



# Rapport de recherche

**Impacts of the COVID-19 Pandemic on  
Quebec Vocational Teachers and Educational  
Consultants**

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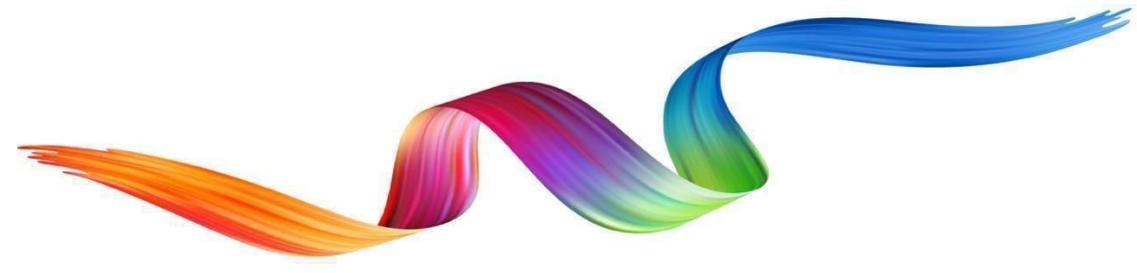


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## FOREWORD

On March 13, 2020, the Quebec government announced the closure of educational institutions to curb the spread of the COVID-19 virus. Teachers, students, and stakeholders from all levels of training received this news with concern, which upset their daily lives and raised waves of questions. The complete confinement decreed in the following days, the more or less successful resumption of certain remote activities in April 2020, and the partial reintegration of classes in May 2020 and, above all, everyone's uncertainty in the face of this still little-known viral threat has significantly affected the personal and professional lives of every Quebecer. Having to act urgently, faced with the new and the unknown, decision-makers have gradually put in place measures to enable learners at all levels of training to continue, at least in part, their learning. The diversity of training contexts in the field made it impossible to systematically deploy the measures set out, adding to the already existing confusion.

From the start of the confinement in March 2020, l'Observatoire de la formation professionnelle du Québec closely followed the evolution of the situation and its impacts on vocational training (VT). Concerned about the effects of restrictive measures on front-line workers, namely vocational teachers and educational consultants, the members of the Observatoire quickly noticed that the particularities of the teaching and learning context of the professional sector were not taken into account.

As the start of the fall 2020 school year approached and the threat of a second wave loomed on the horizon, the echoes of discomfort felt by many VT workers prompted the Observatoire to conduct a survey to document the situation. Rarely present, or even absent, in Quebec studies taking stock of the situation in training establishments, the vocational training sector, given its particularities concerning the public it serves and its teaching and learning, called for specific study.

Members of the Observatoire have thus developed a questionnaire to document the experience of teachers and pedagogical advisors in vocational training in times of pandemic. Ethics certification was obtained in October 2020 from the Comité d'éthique de la recherche (CÉR) Education and Social Sciences of the University of Sherbrooke. The survey, posted online in November, was completed by 1,110 people.

The survey results are presented in this report, which concludes with recommendations for the Ministry of Education and vocational training stakeholders in Quebec.



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## 1. ISSUE

The pandemic caused by the coronavirus (SARS-CoV-2), into which the world was plunged at the beginning of 2020, continues to significantly impact education systems. In Quebec, government actions and decisions aimed at stabilizing the situation in education have allowed, with varying degrees of success, students to continue their schooling remotely, in person, or in hybrid mode. These modes have depended on the teaching levels and the sanitary measures in force during given periods.

However, the vocational training sector faces specific challenges since most training occurs in an authentic context of apprenticeship in trades (at the vocational training centre or outside, especially for internships). The difficulties experienced by teachers and educational consultants are distinct from other levels of education, often placing them in a position marked by uncertainty and discomfort.

### 1.1. Context

Faced with the still-unknown virus, countries tried to adapt to the situation with limited scientific knowledge at its disposal. School closures were among the most quickly adopted measures to curb the spread of COVID-19. In fact, from the first weeks of the massive viral spread, Quebec chose this strategy, similar to 193 other countries, sending up to one and a half billion learners home (UNESCO, 2020).

For the Quebec education system, this closure, followed by the progressive openings in adapted modes and the second closure in December and January 2021, has caused numerous upheavals. In particular, education stakeholders were plunged into a remote training mode, most of the time without adequate preparation. However, this "emergency educational engineering" (Villiot-Leclercq, 2020) has effects that are still unknown on those who experience it, first and foremost, teachers and their students (Roy, Karsenti, Poellhuber and Parent, 2020).

Several countries are currently conducting studies in different training sectors to document this unique situation, the ways of responding to it, and the effects on the people involved. Studies with various populations and contexts have already been published (e.g., Borges, Tardif, and Karsenti, 2020; Lemieux, Bernatchez, and Delobbe, 2020; Karsenti, Poellhuber, Roy, and Parent, 2020; Moreau, Smith, Larose, and Chamberland Black, 2020; OECD, 2020; Pramling Samuelsson, Wagner and Eriksen Ødegaard, 2020; Smith, Guimond, Bergeron, St-Amand, Fitzpatrick and Gagnon, 2021; UNESCO, 2021). Further, an attempt to identify, in the immediate term, the effects on different aspects of the school experience of students and teachers have also been studied. However, the VT sector seems to have been overlooked in Quebec and elsewhere (Coulombe, Gagnon, Bisson, Gagné, Dupuis, Larouche, Alexandre, and Beaucher, 2020; European Commission, 2020) since the issues that concern VT do not allow the conclusions of research performed in the primary or secondary sectors to be generalized. How to respond to the injunctions

of physical distancing when learning a trade that occurs in confined spaces such as the cab of a truck or near another person as required for the practise of dental care? How to adapt the health instructions to each of the 136 professions taught in VT? How do teachers perceive this professional experience?

It is crucial to document the situation in VT by examining the experience of the stakeholders who have reacted to this unexpected situation, from the first confinement in March 2020 to the start of the school year in September 2020. In addition, it seems helpful to identify the constructive and promising changes generated by the experience of the pandemic, likely to become established in VT in the longer term. These reasons highlight the necessity of this report to be brought to the attention of the Quebec vocational training community and the Ministry of Education since the latter has so far taken little account of the particularities of vocational education in its actions.

## **1.2. Research Question and Objectives**

The project's **general aim** was to document the personal and professional experience of teachers and educational consultants in VT since the pandemic's beginning. As such, this study addresses the experiences (trials and challenges encountered) concerning the different systems within which they evolve (ontosystem, microsystem, mesosystem, exosystem, and macrosystem) and the specific situation of vocational education.

## **2. DEFINITIONS AND CONCEPTS**

### **2.1. The Concept of Experience**

We distinguish three forms of experience (Zeitler and Barbier, 2012): the active form, i.e., what occurs in an individual's life and their environment; the passive form, which refers to the way they interpret this experience because not all people experience situations with the same intensity (Dewey, 1934); and the discursive form, i.e., what the individual chooses to share about their experience. Even after relatively long periods, an individual can return to the significant moments of their experience, testimonies of the intensity, the tensions, or the challenges of the ordeals they have endured (Osty, 2013). These ordeals are described as: "more or less shared challenges, inscribed in a cultural history (of the profession, for example) and constructed on a social level" (Perez-Roux, 2016, p.3). For Martuccelli and Lits (2009), each ordeal is presented as a test placed on the individual's path, a challenge they must meet and from which they emerge transformed. The test, while remaining eminently personal regarding an individual's speech, takes on the proportions of a collective issue when it manifests itself in the discourse of groups of individuals, such as during this unprecedented pandemic. Of the two meanings granted to the term 'test' by Martuccelli (2015), the certification test and the challenge test, we retain the second; this form of test constitutes a challenge that confronts, transforms, and forges the individual at a particular moment in their life.

### **2.2. The Ecosystem Model**

According to Bronfenbrenner (1979), each social system, whose boundaries are more or less clearly defined, comprises components of the environment and interactions in which an individual interacts. The individual differentiates these different systems within the system (Absil, Vandoorne, and Demarteau, 2012); in other words, age and sex are intrinsically part of it, while the values and ideologies conveyed by society are external.

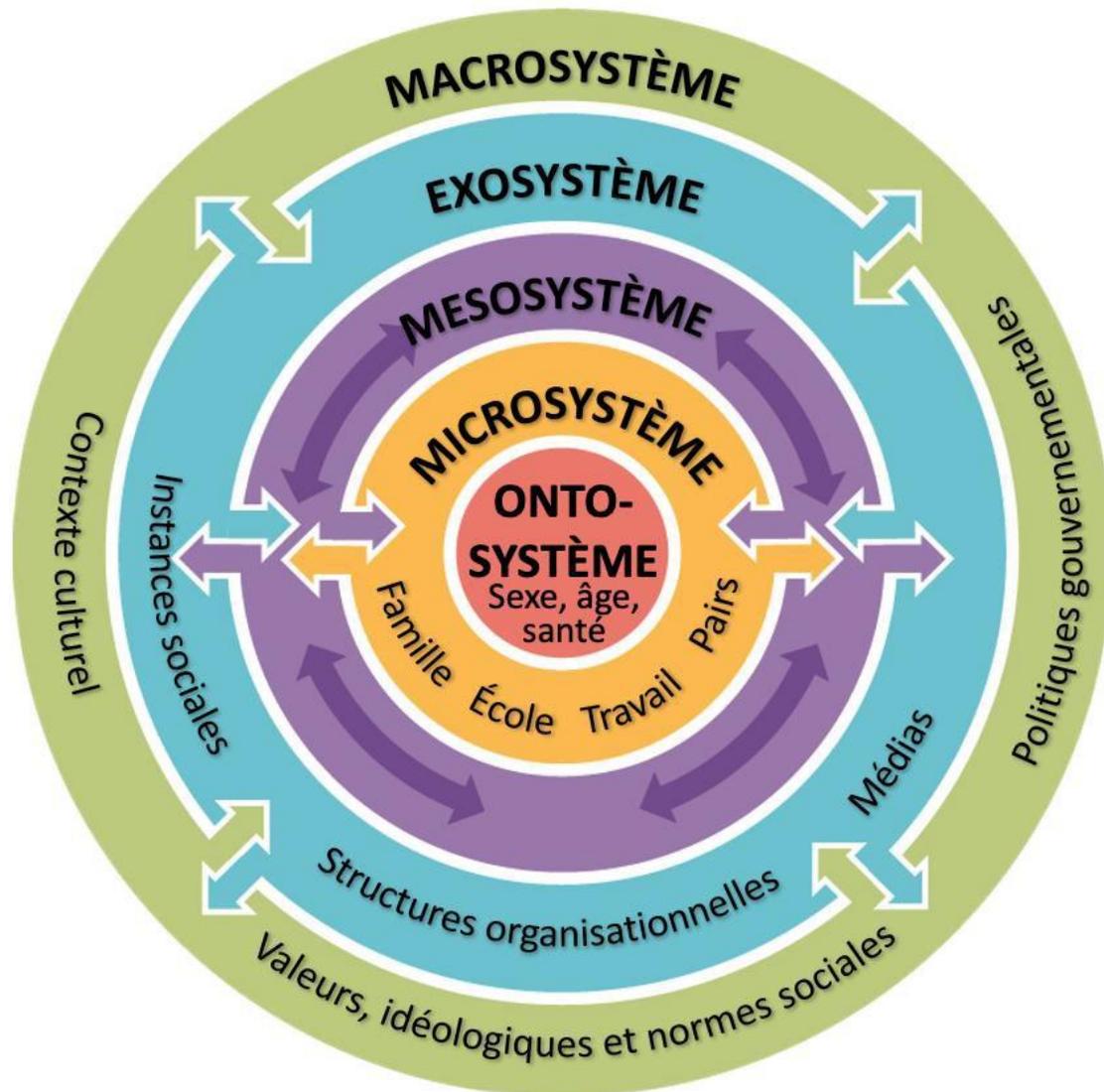


FIGURE 1. THE ECOSYSTEM MODEL BY BRONFENBRENNER (1979), TRANSLATED AND ADAPTED FROM RIVARA AND LE MENESTREL (2016, P.73).

Closest to the person is the ontosystem and the microsystem (Bronfenbrenner, 1979; Lefebvre, 2007). The **ontosystem** includes individual characteristics such as abilities, skills, personality, and genetic factors that can

bring about health problems, values and beliefs, expectations, age, or gender. The **microsystem** involves immediate environments, such as family, friends, work colleagues, hobbies, and daycare. These living environments directly influence a person's adaptation and social participation. Next is the **mesosystem**, which comprises all of the interacting microsystems and the significant relationships between these systems. Depending on whether they work in the same direction and coherence, the quality of the connections between each system impacts an individual's behaviour (Inserm, 2016). Meanwhile, the **exosystem** refers more broadly to the social and organizational structures external to the individual, but which can influence them, such as the job loss of one's spouse and its financial impact on the quality of life of the other partner. Finally, the **macrosystem** is based on societal values, government policies, norms, and ideologies that can influence the individual.

These systems, while relatively constant, change over time and through lived experience (Absil, Vandoorne, & Demarteau, 2012; Bronfenbrenner, 1979). Moreover, they inter-influence each other, primarily in the system's direction, most external to the person towards the most internal. For example, the beliefs (macrosystem) influence the individual's expectations (ontosystem). Thus, these systems constrain the individual and construct them because they internalize the system's characteristics (Dubet, 1994); they provide an interesting theoretical framework by identifying components to be understood for a period (Bronfenbrenner, 1979).

### **3. METHODOLOGY**

#### **3.1. Research Strategy**

The pandemic context during which this study occurred calls for strategies to act quickly while remaining rigorous. Therefore, it was essential to adopt a research strategy that allowed respondents to be reached immediately throughout Quebec.

As such, this study used an electronic survey (secure Teams Forms from the University of Sherbrooke). The participation rate was reputed to be higher electronically than by mail but lower than in-person solicitation, which encouraged the use of primarily multiple-choice and short-answer questions in the survey design (Saleh and Bista, 2017; Sue and Rittler, 2012). This online tool was based on feasibility considerations such as speed, access to numerous participants, and low costs.

Ethics certification was granted by the Research Ethics Committee of the Université de Sherbrooke in October 2020. The survey's 42 questions were preceded by an information page informing participants of the project's objectives, the terms of dissemination of results, and what their participation meant in terms of time, risks, and benefits. It also explained that respondents could terminate their participation at any time and that the data collected would remain anonymous at all project stages. A section of this information page also informed participants that by responding to the survey, they were deemed to have provided their consent to their data being processed in the sample set without the possibility of individual identification. A list of referrals for psychological help and support services was included at the end of the survey in case people felt the need to further discuss their experience during the pandemic.

#### **3.2. Participants – Sample Selection**

The population targeted by this survey was teachers and educational consultants in Quebec vocational training, i.e., approximately 10,000 teachers (MEES, 2018) and about 200 educational consultants, assuming one consultant per vocational training centre.

To reach the greatest number of participants in a short time, we used known networks and structures with a channel of communication with potential participants or significant people in the VT community. The survey link was thus distributed from the Observatoire's social media (Facebook, LinkedIn, Twitter) and those of the project's research team. The invitation to participate was freely circulated on social media by those interested. The mailing lists of the five baccalaureate programs in vocational education were also used (the heads of these programs being members of the Observatoire). Thus, snowball-type sampling made it possible to reach more than a thousand people, i.e., 992 teachers and 118 educational

consultants. The quantitative data from these 1,110 respondents were subjected to descriptive analyses.

The sample of 1,110 respondents comprises 51% men (n = 560) and 49% women (n = 550). The average age is 47.4 years and varies between 24 and 73 years (M = 47.36; SD = 8.85). Most participants were between 40 and 59 years old, with a proportion of 72%. Thus, 37% of participants were between 40 and 49 years old, and 35% were between 50 and 59.

Most respondents hold a teaching position (89%), while 11% are educational consultants.

Table 1 summarizes the data regarding the participants' demographic characteristics, which relate to their sex, age, and occupation.

TABLE 1. DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS (N = 1,110)

<b>Respondent Characteristics</b>	<b>n</b>	<b>%</b>
<b>Sex</b>		
Men	560	51
Women	550	49
<b>Age</b>		
24 to 29	23	2
30 to 39	201	18
40 to 49	406	37
50 to 59	392	35
60 to 73	88	8
<b>Occupation</b>		
Teacher	992	89
Educational Consultant	118	11

### **3.3. Survey**

The survey comprises five sections documenting participants' experience during the pandemic, according to the different systems in which they evolved (ontosystem, microsystem, mesosystem, exosystem, and macrosystem, inspired by Bronfenbrenner, 1979). The survey's first two sections address elements that mainly affect the ontosystem and the microsystem, i.e., respondents' individual and environmental characteristics such as gender, age, region, state of health, occupation, and university attended (for those currently enrolled in university). The third section relates to the mesosystem, comprised of all the interacting microsystems and the significant relationships between these systems. It thus covers the main challenges encountered during the pandemic. The following section, related to the exosystem, refers to the effects of the changes imposed, and the modifications made in the working conditions and environment, particularly in the vocational training centre or the training program. Finally, the last part of the survey focuses on participants' perceptions and beliefs regarding the training offered and the impacts of pandemic-related changes in the long term (macrosystem).

The frame of reference on experience (Zeitler and Barbier, 2012) and the social systems defined by Bronfenbrenner (1979) served as a framework for developing the survey. Some survey questions were inspired by other studies conducted with teachers from other sectors. For example, the Yukon Department of Education questionnaire that led to the *COVID-19 student report learning survey: school staff*, as well as findings from the *COVID-19 et éducation : la réponse des syndicats de l'éducation*, led by l'Internationale de l'Éducation, served as starting points for developing the questions. These have been enhanced and adapted by the researchers of the Observatoire concerning the particular context of vocational training in Quebec, the objectives, and the frame of reference of this research. Finally, most questions were addressed to both groups, teachers and educational consultants; however, some proposed a bifurcation in the survey interface to address only teachers. We indicate when this is the case in the data description.

### **3.4. Quantitative Data Analysis**

The data were subjected to descriptive analyses (mean, standard deviation, and percentage) and inferential analyses (t-test for independent samples) using SPSS software. These analyses were relevant for comparing response means between participants. The mean scores have been rounded to make the data easier to read. Using Excel made it possible to create the anonymized database and import it into SPSS. Graphs were generated using this same spreadsheet software to present the results. At the end of the process, the data described and interpreted led to the formulation of recommendations.

### **3.5. Research Limitations**

The research team conducted the survey design and data analysis from l'Observatoire de la formation professionnelle du Québec with all of the rigour required, in spite of a context where the process had to be done quickly. However, methodological and conceptual choices were made and led to certain limitations that must be considered when reading the results.

First, we have documented the experience of teachers and educational consultants working in Quebec's vocational training centres broadly and comprehensively. This decision, therefore, implied restricting us from deepening specific themes to avoid the creation of a lengthy survey.

Second, the participants chose to complete the survey. It is plausible that people particularly sensitive to the context or with a reasonably definite position took the time to answer the Observatoire's questions. It is not possible to do more than speculate in this respect.

Third, the survey was primarily distributed through social media, which may have excluded people who do not frequent them. Some of the older people could not be reached as easily as with a more conventional sample constitution method.

Finally, an explicit limitation of this research, and all of those having focused on the pandemic, is that it was developed in an emergency and without the usual critical perspective. In time, we are likely to identify our blind areas. However, it is necessary to act and document the situation in the immediate future.

## 4. RESULTS

The following section details the survey results, organized around the categories taken from Bronfenbrenner's model (1979), i.e., the five systems (ontosystem, microsystem, mesosystem, exosystem, and macrosystem) within which individuals evolve: teachers and educational consultants in VT. Each system, starting with the one closest to the individual, corresponds to each of the five sections of this study's results: individual characteristics (Section 4.1), living environment (Section 4.2), relationships between stakeholders (Section 4.3), working conditions (Section 4.4), and representations concerning the VT (Section 4.5).

### 4.1. Individual Characteristics

This part of the report relates to the ontosystem. It presents the survey results, which intrinsically concern the persons questioned, i.e., their characteristics, the sector of the profession(s) they teach or in which they intervene, their professional experience, their professional situation during the confinement of spring 2020 and autumn 2020, their level of risk in the face of SARS-CoV-2, and their feelings about the situation.

#### 4.1.1. Professional Characteristics

*The professional sector.* Table 2 presents the breakdown of the number of teachers and educational consultants who participated in this survey according to the training sector(s) in which they work (more than one choice possible). Respondents from 20 of the 21 VT sectors<sup>1</sup> participated in the survey.

According to the results, 47% of the sample teaches or intervenes in the following three sectors: administration, commerce, and computer technology (24%), health services (14%), and buildings and public works (10%). The other respondents were spread over 17 other VT sectors ranging from 1% to 8%, depending on the sector.

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<sup>1</sup> No respondent mentioned operating in the "Forestry and Pulp Paper" sector.

TABLE 2. PARTICIPANT PROFESSIONAL SECTOR (N = 1110)

<b>Vocational Sector</b>	<b>n</b>	<b>%</b>
Administration, Commerce and Computer Technology	266	24
Agriculture and Fisheries	47	4
Food Services and Tourism	91	8
Arts	37	3
Buildings and Public Works	117	10
Woodworking and Furniture Making	17	2
Chemistry and Biology	8	< 1
Communication and Documentation	36	3
Fashion, Leather and Textiles	4	< 1
Electrotechnology	88	8
Motorized Equipment Maintenance	85	7
Land Use Planning and the Environment	11	< 1
Mechanical Manufacturing	56	5
Maintenance Mechanics	40	4
Metallurgical Technology	50	4
Mining and Site Operations	16	1
Health Services	158	14
Social, Educational and Legal Services	21	2
Beauty Care	66	6
Transportation	15	1

*Note. N = 2,292 responses. The percentage total is greater than 100 since participants could indicate more than one answer.*

The number of years as a teacher or educational consultant. Graph 1 details the respondents' years of experience in vocational training.

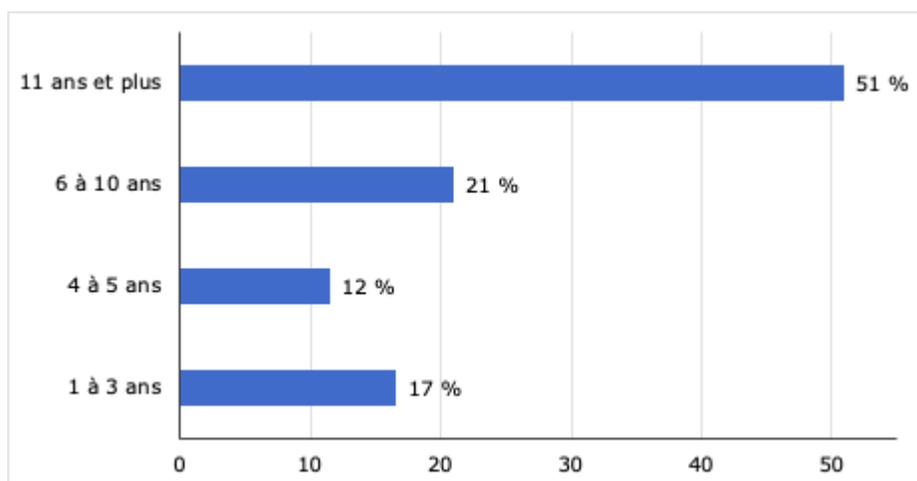


CHART 1. NUMBER OF YEARS AS A TEACHER OR EDUCATIONAL CONSULTANT (N = 1,046)

These results indicate that 51% of survey respondents have held their position for 11 years or more, while 29% have been in their position for five years or less.

The professional situation of teachers during confinement. Table 3 reports the occupation of teaching staff during the confinement period from March 2020 to May or June 2020 (depending on the region).

TABLE 3. TEACHING STAFF PROFESSIONAL SITUATION DURING CONFINEMENT FROM MARCH 2020 TO MAY OR JUNE 2020 (N = 962)

Answers to the proposed choices:	n	%
I continued to teach remotely or online, depending on the centre's directive.	401	42
I ceased teaching because the centre was closed for a period.	299	31
I taught in person while respecting the measures required by Public Health services.	93	10
I ceased teaching because I was providing practical skills at the time of confinement.	67	7
I ceased teaching because there were no clear instructions.	46	5
I taught online and in person.	44	5
I worked (e.g., nurse).	12	1

Note. Percentages add up to more than 100 due to rounding.

On the one hand, more than half of the respondents, 57%, specified that they continued to teach in one way or another during the first confinement period in the spring of 2020.

Of these respondents, 42% continued teaching according to the directives of their centre, remotely or online. 10% continued in-person teaching while respecting the measures required by Public Health, adding 5% who continued in hybrid mode, combining online and in-person teaching.

**42 % of surveyed teachers taught remotely or online during the Spring 2020 confinement.**

On the other hand, 43% of teachers who answered this question completely ceased teaching during this first period of confinement, including 31% because their centre was closed, 7% because they could not teach practical skills under these conditions, and 5% because they did not receive clear instruction.

*Teaching delivery in the fall of 2020.* Table 4 presents the distribution of teachers' responses to the following question: Were you teaching in the fall of 2020?

TABLE 4. FALL 2020 TEACHING DELIVERY (N = 980)

<b>Answers to the proposed choices:</b>	<b>n</b>	<b>%</b>
Yes, in person.	731	75
Yes, in hybrid.	160	16
Yes, remotely or online.	71	7
Yes, under supervision.	4	< 1
No, I did not teach.	14	1

In the fall of 2020, viral spread was more limited than in the spring; three-quarters of teachers offered their teaching in person. However, 16% did so in a hybrid way, and a small number (7%) entirely remotely or online.

#### **4.1.2. Characteristics Related to Physical and Psychological Health**

Participants were asked to specify if they were considered at risk for the COVID-19 virus (diabetes, autoimmune or cardiovascular disease, etc.). One hundred sixty respondents (14%) showed they were at risk for the entire sample, and 950 (86%) indicated that they did not fall into this category.

Graph 2 refers to the following multiple-choice question: *Regarding your work, how did you feel during the confinement from March to May or June 2020?*

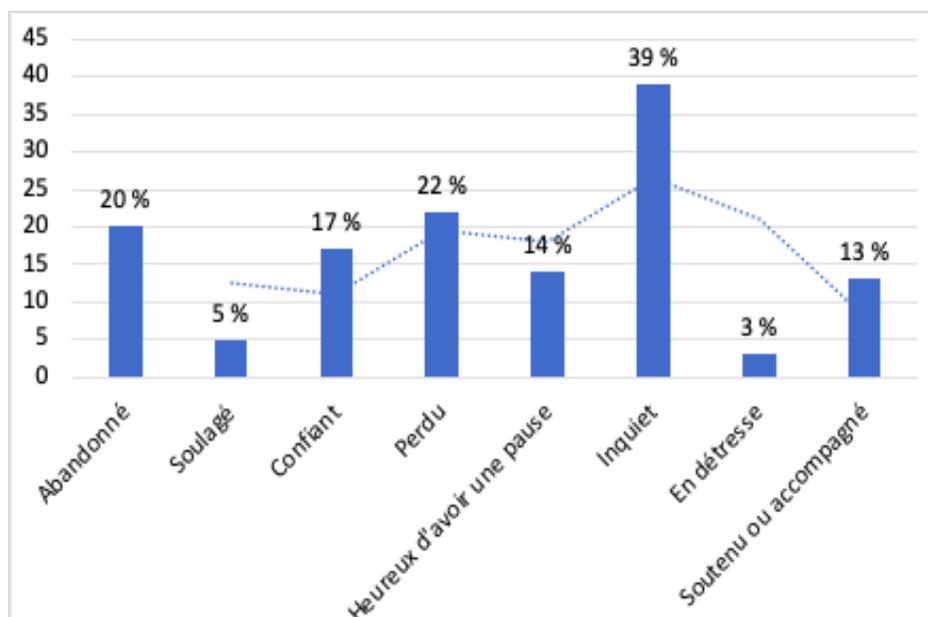
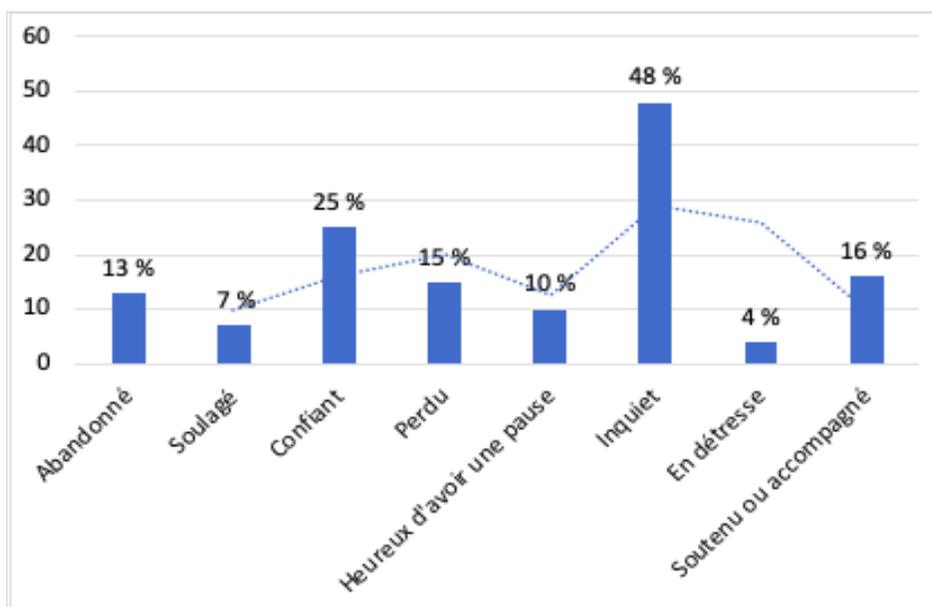


CHART 2. FEELINGS DURING LOCKDOWN FROM MARCH TO MAY OR JUNE 2020 (N = 1110)

Participants could indicate more than one answer to this question. This chart shows how respondents reported experiencing negative feelings as follows: 39% of respondents felt worried, 22% lost, 20% abandoned, and 3% distressed. On the other hand, respondents reported having experienced somewhat positive feelings: 17% were confident, 14% were happy to have a break, 13% felt supported, and 4% said they were relieved.

**Only 13 % of participants felt supported during the Spring 2020 confinement.**

Graph 3 illustrates the feelings of the teachers and educational consultants surveyed at the start of the 2020 school year.



GRAPH 3. FEELINGS AT THE START OF THE 2020 SCHOOL YEAR (N = 1110)

*Feelings of respondents at the start of the 2020 school year.* At the beginning of the 2020 school year, almost half of the respondents (48%) reported feeling worried. Similarly, 15% felt lost, 13% abandoned, and 4% distressed. However, up to 25% of respondents indicated one or the other somewhat positive feelings for this period: 25% felt confident, 16% supported, 10% were happy to have a break, and 7% were relieved. Overall, the level of worry increased, while that of being abandoned and lost decreased; positive feelings increased slightly between spring 2020 and fall 2020 entry.

#### 4.2. Living Environment

Data collection made it possible to compile information on the living environments in which the respondents interviewed evolve, i.e., their microsystem: their family environment, their work, and their university of training.

### 4.2.1. Family Environment

Respondents were asked about balancing work, family, and their personal life during lockdown. They indicated on a scale from 0 to 10 (0 being totally favourable and 10 totally unfavourable) the extent to which the context was favourable or not regarding reconciliation.

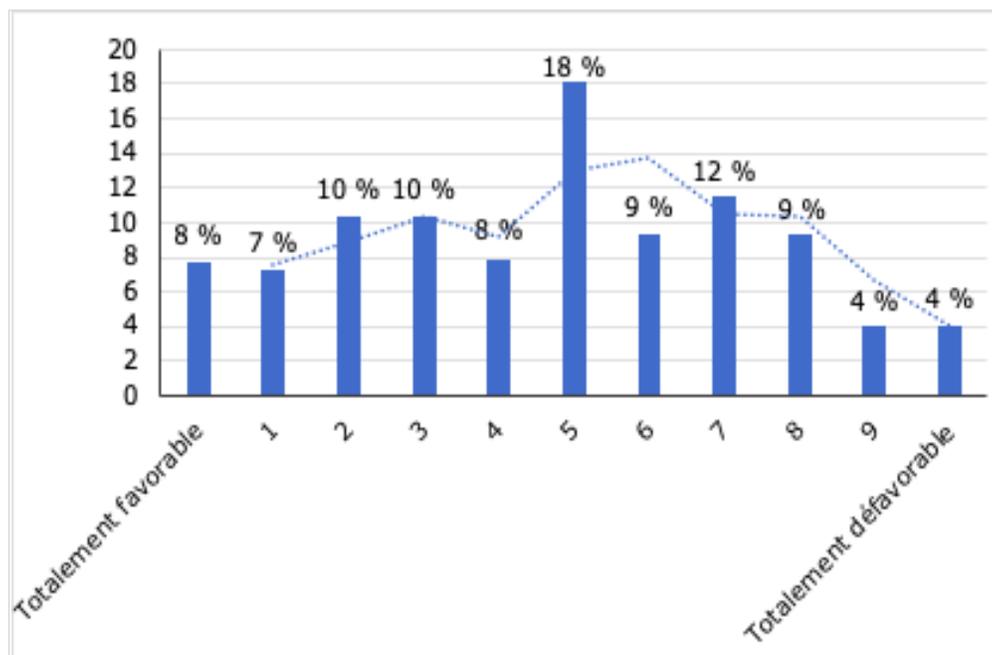


CHART 4. BALANCE OF WORK, FAMILY, AND PERSONAL LIFE DURING CONFINEMENT FROM MARCH TO MAY OR JUNE 2020 (N = 1110)

This graph shows that 18% of respondents perceived that the context was moderately favourable (rating 5) for reconciling the different spheres of their lives during the March 2020 lockdown. The average for all respondents was 4.7 on a scale of 10 (SD = 2.7). On the one hand, 35% of respondents mentioned having perceived favourable repercussions (ratings of 0 to 3), while 29% reported unfavourable effects (ratings of 7 or more) regarding work, family, and personal life balance.

In addition, regarding the family environment, 29% of respondents (n = 316) reported having at least one person in their entourage considered at higher risk for the COVID-19 virus.

## 4.2.2. Professional Environment

Vocational training centre region. Graph 5 indicates the region where the vocational training centre where the respondents' work is located.

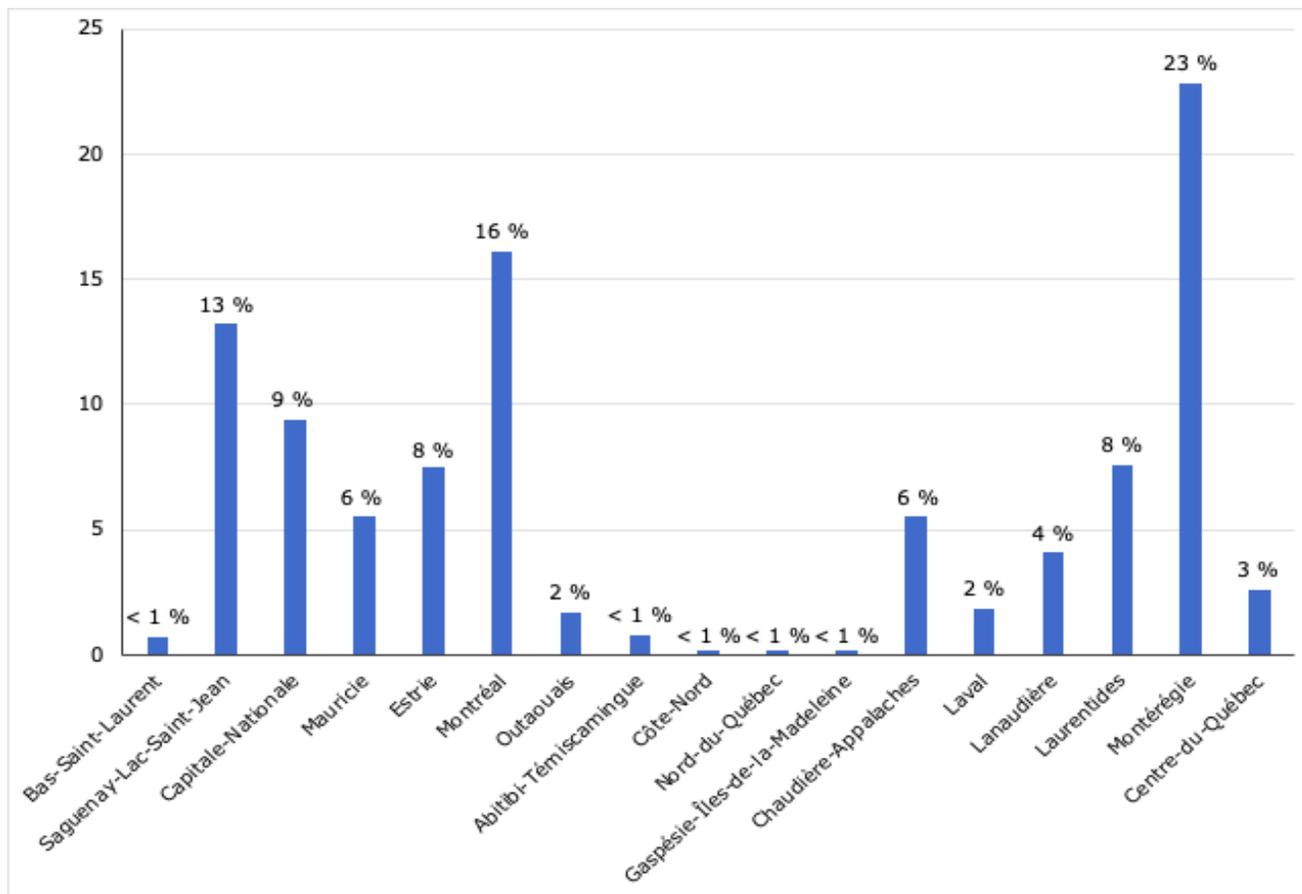


CHART 5. GEOGRAPHICAL DISTRIBUTION OF RESPONDENTS' WORK REGION (N = 1110)

Most of the respondents (41%) work in the greater Montreal area: 23% are in Montérégie, 16% on the island of Montreal, and 2% in Laval. In addition, 13% work in a vocational training centre in Saguenay–Lac-Saint-Jean. Respondents from the Capitale-Nationale region account for 9% of the sample, while those from the Laurentians and Estrie account for 8%. The other regions have a respective representation of 6% or less.

*Absenteeism for reasons related to the pandemic.* Table 5 presents the data obtained from the following question: *Did you have to be absent from work for reasons related to the pandemic?* More than one answer was allowed for this question.

Table 5. Absence from Work for Pandemic-related Reasons

<b>Answers to the proposed choices:</b>	<b>n</b>	<b>%</b>
No.	887	80
Yes, taking care of children or a loved one.	96	9
Yes, awaiting a screening test.	53	5
Yes, I had to self-isolate for 10-14 days following a COVID case at the centre.	26	3
Yes, I had COVID-19.	19	2
Yes, I had to take sick leave for burnout.	12	1
Yes, I was at risk.	8	< 1
Yes, I had to take care of someone who was sick with COVID-19.	3	< 1

*Note. Percentages may add up to more than 100 due to rounding.*

While 80% of respondents did not have to take time off from work, 20% did so for a reason related to COVID-19.

*Impact of the pandemic on personal and family life.* Figure 6 presents the distribution of participants' responses regarding the severity of the pandemic's impact on their personal and family life. To do so, respondents were asked to rate the significance of the effect on a scale ranging from no impact (0) to significant impact (10).

**20 % of respondents missed work due to COVID-19-related reasons.**

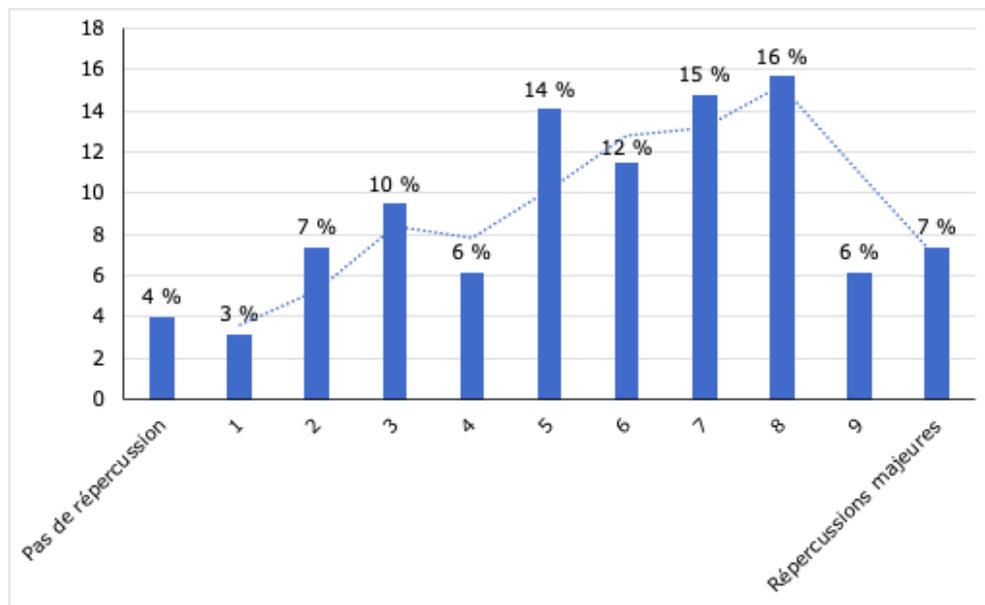


CHART 6. IMPACT OF THE PANDEMIC ON PERSONAL AND FAMILY LIFE (N = 1110)

**Nearly one in two participants reported that the pandemic significantly impacted their personal and family lives.**

Nearly one in two participants (44%) reported that the pandemic significantly impacted their personal and family lives (ratings of 7 to 10). Conversely, 24% of people noted low repercussions (0 to 3) of the pandemic on these two spheres of life. The average score of the 1,110 respondents was 5.7 (SD = 2.7), corresponding to an average level of impact on personal and family life (average score of 6 on a 10-point scale).

### 4.2.3. University Training Environment

The university environment is one frequented by many teachers and VT educational consultants. Among the 1,110 survey respondents, 525 people (47%) were enrolled in a university course.

*Respondents' university of attendance.* Table 6 presents student numbers per university.

TABLE 6. RESPONDENTS' UNIVERSITY OF ATTENDANCE (N = 525)

University attended	n	%
Université de Sherbrooke	246	47
Université du Québec à Rimouski	167	32
Université du Québec à Montréal	49	9
Université du Québec à Chicoutimi	41	8
TÉLUQ	6	1
Université du Québec à Trois-Rivières	5	1
Université de Laval à Québec	5	1
Université du Québec en Abitibi-Témiscamingue	3	< 1
Université de Montréal	2	< 1
Concordia	1	< 1

Nearly 50% of survey participants who were studying at university attended the Université de Sherbrooke (n = 246), 32% were enrolled at the Université du Québec à Rimouski, 9% attended the Université du Québec à Montréal, and 8% at the University of Quebec at Chicoutimi.

Of these 525 students, 441 (40% of the total sample) were enrolled in one of the five Quebec bachelor's degree programs in vocational education (Baccalauréat en enseignement professionnel - BEP) (Université du Québec à Montréal, Université du Québec à Rimouski, Université du Québec

in Abitibi-Témiscamingue, University of Quebec at Chicoutimi, University of Sherbrooke). The remainder (8%) were in a graduate or post-graduate university program.

*Significant impact on academic progress and experience.* To understand the pandemic's repercussions on the respondent's university progress, they were invited to answer the following question: "To what extent has the pandemic had a significant impact on your progress and your university experience?" To assess the scope of the impact, respondents were asked to rate their perception on a scale from 0 (no impact) to 10 (significant impact). The results are shown in Figure 7.

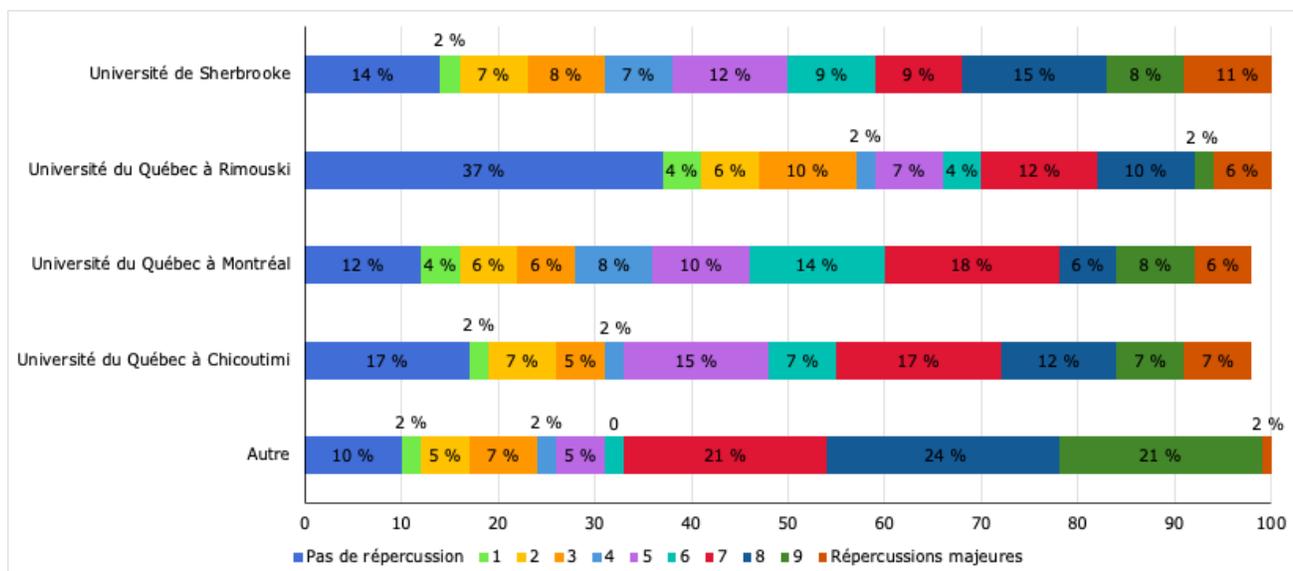


CHART 7. IMPORTANCE OF IMPACTS ON UNIVERSITY PROGRESS AND EXPERIENCE BY EDUCATIONAL INSTITUTION (N = 525)

The results presented in Graph 7 illustrate the importance of the repercussions on the progression and the university experience according to the university attended. Thus, for each university, the level of impact is represented by a colour. The graph indicates that the student-teachers of the Université de Sherbrooke (43%) and those of the Université du Québec à Chicoutimi (43%) reported that the pandemic had significant repercussions (ratings of 7 to 10) on their progress and their university experience. Regarding the Université du Québec à Rimouski, where the BEP program is offered exclusively online, 37% of student-teachers reported that the pandemic had not impacted their university studies.

To this end, we verified whether the repercussions on university progress and experience varied according to whether the university training of the student-teacher is generally conducted remotely or not; an independent sample t-test was conducted among the 434 teachers (44%), therefore excluding educational consultants, registered in a BEP. The results reveal that the level of repercussions differed significantly depending on whether the student-teacher continued their training in a BEP program remotely or not ( $t(430) = 1.58, p < 0.001$ ).

Thus, the 162 respondents registered in the BEP at UQAR ( $M = 3.6$ ;  $SD = 3.5$ ), which is offered entirely remotely at all times, reported that the pandemic had less impact on their university studies than the 270 enrolled in one of the four other universities where the BEP is typically offered in university classrooms (UdeS, UQAT, UQAC, and UQAM;  $M = 5.5$ ,  $SD = 3.2$ ).

### 4.3. Relationships between Stakeholders

In this section, concerning the mesosystem, the results described address the respondents' relationships with students, colleagues, and other stakeholders in the vocational training centre environment. It also discusses the educational challenges encountered during the pandemic, perceived support, and adjustments made to content, planning, and training courses.

#### 4.3.1. Educational Relationships and Environment

*Perceptions of the challenges caused by the closure of the vocational training centres in the spring of 2020.* Table 7 refers to the way participants perceived six situations potentially considered to be challenging. A four-level Likert scale (from *big challenge* to *not a challenge*) was proposed to the respondents. Respondents were also given the opportunity to show that this situation did not concern them.

TABLE 7. PERCEIVED CHALLENGES DUE TO VOCATIONAL TRAINING CENTRE CLOSURES IN THE SPRING ( $N = 1110$ )

	Big challenge		Moderate challenge		Small challenge		Not a challenge	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Receive clear directives on the situation and the actions to be taken.	565	51	255	23	145	12	87	8
Do distance teaching or monitoring (EC).	375	34	309	28	136	12	72	7
Adequate use of tools and platforms.	335	30	374	34	192	17	136	12
Receive computer equipment necessary for remote work.	319	29	229	21	172	16	270	24
Stay in contact with students.	287	26	306	28	202	18	138	12
Stay in contact with colleagues.	138	12	265	24	262	24	382	34

Several of the six situations proposed in the questionnaire seem to have posed significant challenges (big or *moderate*) to the respondents. Thus, five of the six items were qualified as very great or moderately challenged by 50% of the items. This involves receiving clear directives on the crisis and the actions to be taken from responsible authorities (74%), effectively appropriating the tools and platforms (64%), implementing distance learning or monitoring (62%), staying in contact with students (58%) and receiving the necessary computer equipment for this purpose (50%). Thus, only one situation among those proposed was perceived as much less of a challenge (*small challenge* or no challenge), namely staying in contact with colleagues (58%).

***The greatest challenge related to VT centre closures in the Spring was in receiving clear instructions on the situation and on how to proceed.***

*Persistence of the educational connection.* In this section of the survey, teachers were also asked about the persistence of their connection with their students during the pandemic. Educational consultants were asked to comment on their relationship with teachers during the pandemic.

TABLE 8. PERSISTENCE OF THE EDUCATIONAL CONNECTION (N = 1110)

<b>Answers to the proposed choices:</b>	<b>n</b>	<b>%</b>
Continued contact with most of them through platforms (Teams, Zoom).	547	49
Continued contact with most of them through "out-of-school" channels (e.g., Facebook page).	288	26
Severed contact with most students or teachers.	283	25

*Note.* N = 1,118 responses. Percentages add up to more than 100 because participants could indicate more than one answer.

***A quarter of the respondents report a break in their relationships with students or teachers.***

It is evident that 75% of respondents could maintain a connection by one or more means, including 49% using the Teams or Zoom platforms and 26% through "outside school" channels, for example, with Facebook. However, a quarter of the respondents believe that they have experienced a break in their relationship with most students (for teachers) or teachers (for educational consultants).

Furthermore, the data reveals that 31% of the respondents maintained a connection out of obligation or according to the centre's directives and that 34% did so by personal will without specifying how.

### 4.3.2. Professional Tasks

Perception of the workload at the start of the 2020 academic year. Graph 8 presents the data in response to the following question: *Regarding your work, how did you feel at the beginning of the 2020 academic year?* It presents the perception of the workload from three categories: overload, equivalent workload, and under-workload.

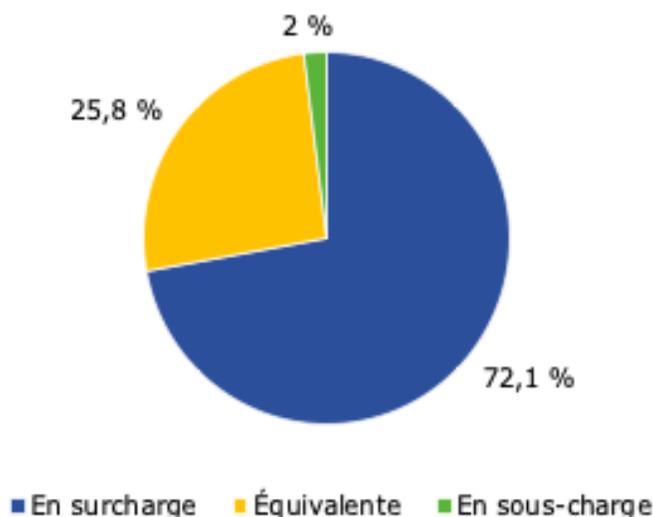


CHART 8. WORKLOAD IN THE FALL OF 2020 (N = 1108)

It is evident that 72% of respondents experienced an overload of work in the fall of 2020 compared to the same period in 2019. In contrast, 26% expressed having worked equivalently. A low 2% of respondents indicated that they had been underworked.

**72% of respondents experienced an overload of work in the fall of 2020.**

### 4.3.3. Technological Competence

Perceived skill level for working remotely or online. One survey question allowed respondents to address their comfort with technology, particularly regarding their perceived competence for remote and online work (Chart 9).

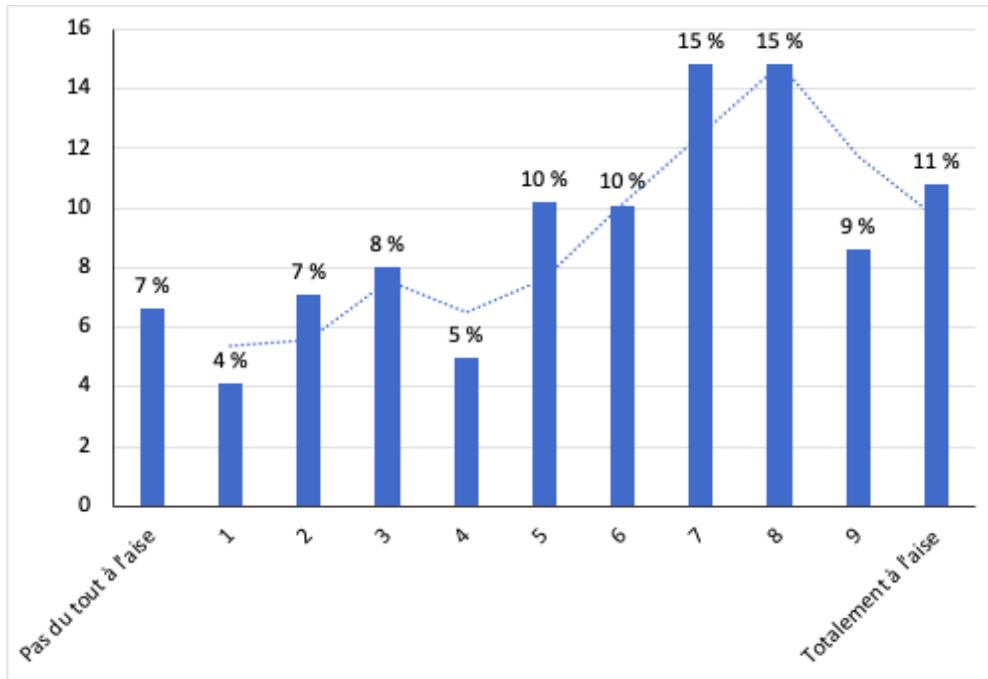


CHART 9. PERCEIVED SKILL LEVEL FOR WORKING REMOTELY OR ONLINE (N = 1110)

The graph shows that the majority (70%) of participants were at least moderately comfortable (5 or more) with remote or online work, even very comfortable (50% having rated 7 or more).

#### 4.3.4. Effects of the Pandemic

*Effects observed on teaching, support, and learning.* Table 9 illustrates the observed impact on teaching, support, and learning that the confinement and the gradual return to training in the spring of 2020 may have had. Respondents were asked to comment on the 12 choices in Table 9 to identify the effects incurred by the confinement and the gradual return to training.

TABLE 9. PERCEIVED EFFECTS OF THE CONFINEMENT AND PROGRESSIVE RETURN TO CLASS IN SPRING (N = 1110)

Answers to the proposed choices:	Very negative effect		Somewhat negative effect		Neutral		Somewhat positive effect		Very positive effect		Not Applicable	
	n	%	n	%	n	%	n	%	n	%	n	%
Workload for teachers	413	37	419	38	132	12	51	5	30	3	65	6
Student stress and anxiety	336	30	462	42	153	14	57	5	30	3	72	7
Progression and graduation of student groups	203	18	408	37	244	22	126	11	138	12	91	8
Student school perseverance	168	15	418	37	243	22	153	14	47	4	81	7
Quality of the training offered	123	11	341	31	319	29	183	17	75	7	69	6
Student engagement in their studies	122	11	409	37	194	18	226	20	69	6	218	8
Teachers' professional skills development	115	10	206	19	303	27	294	27	111	10	81	7
Support between students	77	7	156	14	411	37	281	25	57	5	128	12
More individual support for students	64	6	187	17	370	33	280	25	87	8	122	11
Stronger bond with colleagues	59	5	182	16	474	43	237	21	93	8	65	6
Improved relationships with students	33	3	205	19	418	37	271	24	81	7	102	9
Access to retirement	31	3	40	4	367	33	34	3	18	2	620	56

The results indicate that confinement and the gradual return to training had the most negative repercussions on teachers' workload; 37% of respondents reported very negative effects (413 out of 992), and 38% reported somewhat negative effects (419 out of 992). Teachers and educational consultants also noted,

***The confinement and the progressive return to class had the most negative repercussions on the teacher's workload and on students' anxiety levels.***

to a lesser extent, the progress and graduation of students (37% somewhat negative and 18% very negative), their perseverance in the program (37% somewhat negative and 15% very negative), the quality of the training offered (31% somewhat negative and 11% very negative) and student engagement (37% somewhat negative and 11% very negative) were also noted by participants as having suffered from the pandemic.

The impacts of the pandemic perceived positively by teachers and educational consultants are somewhat weak. The deepest concerns were teachers' professional skills development (27% somewhat positive and 10% very positive) and more sustained individual support for students (25% somewhat positive and 8% very positive).

#### ***4.3.5. Perception of Support***

*Sources of help.* Table 10 demonstrates the most significant sources of help for respondents during the pandemic.

TABLE 10. IDENTIFICATION OF SOURCES OF HELP RECEIVED (N = 1110)

<b>Answers to the proposed choices:</b>	<b>n</b>	<b>%</b>
Colleagues	531	54
Educational consultant	136	14
Websites dedicated to teaching or remote work	91	9
Centre's director	66	7
Family	62	6
Récit-VT	40	4
Social Media	32	3
Friends	28	3
Union	6	< 1

54% of teachers identified their colleagues as the people who had been the most supportive in helping them adapt to the pandemic.

Educational consultants were recognized by 14% of respondents, and exchanges on websites dedicated to distance education or work were reported by 9% of them. Principals, family, Narrative-FP, social networks, friends, and the union were reported by 7% or less.

#### 4.3.6. Changes to Skills Taught

*Changes to skills taught.* The teaching staff surveyed had to comment on any changes made to their courses. The question regarding changes to skills and content taught in 2020.

The results in Table 11 show that the majority, i.e., 83% of the teachers, had to change the content of the skills taught. Among these, 24% of respondents had to change everything, while 59% believed that they only had to make a few changes to the skills taught to focus on the essentials of the training. Only 16% of teachers did not have to change the skills content.

**The majority of teachers, i.e., 83%, had to change the content of the skills taught.**

TABLE 11. CHANGES TO SKILLS TAUGHT (N = 953)

Answers to the proposed choices:	<i>n</i>	<i>%</i>
A little, I had to focus on essential content.	565	59
Yes, everything changed.	233	24
No, not at all.	155	16

#### 4.3.7. Training Changes

*Educational planning.* Table 12 concerns the changes that had to be made to the teaching plan, particularly relating to teaching strategies, materials, and assessment. This question was only for teachers, who could select more than one answer.

TABLE 12. PLANNING CHANGES (N = 1110)

<b>Answers to the proposed choices:</b>	<b>n</b>	<b>%</b>
I changed my teaching method.	622	56
I changed the teaching material.	519	47
I changed the practical part of the training.	381	34
I rearranged the theoretical content of the training.	313	28
I changed nothing.	244	22
I changed the evaluation methods.	123	11
I changed the evaluation schedule.	103	9

Note. The percentage total is greater than 100 since the participants could indicate more than one answer (N = 2305 answers).

Regarding the adjustments that respondents had to make, only one respondent in five (22%) mentioned that they had changed nothing in their teaching strategies, materials, and evaluation strategies. All the other respondents had to adapt in one way or another, in several respects, if we look at the number of answers for this question (2,305 answers).

Several people also changed their teaching material (47%) to the practical part of the training (34%) or moved the theoretical content of the training over time (28%). The changes also affected the assessment in 20% of cases.

*Planning of internships.* Specific terms or aspects relating to the process. Internships had to be revised because of the pandemic. Table 13 shows the changes that have been made to internships. Respondents could select more than one answer.

**Most teachers (88%)  
mentioned changing  
their teaching methods  
because of the pandemic.**

TABLE 13. CHANGES MADE TO INTERNSHIPS (N = 1110)

<b>Answers to the proposed choices:</b>	<b>n</b>	<b>%</b>
The training schedule was revised.	289	26
Internships occurred, but supervision occurred remotely.	196	18
Nothing changed.	160	14
The internships did not occur; the workplaces refused the students.	149	13
Internships were cut short.	134	12
Alternatives were put in place for internships (e.g., integrative projects).	97	9
The internships did not occur; the companies were closed in our sector.	78	7
Does not apply to me.	392	26

*Note.* The percentage total is greater than 100 since the participants could indicate more than one answer (N = 1495 answers).

Only 160 people changed nothing in the progress of the courses, while 392 others were not concerned by the question. However, 558 of the 1,110 respondents reported adapting the internships to address the pandemic context. In addition, 227 respondents reported that internships did not take place. Finally, 97 respondents indicated they had to turn to an

***Almost 80 % of participants with internships reported they had to make changes and 32 % of them said the internships did not occur.***

alternative to compensate for the lack of an internship. Thus, 26% report that the internship schedule has been revised, 18% that the internships have taken place but with remote supervision, and 12% report that the internships have been shortened. In addition, 227 respondents reported that internships did not take place. Finally, 97 respondents indicated they had to turn to an alternative to compensate for the lack of an internship.

#### **4.4. Labour Conditions**

This section presents the results obtained regarding the organizational changes in which teachers and educational consultants have been immersed, primarily their consequences on working conditions. It, therefore, concerns the exosystem according to Bronfenbrenner's (1979) model.

##### ***4.4.1. Disclosure of Information***

*Sources of work-related information.* Table 14 highlights the various sources of information from which respondents received communications related to their work during the spring lockdown and when returning to class in the fall of 2020. More than one response could be submitted for this question.

TABLE 14. INFORMATION SOURCES AT WORK DURING CONFINEMENT AND UPON RETURNING TO CLASS (N = 1110)

Answers to the proposed choices:	Information received during confinement		Information received upon returning to class	
	<i>n</i> <sup>a</sup>	%	<i>n</i> <sup>b</sup>	%
From the centre's director or assistant director.	783	71	946	85
From the school board.	419	38	390	35
From the Ministry.	385	35	324	29
From colleagues at my centre.	336	30	346	31
From administrative staff at my centre.	267	24	210	19
From the union.	231	21	206	19
From the press.	226	20	131	12
From colleagues at other centres.	117	11	32	3
From groups of teachers or CPs on social media.	97	9	77	7
I did not receive any information.	35	3	30	3

Note. The percentage total is greater than 100 since the participants could indicate more than one answer (*n*<sup>a</sup> = 2896 answers, *n*<sup>b</sup> = 2694 answers).

**Information was mainly transmitted by centre directors during the confinement and upon returning to class.**

The results reveal that the information came mainly from centre directors. Just over 70% of respondents selected at least this item from the proposed list. This proportion increased to 85% when they returned to class in the fall of 2020. To a lesser extent, the second preferred source of information was the school service centre (38% and 35%). In contrast, colleagues at the centre, other centres, or social media seem to have played a significant role in providing information during the pandemic.

#### **4.4.2. Access to Workplaces**

*The physical layout of the work environment.* Table 15 below describes the physical changes made to the immediate work environment of the respondents to comply with the sanitary measures imposed in the fall of 2020. We observed that almost the entire sample (94%) returned to their work environment in the context of the centre's complete opening (78%) or partial opening (16%). A total of 27 respondents (2%) indicated that teaching was offered completely remotely or online without access to the centre. In contrast, only 12 people (1%) showed that their centre remained closed in the fall of 2020 and that no teaching was offered.

TABLE 15. OPENING OF CENTRES AND CHANGES MADE IN THE FALL OF 2020 (N = 1,104)

<b>Answers to the proposed choices</b>	<b>n</b>	<b>%</b>
Full opening with sanitary measures (e.g., distancing, protective equipment, etc.).	866	78
Partial opening of the centre with sanitary measures (e.g., disinfection stations, distanced offices, one-way traffic, split groups, rules for the use of equipment, etc.).	177	16
Complete closure of my centre; continuation of distance or online training.	27	2
I'm not at work this fall.	16	1
Complete closure of my centre; no teaching offered.	12	1
No or very few measures in place.	6	< 1

#### **4.4.3. Concerns, Needs, and Adaptive Capacity**

*Concerns regarding the fall 2020 start of the school year.* The survey examined the experience of the fall 2020 start of the school year. Table 16 lists the main concerns of participants at this time (more than one answer could be given).

TABLE 16. FALL 2020 INTAKE CONCERNS (N = 1110)

<b>Answers to the proposed choices:</b>	<b>n</b>	<b>%</b>
The risks of spreading the virus.	755	68
Work overload related to changes in teaching methods.	669	60
Difficulty in enforcing sanitary measures by students.	630	57
The drop in enrollment in my program.	471	42
The possibility of a second wave.	468	42
The decline in program quality.	420	38
Difficulties in accessing internship sites.	407	37
My skills for distance or online teaching.	153	14
The absence of certain colleagues (exhaustion, preventive withdrawal related to COVID).	148	13
Challenges in setting up the premises in the workshop (excluding theoretical classes).	131	12
The lack of tools at my disposal to carry out my work remotely.	114	10
The conspiratorial attitude of colleagues or students.	105	9
I had no concerns.	12	1

*Note.* N = 4,483 responses. The percentage total is greater than 100 since participants could indicate more than one answer.

Concerns about the virus and its effects were the most frequently selected among the choices offered. Thus, the main concern was the risk of spreading the virus. Seven hundred fifty-five participants chose this item. Then, 630 participants said it was difficult to enforce the the saitary measures with the students, while 468 participants chose the second wave of infection. Finally, the absence of colleagues in connection with the virus was identified 148 times. Concerns about the educational or material adaptations required were also numerous. In fact, 669 respondents reported worrying about the work overload related to the changes in their teaching. More specifically, 153 people complained about their distance or online teaching skills. The lack of tools to provide distance education (114 responses) and the difficulties of setting up places outside the theoretical classroom (131 responses) are other concerns of the same order. Moreover, difficulties in accessing internship sites were a source of concern for 407 individuals; 471 people complained about a drop in the number of registrations in their program; 420 respondents expressed concern that the quality of the curriculum being taught might be lowered.

*Training needs during the pandemic.* Table 17 provides details of the responses obtained when respondents commented on the training they would need to facilitate their work during a pandemic

***The main concerns reported by participants were the risks of spreading the virus, increased workload due to changing teaching methods, and the difficulty in getting students to follow sanitary measures.***

TABLE 17. TRAINING NEEDS TO FACILITATE WORK DURING A PANDEMIC (N = 1104)

<b>Answers to the proposed choices:</b>	<b>n</b>	<b>%</b>
Distance learning or online training.	579	52
Hybrid teaching training.	545	49
Training on teacher well-being and resilience.	326	30
Training in the technical use of basic IT tools (Word, the Google suite, electronic diary, etc.).	308	28
I don't need any training.	173	16
Training on skills planning.	150	14
Training on trauma related to current events.	122	11
Training on the risks of COVID-19.	89	8

*Note.* N = 2,292 responses. The percentage total is greater than 100 since participants could indicate more than one answer.

The results indicate that training regarding distance and online education and blended education occupy the first ranks of need; approximately 50% of respondents selected these two choices among those offered. In addition to training needs concerning educational and technological aspects, there is the need for training in basic computer tools; 308 respondents selected this choice. Training needs related to psychological aspects were also chosen: 30% of respondents indicated that training on teacher well-being and resilience (326 responses) would facilitate their work during a pandemic; 10% indicated that training on trauma related to current events (122 people) would be helpful. Finally, 173 respondents considered that they had no particular need for training to handle the situation.

*Ability to adapt to work.* Table 18 establishes the response distribution collected on professional adaptability in a pandemic. Respondents were asked to select the statement that best corresponded to their personal situation.

TABLE 18. PERCEIVED ABILITY TO ADAPT TO THE WORK SITUATION DURING A PANDEMIC (N = 1,075)

Answers to the proposed choices:	n	%
After a few weeks, I felt more comfortable and things were more manageable.	435	40
I felt like I was navigating in the fog for a long time, but I feel comfortable enough to face the next few months.	328	31
I always felt things were under control.	232	22
I still feel unfit in this context.	80	7

**While most participants reported feeling like things were manageable or becoming more manageable by November 2020, 7 % of respondents still felt incompetent in their work.**

A number of respondents (40%) said they felt more comfortable after a few weeks and feel that things are more manageable now. Further, 31% of participants indicated a prolonged feeling of discomfort, but that things felt more manageable now. At both ends of the continuum are 22% of respondents who reported constantly feeling in control and 7% who, at the time of data collection in November 2020, still felt incompetent in their work.

*Perception of job security.* Precariousness being frequent among teachers in VT, and a question was formulated to determine the respondents' level of concern about their job security. Chart 10 shows the distribution of responses.

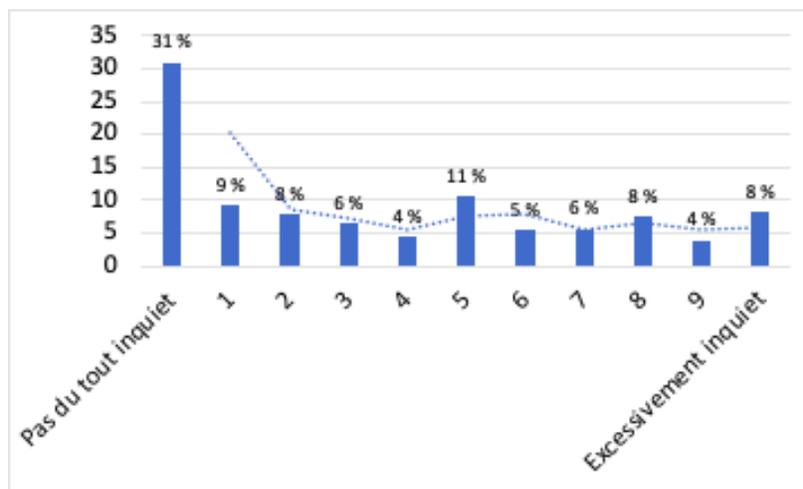


CHART 10. PERCEIVED LEVEL OF CONCERN ABOUT JOB SECURITY (N = 1110)

**Most respondents consider students trained before and after the pandemic have an equivalent skill level.**

31% of respondents said they are not worried about their job security. The progression towards the other end of the continuum is then regular, as shown by the relatively equal distribution between the different levels of worry. Thus, 54% of people placed their level of worry as lower (ratings from 0 to 3) and 26% as higher (ratings between 7 and 10).

## 4.5. Representations Concerning Vocational Training

This last category of results is part of the system most external to respondents, according to Bronfenbrenner's (1979) macrosystem. This category concerns the perceived social context and norms during the targeted period. In this case, it is a question of the perceptions of teachers and educational consultants regarding the training offered and their work.

### 4.5.1. Training Quality

*Equivalence of the quality of training.* By answering on a scale from 1 to 10, the participants indicated their perspective on the quality of the training offered to students, specifically on whether, in their opinion, the skills of graduates after the pandemic are or will be equivalent to those of pre-pandemic graduates.

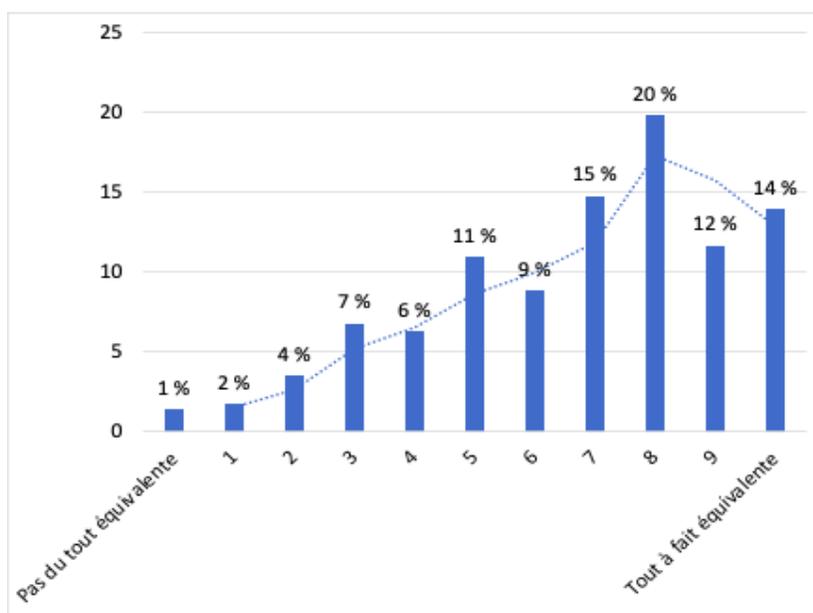


FIGURE 11. PERCEIVED EQUIVALENCE OF GRADUATE COMPETENCY BEFORE AND AFTER THE PANDEMIC (N = 1110)

The graph above shows that most of the teachers and educational consultants surveyed considered that the students trained before and during the pandemic have equivalent competence.

The average score calculated was 6.7 out of 10, with level 10 corresponding to a perception of an entirely equivalent skill. However, 20% of respondents believed that the skill level would not be equivalent (ratings 0 to 4) to the disadvantage of post-pandemic graduates.

*The ability of students to enter the job market.* We further aimed to examine the perception of graduates' ability to enter the labour market during the pandemic compared to those trained beforehand. Chart 12 illustrates the responses to the question, "Do you consider that students trained during the pandemic will be as suitable for entering the labour market as other graduates?"

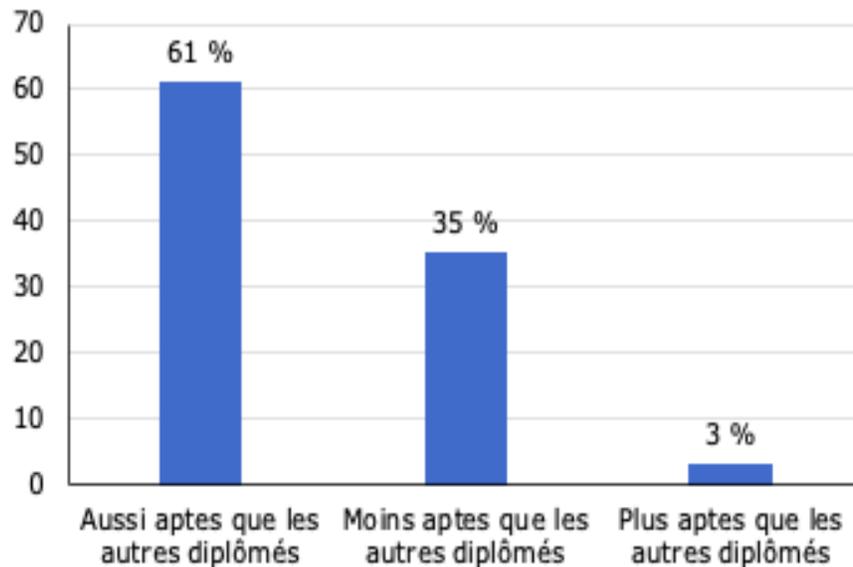


FIGURE 12. PERCEIVED ABILITY OF STUDENTS TRAINED DURING THE PANDEMIC TO ENTER THE LABOUR MARKET (N = 1110)

According to 61% of respondents in the sample, students will be as capable as other graduates in entering the labour market. In contrast, 35% of participants believe they will be less so.

*Long-term impacts of the pandemic on work.* A question was also asked to capture respondents' perceptions of the long-term consequences of the pandemic on their work in VT (Graph 13).

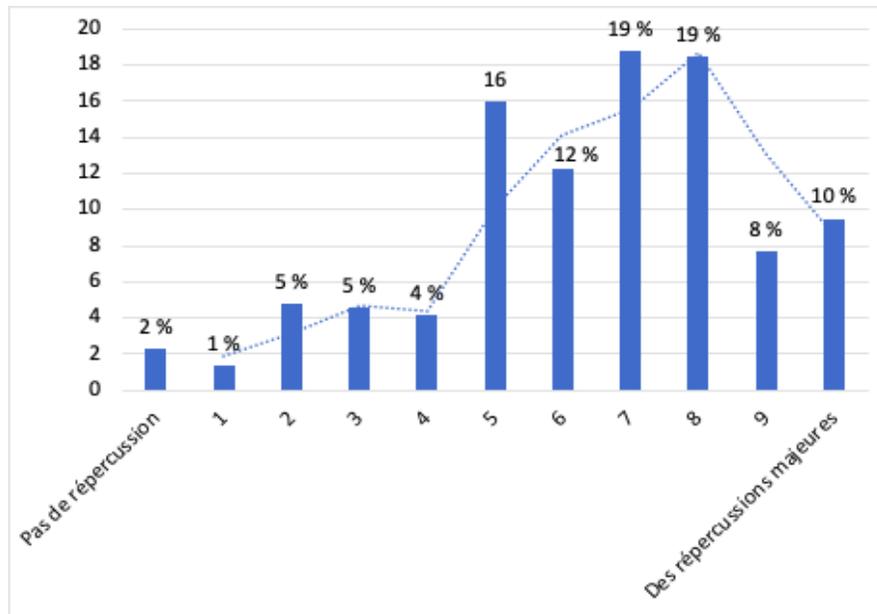


CHART 13. RESPONDENTS' LONG-TERM IMPACT ON WORK (N = 1110)

While the nature of the long-term repercussions has yet to be documented, it appears that a large number of respondents believe the pandemic will have long-term effects on their work (average score of 6.4 out of 10). On the one hand, 56% of the participants selected answers ranging between 7 and 10 on the proposed scale (10 corresponding to major repercussions). On the other hand, only 13% indicated weak repercussions (from 0 to 3 on the scale, 0 being no impact).

#### 4.5.2. Valuation of Work

*Valuation of work.* The survey collected data about feeling valued for the work done during the pandemic (Graph 14).

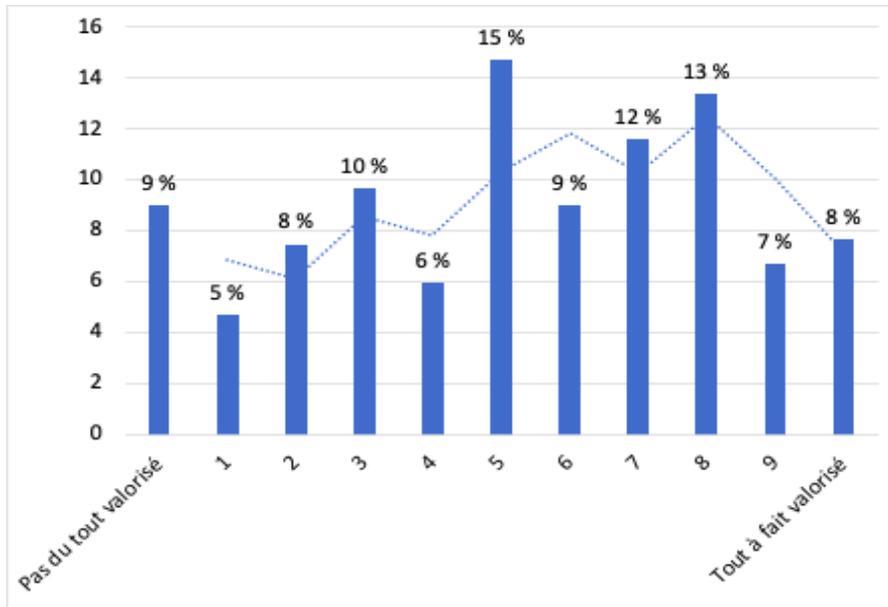


CHART 14. FEELING VALUED AT WORK DURING THE PANDEMIC (N = 1110)

The answers were divided on the dimension of valorization at work concerning the particular health situation known since March 2020 (average score of 5.3 on a scale of 0 to 10). Thus, approximately one-third of respondents (32%) gave a rating between 0 and 3, which corresponds to a feeling between *not at all valued* and *not very valued*; 40% gave a rating of 7 to 10 (10 corresponding to *fully valued*).

## **5. INTERPRETATION**

This section highlights observations arising from the analysis of the results. These results and observations emanate specific recommendations concerning the experience of teachers and educational consultants during a pandemic.

### **5.1. Population Characteristics**

The interpretation of data obtained from vocational training teachers in Quebec first requires a reminder of their characteristics. These characteristics provide the lens through which to understand the results and the meaning attributed to them.

Teachers are trade specialists recruited by vocational training centres to train the next generations of workers from trades grouped into 21 sectors of activity. Some of them had no training in teaching and started teaching even before undertaking university studies in vocational education. The average age at entry to university was 45 (Deschenaux, Monette, and Tardif, 2012). Hence, careers are somewhat short, and age does not necessarily reflect the number of years of teaching experience. Moreover, their university education generally occurred part-time for up to 10 years. Therefore, there is a high proportion of novice teachers and student-teachers who, given their age, often juggle family life and aging parents.

We cannot do without this reminder that many teachers in the sample were still in training. Furthermore, a quarter of the teaching staff in the sample had five years or fewer of teaching experience. This context may not have allowed them to develop all the skills necessary to face the challenges and adjustments caused by the pandemic.

As far as educational consultants are concerned, it is often experienced teachers of VT who fill these positions.

### **5.2. Three Main Findings**

Analyzing the survey data revealed major trends as well as meaningful nuances. These results enable us to make observations regarding the VT ecosystem in Quebec during a pandemic. Three unifying observations appear to be significant. We outline them here before going into more detail in the following sections:

1. Observations related to the exosystem and the macrosystem: Consistency between experience variety and professional training context diversity.
2. Observations related to the microsystem and mesosystem: Heterogeneous adaptations to programs for pursuing student learning.
3. Observations related to the ontosystem: impacts on people's well-being.

### ***5.2.1. Observations related to the exosystem and the macrosystem: Consistency between experience variety and professional training context diversity.***

Data relating to the two outer spheres of Bronfenbrenner's (1979) system, the exosystem and the macrosystem, were combined to support the first finding. As a reminder, the exosystem corresponds to the social and organizational structures external to the individual, which can influence them. The macrosystem is based on societal values, government policies, norms, and ideologies that can affect the individual.

The data analysis draws attention to the variety of experiences reported. Despite a sample of 1,110 participants, the distributions do not present themselves in normal curves. This was unexpected, but the distributions reflect a particular state of affairs. Evidently, this observation is consistent with the diversity of VT contexts in that lived experiences and modes of adaptation to the pandemic are not uniform.

***VT cannot be approached as a homogeneous block. At this level of formation, teaching is varied and complex.  
With 196 programs delivered according to various methods and durations, they cannot be the subject of a single directive in any situation.***

VT cannot be approached as a homogeneous block. At this level of formation, teaching is varied and complex. With 196 professional study programs across 21 training sectors, delivered according to various methods and durations, they cannot be the subject of a single directive in any situation. The pandemic has highlighted this fact. Indeed, the ministerial instructions for VT have been uniform since the pandemic's start. However, they could not be applied everywhere in the same way. Adaptations were required depending on the context (programs, professions, environments, training methods, progression in skills) by considering the students' characteristics (age, personal and family situation, technological competence, motivation towards training) and those of teachers (number of years of teaching experience, progress in university education, level of techno-educational competence, personal and family situation, employment status).

For example, the same centre, offering a secretarial program and a program in stationary engine mechanics, may have been confronted with entirely different issues in establishing online training. Apart from the so-called theoretical skills, learning about the stationary engine mechanics program cannot occur remotely. The pandemic context poses relatively few problems for the secretarial program, mainly if it is offered in an individualized mode or is already delivered remotely. In particular, this diversity of teaching realities in professional study programs can explain why from the first confinement to the winter of 2020, 57% of teachers continued to offer a teaching service while 42% of others ceased

Thus, a uniform instruction, often shared with secondary education, to be applied everywhere in VT has certainly contributed to complicating an already destabilizing context. We recognize that it is unrealistic to adapt to each of the particular situations of the professional sector. Nevertheless, we suggest that it is essential to consider the diversity of teaching contexts and to allow time for analysis, adaptation, and implementation of ministerial instructions, whatever they may be. In this respect, the teachers and educational consultants in this sector are the most able to contextualize the situation.

***5.2.2. Observation related to the microsystem and the mesosystem: Heterogeneous adaptations to programs for the pursuit of student learning.***

The second major observation that we draw is based on the data concerning the microsystem and the mesosystem. The microsystem refers to the professional spheres, the immediate environments of the individual, such as family, friends, co-workers, and hobbies. These living environments directly influence the individual's adaptation and social participation. The mesosystem comprises all the interacting microsystems and, therefore, the significant relationships between these systems. Whether they work in the same direction and coherence, the quality of the connections between systems impacts an individual's behaviour.

The finding related to the microsystem and the mesosystem affects the heterogeneous adaptations of programs made by VT stakeholders to pursue student learning. This observation follows logically from the previous one in that the numerous adjustments made to the training courses were not necessarily outlined by the Ministry nor performed in consultation between the training centres and its players. It appears that 31% of respondents had the impression of navigating in the fog for a long time and that 41% needed a few weeks to regain control. Out of a pool of 10,000 teachers, there are potentially at least 700 teachers still having difficulty adapting to the situation. Nevertheless, we note that the directors and assistant directors of the vocational training centres have done important work by assuming a leadership role during this crisis. They were also recognized as the primary source of information in the spring (71%) and in the fall (85%).

Adjustments to training, the selection of essential content, changes to the conditions for performing, and the duration of internships were some of the adjustments made. However, VT programs are short, the skills are intertwined, and their development must be complete so that students can be qualified at the threshold expected for entry into the labour market. It is impossible in VT to recover the content missed during the pandemic the following year, as in longer courses, such as general secondary.

There is indeed a certain leeway among the elements not prescribed in the programs. However, playing with the development of skills expected of students in the programs can have significant consequences on the quality of services or the health and safety of the public and workers, among others, once the graduates are employed. Yet 59% of teachers reported having had to focus on the essentials of the training in the fall of 2020; 24% even indicated that they had changed everything (Table 11). This poses delicate questions about the learning that has been deemed essential, on the one hand, and student learning. Furthermore, many teachers report adjusting their teaching methods, materials, or sequence. The fact that only 20% of them had changed the times or the ways of evaluating raises major issues. Indeed, this highlights the rigidity of the ways of performing evaluations in VT and the evaluating errors of the VT stakeholders in some programs due to the inconsistent instructions from the Ministry about remote exam administration, particularly for local examinations. The guidelines to this effect only arrived in January 2021 for the latter, which undoubtedly forced the VT stakeholders, already under pressure, to go out of their way to conduct evaluations per the usual instructions while they could also have been creative and innovative in assessment as with other aspects of training.

Similarly, practical training, the bedrock of VT programs, has been severely affected. Among the 718 teachers involved in the courses, only 160 indicated that they had made no changes (see Table 13). While some adjustments had little consequences, the revision of training schedules (289 respondents), dependent on the closure of companies in specific sectors of activity, and remote supervision (196 respondents) certainly had more impact on the training. Indeed, 20% of respondents indicated that the internships did not take place, that alternatives to internships were put in place (9%), or that the internships were cut short (12%). These elements should be related to the fact that some teachers (7%) had to cease teaching during confinement because they provided so-called practical skills in vocational training centres (see Table 2). This raises questions about the effects of these arrangements on skills development and preparation for employment in specific sectors of activity.

The questions raised are linked to concerns about the quality of training for the future workforce. Thus, on a scale of 0 to 10 (10 corresponding to completely equivalent), the respondents situated their perception of the equivalence of the skills of students who graduated after the pandemic compared to their predecessors. Suppose the general tendency is towards an impression of equivalence (61% of the answers are situated from 7 to 10 on the scale). In that case, 14% tend somewhat towards an opposite perception (from 0 to 3 on the scale proposed). The remaining 26% believe that the competence of graduates before and during the pandemic is partially equivalent (from 4 to 6 on the scale). Similarly, 35% of respondents believe that students trained during the pandemic will be less able than their predecessors to enter the labour market. These data suggest a shaken confidence among teachers and educational consultants regarding the quality of the training offered.

### ***5.2.3. Observations related to the ontosystem: Upheavals experienced in all aspects of life.***

The third observation refers to the ontosystem and concerns the impacts on people's well-being. The ontosystem relates to the personal sphere and includes individual characteristics such as a person's abilities, skills, personality, genetic factors leading to health problems, values, beliefs, expectations, age, or sex.

As documented in this survey, the experience of VT teachers and academic consultants is embedded in a unique socio-historical context shared globally. We wish to draw attention to this experience in particular, knowing that it comprises only one facet of the human experience in general and that of education stakeholders in particular. In addition, emphasis is placed on experience in the professional environment. However, this does not ignore the fact that everyone's lives were upset by the pandemic. The students, the teaching staff, and educational consultants have seen their bearings shaken, and uncertainty invades all spheres of their lives in the face of this unprecedented situation.

The data collected indicates a group of people who held down the fort – not without difficulty – since three-quarters of VT respondents said they were overworked and destabilized by several contextual elements. We will proceed in two stages to accurately convey the meaning that we see emerging from the analyzed data. First, we focus on the experience of teachers and educational consultants and, second, on their concerns for students.

In the personal sphere, data relating to survey respondents' personal, family, and school dimensions help to flesh out this first observation. In the context of this survey on the experience of teachers and educational consultants during the pandemic, it is nevertheless necessary to consider when reading this interpretation, as mentioned above, that the number of years of experience of teaching staff is not related to the age of individuals.

Thus, 29% of teachers had five years or less experience, and the average age was 47. Moreover, given the age of the respondents, it is likely that a proportion of them were in a situation of family responsibilities, with children at home. On the other hand, another group of respondents was relatively free of these responsibilities; the children have left the house (43% were 50 years old or more). These particularities may explain why barely a third of respondents (29%) reported unfavourable effects of the pandemic work, family, and personal life balance (see Graph 4). However, nearly half (44%) believe the pandemic has significantly impacted their personal and family lives. Then, the commitment or not to a university program of professional education influences the experience of the teachers and their progression in the program. For example, a teacher who has been enrolled in the BEP for eight years and has been teaching for 10 years (51% have been teaching for 11 years or more) may have more control over the challenges encountered than a person who has been teaching for three months and has only completed an introductory course to the program.

On the other hand, although 47% of respondents were in training, almost a third attended UQAR, whose program is exclusively offered remotely. This situation taints the results obtained concerning the repercussions of the pandemic on university training. In fact, the 162 teachers registered for the BEP at UQAR reported fewer repercussions on their university studies than the 270 registered in one of the four other universities where the BEP is usually offered in person (UdeS, UQAT, UQAC, and UQAM). In addition, the distribution of respondents across different sectors has the particularity of presenting a quarter of respondents from the administration, commerce, and computer technology sector (n = 266). This sector includes programs where some, or even all of the skills, are sometimes already offered remotely and where they already extensively use computer tools. These people may thus have faced the technological challenges caused by the pandemic in a less severe way than colleagues from other sectors.

Specifically concerning the well-being of teachers and educational consultants, at the time of the spring 2020 confinement and the fall 2020 return to school, several respondents reported having experienced negative emotions (see Graphs 2 and 3). In this respect, we note an increase, between the two periods, in the feeling of worry (from 39% in the spring to 48% in the fall) and of distress (from 3% to 4%). In contrast, the feelings of being lost (from 22% to 15%) or abandoned (from 20% to 13%) decreased as the pandemic progressed. These latest data suggest better transmission of information by the authorities concerned and greater support and accompaniment of people as they became "acclimatized" to this new pandemic context. These negative emotions experienced by teachers and educational consultants are nevertheless related to the fact that 72% of respondents experienced an overload of work in autumn 2020 compared to the same period in 2019. All of these elements raise questions about the weight that teachers and educational consultants of vocational training carry at the level of our society. Knowing that they train the workforce that Quebec needs, the pandemic and its management highlight the weakening of the VT system.

Furthermore, suppose we start from the principle that "the student-teacher relationship is at the heart of the student's school experience" (Espinosa, 2020, p. 159). In that case, we can wonder what impacts these negative emotions of teachers have on student well-being. In this regard, we can make connections with the results concerning the effects of confinement and the gradual return to training in the spring of 2020 (see Table 9), where those who participated in the survey reported negative effects of stress and anxiety on students (72%), their progress (55%), their perseverance in the program (52%) and their commitment (48%).

## 6. RECOMMENDATIONS AND CONCLUSIONS

The events faced by VT stakeholders during this pandemic, particularly during the documented period from March 2020 to December 2020, are exceptional and have called for extraordinary measures in this sense. Good moves, getting started, innovations, and failures have emerged, with significant repercussions on all VT stakeholders. However, the Observatoire has chosen to look to the future and what the pandemic situation can provide as lessons rather than focusing on what could or should have been done. In this regard, the recommendations issued recognize the work done, the adjustments made, and the efforts deployed by the Quebec VT community. We believe that it is around these recommendations that it will be important to structure efforts and financial, human, and material resources in the short, medium, and long terms in vocational training.

- 1- *Guidelines adapted to the variety of VT contexts. First, the Ministry must recognize the specificity of vocational training, in its dual affiliation, that is, to the school environment and the labour market, and consider this in disseminating ministerial guidelines in any context. This recognition must consider the diversity of professions and the multiplicity of training locations (classroom, practical training environments–workshops, laboratories, kitchens, etc.– and internship environments).*
- 2- *Competence and innovation as levers for progress in vocational training. Second, the Ministry must recognize the skills of teachers and educational consultants concerning remote work and online training, as well as their ability to innovate and find appropriate solutions for teaching in a troubled context. Thus, specific changes, even if made in an emergency and are perhaps not fully operational, can serve as a lever for advancing VT teaching. These initiatives must be documented, analyzed, developed, shared, and supported in terms of human, financial, and material resources.*
- 3- *Evaluation practices to be reviewed. The pandemic has brought to light the limits of the evaluation practices that the VT staff faces, among other things, when the question of remote evaluation is raised. While responders already have very little leeway in this regard, the results show that they sometimes had to circumvent the boundaries of what is allowed. This may have added to the stressful elements of the pandemic experience. A reflection on the evaluation of distance learning and skills in VT must be performed. New guidelines considering lived experiences during this crisis period must be identified.*
- 4- *An offer of psychosocial support. In addition, the survey results highlight numerous upheavals experienced by teachers, educational consultants, and students and had repercussions in all aspects of their lives. Research should be conducted on the needs and psychological health, as well as the well-being and job satisfaction of stakeholders, to better identify and understand the nature of the repercussions of their personal and professional experience in the longer term. Nevertheless, we recommend that psychosocial support resources should be quickly made available to the VT community to ensure support for people who feel the need.*

- 5- *Follow-up and support for integrating COVID graduates. The results call for vigilance regarding the ability of COVID graduates to integrate smoothly into the labour market. The short duration of VT programs makes it challenging to lessen the effects of the pandemic over a long period. Further, it is impossible at this time to determine the real impact on success, competence, graduation, and quality of the professional integration of students in training between 2020 and 2021. Thus, like tutoring services for students and continuing education for workers, we recommend establishing a support service for pandemic graduates during professional integration. This service would promote the integration process of these students and, in the longer term, all graduates. In this regard, it would be essential to follow up on research concerning the professional integration of pandemic graduates, particularly their feeling of personal efficacy (Bandura and Lecompte, 2007) when entering the labour market.*
- 6- *Communication between authorities and training environments. Finally, the results indicate major differences in the appropriation of ministerial instructions during the pandemic and significant variations in their adaptation and implementation. This situation seems to be linked to two elements in particular: the difficulty of access to clear instruction concerning VT and the diversity of the contexts to which the general instructions had to be applied. This finding raises the necessity of transmitting clear and specific information to VT stakeholders. Moreover, suppose the directors and assistant directors of vocational training centres have been recognized as the primary source of information during the pandemic. In that case, we realize that it would have been relevant to question them as part of this survey, as much as there is little, if any, research concerning the practices of the directors of vocational training centres.*

Faced with an unprecedented crisis with major impacts on education in general and on vocational training in particular, researchers from l'Observatoire de la formation professionnelle du Québec conducted a survey to document the personal and professional experience of VT stakeholders during the pandemic. Thus, teachers and educational consultants were invited to respond to a survey focusing on the effects of the pandemic on the different systems (Bronfenbrenner, 1979) within which they operate.

The concept of experience (Zeitler & Barbier, 2012) and Bronfenbrenner's ecosystem model (1979) served as a framework for developing the survey and analyzing the responses. By noting the impacts of the pandemic in the model's five systems, we have documented the experiences of VT teachers and educational consultants, as well as the repercussions on their person, their personal life, their living environments, their relationships, and their environments, and their working conditions and their representations about training.

Considering the data, findings, and recommendations presented in this report, the Observatoire would like to stress the importance of recognizing the specific nature of vocational training, its many facets, and the impossibility of the approach as a monolithic block. Its economic role and the issues raised concerning the training of the Québec workforce underline, once again and in broad strokes, the importance of knowledge and positioning of the VT in the media, with the public, and especially with the Ministry. Finally, we emphasize the importance of continuing research to better understand the practices and contexts of vocational training and to allow other training sectors to benefit from it.

Consequently, l'Observatoire de la formation professionnelle du Québec, faithful to its mission of advancing and positioning vocational training, intends to pursue its activities to better understand and consider the context in which its stakeholders practise in the pandemic and post-pandemic context. However, the will and participation of the authorities and political stakeholders can provide tangible and concrete support, particularly by considering the recommendations this report provides.

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