

# Different Approaches to Designing Online Courses at the Post-Secondary Level

Nicole Racette<sup>1</sup>, Bruno Poellhuber<sup>2</sup> and Marie-Pierre Bourdages-Sylvain<sup>1</sup>

<sup>1</sup>*École des sciences de l'administration, Université TÉLUQ, 455, rue du Parvis, Québec, Canada, G1K 9H6*

<sup>2</sup>*Faculté des sciences de l'éducation de l'Université de Montréal, 2 900 boulevard Édouard-Montpetit, Montréal, Québec, Canada, H3C 3J7*

*racette.nicole@teluq.ca, bruno.poellhuber@umontreal.ca, marie-pierre.bourdages-sylvain@teluq.ca*

**Keywords:** Online courses, teaching task, post-secondary education, bimodal institutions.

**Abstract:** This research aims to identify the approaches used in online courses and their impact on the task of online teaching in three post-secondary institutions in Quebec. From 32 individual interviews and 6 group interviews, results show that courses are offered for continuous enrollment in two institutions, and in cohort for the third. In each of these institutions, these courses are offered asynchronously and are mainly focused on independent learning. The teaching task usually found in the classroom is subdivided, for online courses, into a design task and a student supervisory task that are not performed by the same people. In two institutions, course design is done by external staff and course management is done by specialists rather than the designers. In the third institution, regular teachers design the courses; they also manage their courses after they have been put online, as well as managing the student support staff. Following these results, we present the advantages and disadvantages of elearning on the task of teaching in Quebec.

## 1 INTRODUCTION

Digital education is becoming increasingly important (Del Moral and Villalustre, 2012; Simard, 2018). In France, there are eight thematic digital universities (TDU) which disseminate educational resources (<http://univ-numerique.fr>), without registering students or issuing diplomas. As for American universities, 80% of them offer online training (*Conseil supérieur de l'éducation*, 2015). From 2011 to 2015, enrollment in online and hybrid courses (online portion of at least 50%) increased by 11% per year in Canada (Bates et al., 2017). According to Paquelin (2016), 1,350 online courses are offered in Canada by universities that are completely online (TÉLUQ University and Athabaska University) and 6,450 courses are offered by so-called bimodal universities (which offer online courses and face-to-face courses), which represent 83% of the courses offered online in Canada. Although each of the 18 universities in Quebec offer regular online courses (Julien and Gosselein, 2016), only TÉLUQ University offers all its courses online. At the college level in Quebec, it is rather *CÉGEP à distance* that takes this position. In the latter two cases, the process for offering courses is done in a totally different way

than from campus and bimodal institutions. This diversity of approaches used in online courses raises a number of questions, including the impact on the teaching task and the combination of online and face-to-face courses into one task. Online training calls for new practices that must always focus on quality, accessibility and practicability (CSE, 2015).

Funded by the Social Sciences and Humanities Research Council (SSHRC) of Canada, research has been conducted for identifying the main approaches used in online courses at the post-secondary level, as well as painting a picture of what is involved in the task of producing online courses from the point of view of the teacher. We describe some scientific writings for both classroom and online teaching, in order to compare them, as well as the broad categories of approaches that can be adopted in such courses. The methodology used in this research, the results and a discussion of these results will then be presented.

## 2 TEACHING IN THE CLASSROOM

In Quebec, at the college level, teachers must do an average of 15 hours of teaching per week, offer out-of-course availability and perform preparation and correction tasks for a total of 32.5 hours per week, as described by the collective agreement signed by the National Federation of Teachers of Quebec (2010-2015). In terms of university education, a teacher must normally choose a certain number of courses to be given for the year, varying from four to six courses, drawn from the same list of courses that the institution offers from one semester to another.

In both college and university, the teaching task is very variable in terms of effort, since the teacher can give the same course several times, or several different courses, during the same year. Although these courses may be new to the teacher, they are rarely new to the institution. In the first few years of a teacher's career, a lot of time is spent preparing lessons. When a teacher reaches mid-career, he generally is able to devote much more time to the other parts of his task, since he benefits from the materials developed over the years, which considerably reduces the preparation time of his courses.

## 3 ONLINE TEACHING

Given its peculiarities and constraints, e-learning requires a work organization that is different from teaching in the classroom, which affects not only the technology and teaching methods used, but also the teachers' task. Although Poitras (2016) expresses his belief that online teaching will transform the teaching profession, he doubts that teachers will gain benefits from it, since in an online course, you have to change from intuitive teaching to programmed instruction (Loisier, 2013; Poitras, 2016), which requires much more preparation time. Many teachers are reluctant to abandon classroom teaching for online education fearing that classroom teaching will lose its importance (Audet 2011; Loisier 2013; Poitras 2016). However, some teachers who venture to do online courses, either by preference or by conviction, do so without proper recognition for the work done (Poitras, 2016; Racette, Poellhuber and Bourdages-Sylvain, 2017b). Collective agreements, adapted for face-to-face teaching, are slow to take into account the tasks related to online education (Bates et al., 2017). The design time of a course offered

asynchronously is much more important and these courses requires much more refined interventions to properly support the student who finds himself alone in his online course. On the other hand, in synchronous courses, all activities must be carefully planned in terms of the content, form and technological tools to be used. However, the greatest constraint to making the shift to online course design seems to lie in the ignorance of some teachers, managers and unions concerning the work entailed for a post-secondary teacher (Audet, 2011; Bates et al., 2017). Thus, several teachers in online courses decide to simply carry their classroom course onto the design of an online course (CSE, 2015), despite the fact that the simple transmission of knowledge, practiced extensively in face-to-face courses, is more and more questionable. Online courses should offer a much wider variety of resources (texts, videos, audio, forums, etc.) to adapt to different learning preferences (Santo, 2006; Del Moral and Villalustre, 2012, 2013) and thus compensate for the physical absence of the teacher. In addition, the scientific literature shows that communication in online courses is not sufficiently developed, constituting a limiting factor for socialization (Loisier, 2013; Racette, Poellhuber and Fortin, 2014).

Regarding the teaching task, the collective agreements of universities and traditional colleges do not normally take it into account online education such as the National Federation of Teachers of Quebec (2010-2015), the collective agreement of UQAM (2016-2018 art.10.w07) and UQTR (2013-2017, art.10.14), to name just a few. In spite of everything, almost all universities in Quebec offer online courses. Regarding Laval University (Laval University, 2016), despite the fact that 57.6% of students are enrolled in at least one online course out of the 42,663 students enrolled in the fall of 2016, the collective agreement (2016-2020, article 3.5.02) only mentions the following with respect to distance education: "The employer provides the support services needed for teaching, regardless of the teaching methods used, especially for course preparation and for teaching a online course or off-campus...". For the design and dissemination of online courses to take off, new tasks must be taken into account.

## 4 APPROACHES TO ONLINE COURSES

The approach chosen for designing an online course, by a teacher or an institution, will have a significant impact, both on the design task and the student supervisors' task, and this, in terms of the time and efforts to be devoted. Roberts (2011) divides these approaches in online courses according to whether they are centered (1) on the teacher, (2) on independent learning or (3) on interaction. The teacher-centered approach can be adopted in synchronous classes, where regular meetings between the teacher and the students take place, similar to what is done in face-to-face teaching in classrooms. This pedagogical strategy involves a significant amount of time to be allocated to meeting planning, since synchronous communication tools leave little room for improvisation, but involve less preparation time than the design of an online course focused on independent learning (Bates et al., 2017). This approach also forces the teacher to repeat his lessons with each new cohort of students. There is no time saving for the teacher.

The approach focused on independent learning aims to make the student autonomous in his learning process, providing all the information and resources he needs in the online course, so that he becomes autonomous in his learning. These courses are normally offered in asynchronous mode where the interactions between students and student supervisors consist of feedback on the work done and answers to individual questions. This learning strategy can be adopted in cohort courses and even in self-paced courses in which the entry and exit of students in the course are variable and adaptable to each student. In an independent learning strategy, the course being self-supporting, the teacher does not have to repeat the same content over time, as long as his course remains current.

On the other hand, the interaction-based approach implies that collaborative activities are part of the online course, which includes interactions between students and teachers, but also between students. Technological advances in education are increasingly enabling this type of approach, which is practically impossible to introduce in self-paced courses and courses offered asynchronously (Racette et al., 2014). Research indicates that this type of educational strategy brings great satisfaction to students at the level of socialization (Simard, 2018). However, these collaborative activities, to be effective, require certain communication skills on the part of students and student supervisors, who must

use the right tools for the right reasons, and in a structured way (Loisier, 2013; Racette, Poellhuber and Bourdages-Sylvain, 2017a). The objective of this research is to describe, from the point of view of teachers, the approaches used in the production of online courses at three post-secondary institutions in Quebec, as well as the impacts that these approaches have on the task of teaching.

## 5 METHODOLOGY

Based on a multiple case study of qualitative type, and involving three educational institutions: TÉLUQ University, *CÉGEP à distance* and *la Faculté d'éducation permanente* (FEP) of the University of Montreal. This research is exploratory and interpretive. Firstly, 32 individual, semi-structured and recorded interviews took place, including 10 members of the design teams (designers or teachers), 16 student supervisors and 6 people responsible for pedagogical and administrative policies. Secondly, a summary of the results of the individual interviews was presented to all relevant staff in each of these institutions, in a video accessible on Moodle, so that staff could confirm or invalidate the results obtained or make other comments. Thirdly, a new summary of the results, improved from the comments received, served as an interview grid for the 6 group interviews that took place with respondents who participated in the individual interviews: one with the design teams, and the other with the student supervisors. Responses were analyzed using the QDA Miner software. Two research assistants developed the codification grid under the supervision of the project researchers, with an inter-judge agreement rate of more than 80%. Group interviews have allowed us to confirm and even refine the results obtained from individual interviews. The collective agreements for teachers have also been consulted. For a better understanding of the results, student supervisors' citations are identified by (S), design teams by (D) and policy makers by (P).

## 6 THE RESULTS

As shown in Table 1, there are between 13,469 to 22,105 students in the institutions being studied. The two institutions that offer all their courses online use continuous enrollment (varying entry and exit times) and the independent learning approach, allowing for a very flexible and autonomous learning approach.

The only institution that offers its courses online by cohort, but mainly offers its courses in the classroom, also applies, in its online courses, the educational strategy of independent learning, just like the other two institutions, in order to save time for the teacher since they do not have to repeat their course with each cohort of students.

Table 1: Description of the institutions under study: 2017-2018

	<i>CÉGEP à distance</i>	TÉLUQ	FEP
Number of students	13 469	22 105	15 000
Online Courses (% compared to face-to-face classes)	148 courses (100%)	435 courses (100%)	25 courses (<10%)
Enrollment Mode	Continuous education	Continuous education	Cohort
Approach	Independent learning		

We describe who does what in these online courses, the task for the teachers designing these courses as well as the perceived advantages and disadvantages for a teacher offering online courses.

### 6.1 Who Does What?

Table 2 shows that in *CÉGEP à distance*, the course design is done by external staff hired on a contractual basis for the duration of the course design, and it is the regular tutors who supervise the students. There are also tutors, called "resource persons", who supervise the students. Concerning the task of the designers, whether they are contract staff or teachers, it consists of describing the instructions relating to a volume or articles to be consulted as well as the production of multimedia tools (videos, interactive questionnaires, construction of knowledge cards, serious games, etc.) and works to be done, exams and their answers keys. In these cases, the designers and the tutors work outside the institution, except teachers from TÉLUQ University who design and assume the management of courses, and sometimes supervise a certain number of students; however, in the majority of cases, they rather delegate this function to tutors, as these teachers have expressed: "Officially, the teacher responsible for the course is responsible for the design, drafting, dissemination, and fourthly, the supervision of the tutors" (D).

Table 2: Staff Involved

	<i>CÉGEP à distance</i>	TÉLUQ	FEP
Designers	Contract Staff	Teachers	Lecturers and Contract Staff
Student supervisors	Tutors	Tutors	Tutors
Course Managers	Education Specialists	Teachers	Education Specialists

We find that there are some similarities, but especially important differences in the organization of work in each institution under study compared to what is involved in online education. Our results show that teaching, normally undertaken by a single teacher in a face-to-face course, requires the input of several specialists to design, produce and disseminate courses and to supervise students and evaluate their work and exams. Despite help being received, dissatisfaction has been expressed. The tutors should be too little recognized, which is also confirmed by other research (CSE, 2015; Racette et al., 2017b). "The supervisory staff needs to be professionally recognized, and not just by their union" (P). "I think that if the institution itself was more hands-on and said, 'Teachers, here is your place... tutors here is your place', that would be better." (S). In general, we find some confusion in the perception of the role of each.

### 6.2 The Task of Teachers in Online Courses

In *CÉGEP à distance*, since there is no teacher, there is no teaching task. The teaching task referred to in the collective agreement for a regular professor at the FEP of the University of Montréal (2013-2017) relates exclusively to face-to-face teaching, while at TÉLUQ University, it relates exclusively to online courses. Thus, only in this latter institution do regular professors design the online courses, and where the task is recognized by the collective agreement. In this case, the teachers, in addition to designing courses, follow up on the mediatization of the courses. They train tutors on the philosophy of the course and the pedagogical strategies to be implemented. Finally, they follow up on the courses offered, with tutors and students, in addition to developing and managing programs. "The teachers do the program supervision, the supervision of students and the supervision of tutors" (D). "Some teachers supervise all their students, others use tutors. The decision is at the

discretion of the teacher "(D). Unlike face-to-face teaching, where the courses to be given are selected from an already established list, in online courses offered asynchronously, the emphasis is on the development of new courses to enrich the list of courses offered by the institution. The teaching task does not diminish over time. We outline practices in the design of online courses in relation to the two components that replace traditional classroom teaching, namely designing online courses as well as the management of the offered courses and the tutors.

### **6.2.1 The development online courses**

Designing new courses requires the production of a course development file, which must be approved by different proceedings. This file constitutes a project, which presents the topics that will be addressed in the course, the way to design it, as well as the implications in terms of work and deadlines for the various services of the institution (technopedagogical, linguistic, editing, computer and technical services as well as online publication). The strategy adopted in this sample on independent learning, is aimed at allowing students to adopt an autonomous approach, since group meetings and meetings between students are practically non-existent.

During the design of a course, the external designers, or teachers, normally work with several experts, but mainly with education specialists and tutors, with whom they must cooperate and find compromises, in the light of their experience, the discipline concerned and what seems to make sense to them. "It takes teamwork between the tutor, the teacher and the education specialist" (P). Before a course can be offered to students, the person responsible for the course must carry out quality control in relation to the work done by the various specialists. This task is carried out by educational specialists in the other two institutions and by teachers in the third institution. In this last case, the teacher must decide whether he will supervise the students himself or whether he will delegate this task to tutors. However, according to the collective agreement of TÉLUQ University (2017-2022), professors must obligatorily supervise some students per year. To date, this practice has not yet been implemented, requiring profound changes in the responsibilities assigned so far to tutors.

### **6.2.2 Managing Courses and tutors**

The management of the courses consists of answering the requests from production team,

distribution team, computer support and tutors. Several types of problems inevitably arise, which may be related to the course content, the organization of the website, the conduct of exams, the use of the right versions of the corrected work or exams, errors in the corrected work, or a complaint from a student regarding corrections or services received. "Course problems are routine management. If there is a link that is not functional, a series of corrected work that have errors, stuff like that, that's part of my job" (D). The management of the courses offered and the tutors are relatively difficult to do for a person who does not supervise any student in the courses, since what happens there is relatively invisible to the teacher. Course management therefore depends largely on the willingness of tutors and students to inform and make the most appropriate suggestions.

Teachers, at TÉLUQ University and educational specialists in the other two institutions, must train tutors in relation to the content being addressed, the format used (the platform used, the existence of a discussion forum, a portfolio, wikis, expert interviews, a basic book, articles, hyperlinks to particular sites, etc.), the characteristics of the work and examinations used, the criteria for correction and the feedback. They must also communicate to them their expectations regarding the support to be given to the students.

The tutors' job consists of welcoming the students to their courses by sending an email and / or making a phone call, answering their questions, evaluating work and exams, and providing feedback on these activities. This last task requires the most time, according to some respondents. "95 to 98% of the tutors time is allocated to correcting the work" (D).

When a teacher supervises his students, he sees for himself the good and the less good aspects of his courses, allowing him, if necessary, to adjust them. "I think that the first thing to do is to live in the reality of the students, so to supervise one's own courses" (D). "What I would say to teachers is to supervise the students" (P). Since a tutor works in several courses, he receives many guidelines for different educational scenarios and from many supervisors, which adds to his task. In all three institutions under review, for a variety of reasons, the tutors may differ from the guidelines provided. The relationship with the officials in charge and the tutors is sometimes difficult. "There is always a problem in getting tutors involved in meetings. You have to invest for travel and time" (D). The institutions does not provide a work space for tutors, oblige them to work at home. "There are 250 members who are not there, so they

have little contact with the people who are there. There have been difficulties for a long time between the tutors and the institution " (D).

## **7 THE PERCEIVED ADVANTAGES AND DISADVANTAGES OF ONLINE TEACHING**

Although offering online courses completely changes the task of a teacher who normally offers face-to-face classes, thus requiring him to work with multiple stakeholders, these teachers can still find several benefits.

*Expert advice and support.* Throughout the course design or the course review process, the teacher relies more on the collaboration of experts, whose skills are used in the various stages of the process. In the three institutions concerned, an education specialist provides expertise in course design, learning strategies, technological tools to use as well as a course revision to ensure overall consistency. A linguistic expert reviews the texts. Other experts edit the whole course and publish it online. The institution then deals with the dissemination of the lessons. A service for the dissemination of lessons advertises the course in a directory as well as online. A service also takes care of buying the necessary materials and distributing them to the students.

*Use of electronic tools.* If so desired, and often with the advice of an education specialist, a teacher can use several technological tools in his class (discussion forums, videoconferences, multimedia video capsules, blogs, wikis, portfolio, etc.) to make it dynamic and more to the liking of students who are more and more skilled with technology.

*Acquisition of skills that can improve a face-to-face course.* Since online education must be programmed rather than intuitive, the development of an online course leads to the development of specific skills and can have repercussions on the development of face-to-face courses.

*Scheduling freedom in asynchronous courses.* Teachers in asynchronous courses enjoy great freedom in adopting a schedule for designing their courses, since they do not have to give their lessons on fixed dates. They do not have to finish the design of a course on a specific date, except to respect the schedule they have set themselves for the development of the course.

However, the task of online teaching, according to the strategy of independent learning, seems to have the following disadvantages compared to classroom teaching.

*Little or no exchange with the students.* The teacher who chooses not to supervise students does not maintain any contact with them. The teacher loses the pleasure and stimulation that such exchanges provide.

*Isolated work.* The teaching task is mainly carried out alone, although it requires some team meetings, since the production of online courses is essentially an assembly line; the work of one person begins when the work of the other ends.

*Person in charge of the work done by the team.* Although a course is the result of the work of several specialists, the teacher is fully responsible for his courses. In the management of the work teams, the teacher must ensure that the criteria for quality and deadlines are met.

*Risk of abandoning teaching.* The freedom to set deadlines in course design can become a constraint for the teacher who prioritizes other aspects of the task, such as research. Since tasks are managed annually and most courses take more than a year to design, too much time allocated for designing a course may go unnoticed by peers, but may become apparent when the teacher is evaluated where the assessment focuses on the quantity and quality of the work done. The teacher may be criticized for being too slow or designing online courses that contain a lot of irregularities.

*Teaching, without a beginning or an end.* Since there are no real dates for starting and ending a semester in a continuous enrollment process, as practiced in two of the post-secondary institutions under study, there are always active students in these courses. This requires a continuous management of the courses and the tutors. In addition, it is difficult for these staff members to take their annual vacations, which involves depriving students of supervision for a certain period of time during their course, and this, when no replacement mechanism has been provided.

*Important and constant involvement in teaching.* Unlike face-to-face teaching, where the experienced teacher benefits from the work he has done in previous years, the online teaching load does not diminish over time. The teacher must constantly design new courses and update his old ones.

## 8. DISCUSSION

Our results reveal extremely different realities with the stakeholders involved. Two institutions offer all their courses online, while for one institution, the courses are designed by external designers, and for the other, by regular teachers. In the third institution, some online courses are offered, but most of the courses are face-to-face and it is mainly lecturers who design these courses or by experts who are external to the institution. In all these cases, special staff members take care of the students (tutors), which brings its share of problems, mainly due to a lack of cooperation between the members of these teams.

Despite the significant increase of online courses (Bates et al., 2017; CSE, 2015; Julien and Gosselin, 2016; Paquelin, 2016), the ways of doing things have not been proven. The required skills for designing and delivering such courses remain abstract as well as the benefits that teachers can derive from them, especially when collective agreements do not take into account the particularities of online courses.

A teacher responsible for online courses, as reported in this research, has some scheduling freedoms, but can hardly reduce the pace in the production of his lessons during his career. In institutions that offer continuous enrollment, unlike face-to-face teachers who can concentrate on other projects as soon as the teaching semester is over, teachers in online courses are constantly called on by one course or another, as well as by the tutors. However, in light of the various collective agreements that have governed the work of TÉLUQ University teachers from the beginning, we find that this teaching task is struggling to find its balance.

The absence in our sample concerning the cohabitation of online teaching and classroom teaching regarding the teacher's task is a limiting factor in our research. However, the scientific literature (Bates et al., 2017; Paquelin, 2016) enumerates several campus institutions that offer online courses, even though collective agreements have difficulty taking into account the task of online teaching. There is therefore a lack of recognition of the work done by the teachers. Since the tasks of face-to-face and online courses are very different, would there be any particular difficulties in managing a hybrid teaching assignment, including face-to-face and online courses? Other research could attempt to answer this question.

## 9 CONCLUSIONS

More and more campuses are now producing online courses. The processes for the production of courses, far from being unique, are multiplying. The way in which the teachers' task is designed in this present research will surely be of interest to institutions who are venturing into growing their number of online courses as well as to institutions who only offer online courses, where the capacity to imagine solutions is crucial. The challenge is particularly important for bimodal institutions that have to work with the requirements for the production of both face-to-face and online courses. Although the ideal model is not yet necessarily established, an important development for online courses, we believe, must involve a revision of the teachers' collective agreement to take into account this new reality. Research could explore avenues for such changes, for the skills to be developed and the organization of the work to be prioritized, to ensure the accessibility, quality and practicability of these online courses.

## REFERENCES

- Audet, L., 2011. Passé, présent, avenir : regards sur l'évolution de la formation à distance au Canada francophone. *Distances et savoirs*, 9(3), pp. 313-330.
- Bates, T., Desbiens, B., Donovan, T. Martel, E., Mayer, D., Paul, R., Poulin, R and Seaman, J. 2017. Évolution de la formation à distance et de l'apprentissage en ligne dans les universités et collèges du Canada. Responsables du sondage national sur la formation à distance et l'apprentissage en ligne dans les établissements postsecondaire, Vancouver (Colombie-Britannique), Canada.
- Collective agreement for the teachers of University of Montreal (2013-2017). Retrieved from: [https://rh.umontreal.ca/fileadmin/ressourceshumaines/documents/conventions\\_et\\_ententes/Convention\\_coll\\_ective\\_SGPUM.pdf](https://rh.umontreal.ca/fileadmin/ressourceshumaines/documents/conventions_et_ententes/Convention_coll_ective_SGPUM.pdf)
- Collective agreement for the teachers of UQAM, 2016-2018. Retrieved from: [http://www.spuq.uqam.ca/conventions\\_collectives/professeurs](http://www.spuq.uqam.ca/conventions_collectives/professeurs)
- Collective agreement for the teachers of UQTR, 2013-2017. Retrieved from: [https://oraprdnt.uqtr.quebec.ca/pls/public/gscw031?owa\\_no\\_site=1436&owa\\_no\\_fiche=164](https://oraprdnt.uqtr.quebec.ca/pls/public/gscw031?owa_no_site=1436&owa_no_fiche=164)
- Collective agreement for the teachers of TÉLUQ University, 2017-2022. Retrieved from: <https://spptu.TÉLUQ.ca/notre-convention-collective/>
- Collective agreement for the teachers of Laval University, 2016-2020. Retrieved from: <https://spul.ulaval.ca/convention-collective/>

- Conseil supérieur de l'éducation [CSE], 2015. *La formation à distance dans les universités québécoises : un potentiel à optimiser*. Avis au ministre de l'Éducation, de l'Enseignement Supérieur et de la Recherche. Québec : Conseil supérieur de l'éducation.
- Del Moral, E. and Villalustre, L., 2012. University teaching in the 2.0 era: virtual campus teaching competencies. *Revista de Universidad Sociedad del Conocimiento (RUSC)*, 9(1), pp. 231-244. Retrieved from: <https://link.springer.com/article/10.7238/rusc.v9i1.1127>.
- Julien, M. and Gosselin, L. 2016. L'essor de la formation à distance dans le système universitaire Québécois. Sommaire des résultats d'une recherche. *Distances et médiations des savoirs*, 14, posted on June 24, 2016, accessed June 27, 2016. Retrieved from: <http://dms.revue.org/1474>
- Laval University, 2016. *Nos indicateurs repères*. Retrieved from: [https://www.ulaval.ca/fileadmin/ulaval\\_ca/Documents/indicateurs/indicateurs-reperes-Universite-Laval-2016.pdf](https://www.ulaval.ca/fileadmin/ulaval_ca/Documents/indicateurs/indicateurs-reperes-Universite-Laval-2016.pdf)
- Loisier, J., 2013. *Mémoire sur les limites et défis de la formation à distance au Canada francophone*. Montréal : Réseau d'enseignement francophone à distance du Canada (REFAD).
- National Federation of Teachers of Quebec (FNEEQ (CSN)). 2010-2015. Collective agreement. Retrieved from: <http://www1.cegepgranby.qc.ca/seecghy/Documents/convention/Convention%20collective%202010-2015%20texte%20consolide%20final.pdf>
- Paquelin, D., 2016. D'une université campus à une université multi-modale. *Distances et médiations des savoirs*, 16, posted on December 10, 2016, accessed on October 11, 2018. Retrieved from: <http://dms.revues.org/1602>
- Poitras, J., 2016. *Enseignement en ligne : comment les professeurs peuvent-ils y trouver leur compte?* Département de gestion des ressources humaines, HEC Montréal. Retrieved from: [http://www.hec.ca/recherche\\_transfert/gestion-de-la-recherche/lecons\\_inaugurales/Cahier\\_LI\\_Jean\\_Poitras.pdf](http://www.hec.ca/recherche_transfert/gestion-de-la-recherche/lecons_inaugurales/Cahier_LI_Jean_Poitras.pdf)
- Racette, N., Poellhuber, B. and Fortin, M.-N., 2014. Dans les cours à distance autorythmés : la difficulté de communiquer, *Distances et médiation des savoirs*, 7, posted on Octobre 27, 2014, consulted on July 27, 2015. Retrieved from: <http://dms.revues.org/829>
- Racette, N., Poellhuber, B. and Bourdages-Sylvain, M.-P., 2017a. Communiquer avec les étudiants à distance. pp. 113-132. Dans Karsenti, T. et Bugmann, J. (dir.), *Enseigner et apprendre avec le numérique*, Les Presses de l'Université de Montréal, Montréal.
- Racette, N., Poellhuber, B. and Bourdages-Sylvain, M.-P., 2017b. Quelles sont les caractéristiques de l'emploi et du travail des tuteurs en formation ouverte et à distance ? *Distances et médiations des savoirs*, 18, Posted on June 20, 2017, consulted on June 20, 2017. Retrieved from: <http://dms.revues.org/1835>
- Roberts, R. M., 2011. *Best instructional practices for distance education: a meta-analysis* (dissertation, University of Nevada, Las Vegas, États-Unis). Retrieved from: <https://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=2239&context=thesedisertations>
- Santo, S.A., 2006. Relationships between Learning Styles and Online Learning. Myth or Reality? *Performance Improvement quarterly*, 10(3), pp. 73-78.
- Simard, Y., 2018. *L'efficacité de la formation à distance au niveau postsecondaire : une méga-analyse*. Thesis, Gauthier, C. and Richard, M. (dir.) Université Laval : Québec, Canada.