student success. Together with teaching, these diverse forms of involvement are an essential contribution of research to the college community. This contribution, whose responsibility is shared between the researcher and the college, is at least as meaningful if not more so than the ‘institutional visibility’ associated with the researchers’ public activities/events or dissemination of their work. In other words,



improving the conditions for research possibilities in colleges is not only linked to the role that research *can* play in the Educational Project, but, in my opinion, such an improvement in the conditions for research constitutes an acknowledgement of the role it already plays, and provides greater leverage for promoting further integration of research into the college's Educational Project.

At the beginning of my teaching career, the “dual path” that I mentioned earlier was a daily reality that referred to teaching at the college level while simultaneously pursuing doctoral studies. This meant that I shared with my students the reality of balancing work and study! Scholarships and support from Collège de Maisonneuve's Professional Improvement Committee allowed me to take the leaves of absence (without pay) that are indispensable for writing a thesis. After completing my doctorate in 2001, a different posture was developed, that is, the other side of the *working student* model: namely, the *studying teacher*, a condition “favourable” to the emergence of a *teacher/researcher* insofar as the teacher manages to survive as a researcher in the interim: that is to say, thanks to “self-funding” measures (leaves with anticipatory or deferred payment), if she manages to pursue her research activities — a group of activities which, by the way, can also benefit teaching insofar as teaching and research are not felt or perceived to be interfering with each other. On this point, I would like to take a moment here to express my gratitude to the students, particularly those who worked with me during this “interim phase”, when the relationship between the researcher and the teacher was being negotiated. Although I personally felt a strong need to bring these “research” questions and methodologies into class, it is the students, through their motivation and interest, who confirmed that this need resonated with them. The way the students welcomed these materials and these forms of teaching, their ability to appropriate the questions and to make them meaningful, provided me with precious stimulation and support. As my colleague Élyse Dupras puts it: a researcher's passion can make a significant contribution to one's effectiveness as a teacher. The students' pleasure and curiosity are just as contagious!

As my colleague Élyse Dupras puts it: a researcher's passion can make a significant contribution to one's effectiveness as a teacher.

To date the latest variation of posture is one of a *funded teacher/researcher*. In 2003, I was invited to join the *Équipe de recherche sur l'imaginaire contemporain, la littérature, les images et les nouvelles textualités* at the Université du Québec à Montréal's Centre *Figura*, directed by Bertrand Gervais. This integration of my own research into a research team's program meant, for one thing, that starting in 2005, I received research funding (in the form of a grant awarded to a research team having one college researcher) and was partially released from teaching duties thanks to the *Fonds de recherche sur la société et la culture's* programs.

Since 2006, I have also been collaborating, as an Adjunct Professor, within the Master's Program in Architecture at the *École d'architecture* at l'*Université Laval*, and as a researcher in the *Groupe Habitats et cultures*². This collaboration with André Casault, Director of this team, was developed following his participation, by invitation, in the project for a special issue of a literary magazine I developed in the wake of my early work on the house as a figure (“*Habiter hors de*”, *Liberté*, n° 266, November 2004).

The dual path of teacher/researcher can, under certain conditions, give rise to a creative ambidextrous practice, a source of theoretical and practical learning wherein professional improvement can become an opportunity to deepen and diversify one's teaching and research practice as well as one's engagement as a citizen. However, the tensions that characterize this ambidextrous practice are not without risk or conflict; they also have their breaking points, where healthy and structured integration can turn into scattered energy and exhaustion.

At the same time as my research received some “external” institutional support, Collège de Maisonneuve was embarking on a research revival plan (*Plan de relance de la recherche*). After years of research support being mostly limited to the Professional Improvement Committee, the College, supported by some researchers and the ARC (*Association pour la recherche au collégial*), took steps towards increasing its support for researchers. This meant providing them with what is often their most basic need: time.

In this endeavour, I get the impression that the process of mutual learning, so characteristic for me of the teaching and research relation, also speaks of my relationship with the office of the Academic Dean and the Pedagogical Development Service. In regard to the question of research, we learn together within a common process dedicated not only to improving the possibilities for research in college, but also to affirming research as an integral part of the College's Educational Project.



² We are currently supported by grants from the International Development Research Centre and by the Social Sciences and Humanities Research Council of Canada, Community University Research Alliance Program.



By focusing on the way that culture responds to the question of coexistence today, the research cycle entitled “This should be housing/*Le temps de la maison est passé*” helps to bring forth new insights into the contemporary imaginary and various forms of artistic and cultural practices. This process combines writing, photography and field work — particularly in Berlin where, for several years I have been in dialogue with a community of Carmelite Nuns; or in Israel and Palestine where the layout of the Security Fence and proposals for a different way of responding to this oppressive situation are being studied. In the context of Action Research which characterizes the activities done in collaboration with the School of Architecture, this process also contributes to an inquiry about habitat, cultural landscapes and built environments, as well as to the development of a cross-disciplinary, intercultural and collaborative approach to contemporary inhabiting, whether in the Innu communities of Quebec’s North Shore or in the community which lives in or near the Mbeubeuss garbage dump of the Dakar suburbs in Senegal.

Entitled, “Habiter: exister, résister, subsister” (“Inhabiting: Existing, Resisting, Subsisting”), this research and teaching problematic introduces a questioning process relative to the way in which we inhabit the world today.

Thanks to the “internal and external” support that my current research receives *at the present time*, the conditions under which *This should be housing* can now be sustained allow the integration of my teaching and research activities to increasingly manifest itself. Similarly, there are more possibilities for “transfers of competence” between

research, teaching and creating, between the disciplines, and between the different forms of pedagogy practiced, whether in college or university contexts, in popular education or in community training. This is the case because in the same way that research eventually finds its way into teaching, at times the different research contexts also offer some stimulating teaching environments.



The problematics related to contemporary inhabiting proposed in the course *Littérature contemporaine d’ici et d’ailleurs* of the *Sciences, lettres et arts* (SLA) program, are representative of this fundamental integration of research into a pedagogical project in the context of my own practice. Generally, this course consists of the study of foreign literary works (novels and essays) from the 20th and 21st centuries and of *Quebec literature* from 1980 on. In the specific context of the SLA program, it contributes to the development of a multidisciplinary approach by fostering the interrelation between literary, artistic and philosophical works and, eventually, by showing the reciprocal influences between science and the arts.

Entitled, “Habiter: exister, résister, subsister” (“Inhabiting: Existing, Resisting, Subsisting”), this research and teaching problematic introduces a questioning process relative to the way in which we inhabit the world today. This general theme leads us to reflect together throughout the course on the ethical issues involved in creative work as well as in our own gestures and actions; to work with concepts that relate to ethics, economy and ecology, and with literary, philosophical and artistic works (visual arts, cinema and architecture). For example, the specific choice of literary works under study immediately brings into question the meaning or even the relevance of identity categories such as *Quebec literature* and *foreign literature*, *d’ici* (from here) as compared to *d’ailleurs*, (from elsewhere), which appear in the course title and description. This is already one way of opening up this inquiry into the contemporary world that we are called upon to inhabit together.

The semester is divided into three parts: *exister* (existing), *résister* (resisting), *subsister* (subsisting). Each part is characterized by the selected reading material (some common to the entire group and other of personal choice), by the objects of study (many of these originating from the research fields and materials mentioned earlier), and by the questions raised within the perspective resulting from the general problematics of the course: *Habiter?* (Inhabiting?). In addition to the discussions and exchanges that characterize each meeting, a more formal seminar is held near the end of each part, as a preparatory stage leading to a final reflection on the overall process.

At the end of the winter 2008 semester, the group of students produced a CD-ROM collection of texts which included some of their works³. A first series of texts consists of creative works written at the beginning of the semester, at a time when reflection on the course theme started to take shape. This first series corresponds to a succession of pastiches that creates an original crossing of the American continent, inspired by Noël Audet’s novel *Frontières ou tableaux d’Amérique*. The second series of texts groups together the essays produced at the end of this semester-long process

³ Design and production of the collection entitled, “Habiter: exister, résister, subsister” by Alexandre Huot and cover page visuals by Arièle Dionne-Krosnick. This project received funding from the *Fondation du Collège de Maisonneuve*.



of reflection, research, reading and writing on the problematics of inhabiting and related ethical, ecological, economical and, of course, cultural dimensions.

I have often experienced the extent to which the orientation giving to a course by presenting such a research problematic opens the way to freedom and creativity as much for the teacher as for the students. Beginning a semester by raising a number of working questions related to a theme, questions to which we return to periodically throughout the different stages of a course, provides a tremendous opportunity for more profound learning; and also, on methodological, critical and reflexive levels, it provides the possibility to deepen and to internalize the questioning process. Thanks to the time devoted to exchanges during end-of-stage seminars, amongst other critical moments, and also to the time dedicated to the overall process throughout the entire semester, students become aware of the possibility (and the necessity) to define, in an increasingly autonomous manner, their own trajectory for reading, analyzing and reflecting, and their own critical perspectives and problematics.

Despite the complexity of this proposition (and also perhaps because of it), the act of grounding one's teaching within a structuring theme or problematics — such as this broad examination of inhabiting — proves to be an approach allowing the introduction of a wide variety of contents into the course that becomes a workshop in the process. The juxtaposition of literary objects with other works, in its diversity, reveals points of connection in the multidisciplinary of forms, practices, languages and ethical stakes. Students quickly begin proposing topics and links for collective reflection, thus actively inhabiting the workshop we are creating together.



To date, “This should be housing/*Le temps de la maison est passé*” has generated particularly satisfying experiences in terms of both research and teaching. It is important for me to share these experiences with students and colleagues.

Conducting research allows teachers to develop ways of knowing and various competencies while participating in the renewal of knowledge. In so doing, they provide materials that can be adapted and transmitted for teaching.

The transmission of knowledge that is in the process of being developed also fosters an indispensable individual and collective critical reflection on the processes of producing knowledge, on the ways of framing (or not framing) problems and on the demands — oh so very multidisciplinary! — of today's world. ◀

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