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Attitudes of language teachers to the use of learning technologies during COVID-19 pandemic:

A Sociolinguistic Study in the Romandie, Switzerland

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Sous la direction du Professeur

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Dedication

To my father, Paulo Roberto, who taught me to be fierce and never give up. To my mother, the person who motivated me to learn English as a child. To all my English teachers in Brazil, who shaped me into the educator I am today, and who inspired me to love the English language.

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Abstract

This MA thesis investigates to what extent the attitude of language teachers to the use of educational technology (EdTech) changed during the two months in which they stayed in lockdown due to the COVID-19 pandemic. The aim is to compare their experience with EdTech before, during, and after the lockdown to see how their attitude and motivation changed. To this end, I used a direct approach, and a questionnaire was filled by 52 female and male language teachers, of various age groups, who teach in upper-secondary public and private schools in the Romandie. The questionnaire contained opened and closed questions concerning participants' experience with EdTech before, during, and after the lockdown. Hence, I used qualitative and quantitative analysis to analyze my data. The social variables of age, canton, and languages taught were also taken into consideration in this study. The findings show that most participants lost motivation at the end of the lockdown period, and they expressed feelings of tiredness and stress regarding their experience with online learning. However, they seem to be motivated to do courses on the use of EdTech in the future, which indicates that there is room for improvement in motivation and attitude towards its use, as long as teachers have encouragement from schools and are better trained. Finally, the variables of the language taught and canton play a role in participants' attitudes and motivation.

1. Introduction

The use of technology has been increasingly present in our lives in recent years, and it is no different in education. In the last 10 years, language teachers and schools have witnessed a development in the tools which are available to enhance language learning, ranging from websites with grammar and vocabulary exercises that give students instant feedback to language apps that use speech recognition which can help students improve their pronunciation. They also have the possibility to study online, which gives students who cannot attend face-to-face lessons the opportunity to study a language or any other subject. However, these changes seem to be a challenge for some teachers for many reasons. For example, we now have a generation of digital natives, a term used to describe children "who have grown up using technology like the Internet, computers and mobile devices" (technopedia 2020). As digital immigrants, teachers must adapt to this new kind of student, but some of them feel reluctant to incorporate technology in their teaching practices.

As an English teacher, I have always been interested in how technology can be implemented can help teachers and students in the learning process. I notice that some of my colleagues tried to implement technology in their teaching practice, but some of them prefer to use traditional methods. That was until March 13th, 2020, with the beginning of the lockdown and the unexpected COVID-19 pandemic. Teachers in many different countries, including Switzerland found themselves obliged to integrate into the virtual world when state and private schools had to take different measures to make sure students would continue to study from home. Some of them were excited about the idea of trying something new, while others panicked as they did not exactly how to do it and for how long. Even though many teachers are used to having a laptop and doing simple things on their computers, it is not the same when you have to adapt the face-to-face components of a lesson to an online environment. But on Monday morning, they had to be ready for the challenge. After going through the first week and trying

the daily challenge of teaching online, and also talking to my colleagues about their experience, it raised the question of how this experience of teaching from home during the lockdown would change teachers' feelings/attitudes towards the use of learning technologies. As a result, I decided to investigate to what extent language teachers' attitudes to the use of technology in the classroom changed during the 2 months in which they stayed in lockdown. Many teachers found themselves forced to teach online and to use the tools imposed by their schools, such as Google Classroom and Hangout, Microsoft Teams, or Zoom. How reluctant were they before starting to teach online and what will be the consequences of this experience in their future practice? I noticed that some of my colleagues did not have an intrinsic, but an extrinsic motivation. Therefore, will this intensive experience of having to teach online for 3 months lead them to change their attitudes to technology? Will they keep on using some of the tools when they go back to teaching in a classroom?

This MA thesis is structured as follows: in the following section, I explain the concept of attitudes in further detail, as well as the concept of motivation. In Chapter 2, I provide the theoretical framework of this study. This chapter is divided into four sub-sections: the first deals with the development of technology in education, with a focus on language teaching. Online teaching is discussed next; I engage with its use in Switzerland, as well as its advantages and disadvantages. Section 2.3 presents previous studies on the attitudes of language teachers to the use of technology, and finally, Section 2.4 discusses some studies related to the impact of COVID-19 in education. The following chapter concerns the context of this study. First, I briefly describe the Swiss educational system so that we can better understand the context of participants in this study. Then, I explain the Swiss context for digital technologies and how this has been implemented in schools, mainly upper secondary ones. In sub-section 3.3, I discuss how schools were impacted by the lockdown and how remote teaching took place in upper secondary schools in the Romandie. In Chapter 4, the method is presented, the rationale

behind the questionnaire I devised is explained in detail, as well as the procedure followed in the analysis of the data. Chapter 5 presents the results of my research. In the same chapter, I also interpret and discuss these results. Finally, in the conclusion, the main findings are presented and suggestions for further research in this field are given.

1.1 Definition and important aspects of attitude

When it comes to human behavior, attitude is an important concept that helps us understand why we want or do not want to do things or behave in certain ways. Different definitions for the term *attitudes* are proposed by scholars. Early definitions of attitudes define them as a psychological construct, as "affect for or against a psychological object" (Thurstone 1931, as quoted in Garrett 2010:19). Furthermore, Allport (1935, as quoted in Gilakjani and Leong 2012: 631) defines attitude as "a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related". His definition shows two crucial aspects to understand the concept of attitude. A "state of readiness" can be understood as a predisposition to act and to respond to a particular object. Also, we can see that attitude is not a passive result of an experience, as "a dynamic action means that it impels or drives behavior" (Gilakjani and Leong 2012: 631), so attitude also has a motivational factor that will lead to a certain attitude. Sarnoff (1970: 279, as quoted in Garrett 2010: 20) emphasizes that an attitude is "a disposition to react favourably or unfavourably to a class of objects". This definition is seen by Garrett (2010: 20) as a "core definition", with a degree of stability that makes it easier to be identified.

According to Garrett (2010), attitudes are composed of three components. First, attitudes are cognitive: they contain beliefs we have about the world and "the relationship between objects of social significance (Garrett 2010: 23). Second, attitudes are affective, as positive or negative feelings we have towards certain objects are involved. Thirdly, attitudes are

behavioral, which means we have a "predisposition to act in a certain way" (Garrett 2010: 20). For example, before the lockdown, some teachers might have believed that integrating technology in their teaching was a waste of time and that there was no need for innovation in their teaching practice (cognitive). This belief could be due to the lack of training or knowledge of the wide variety of tools that exist, or because they feel they are teaching effectively without using these tools. Nonetheless, the fact that they were in a way obliged to use technology to teach during the lockdown might have led them to feel more (or less) enthusiastic to try some tools (affective). Consequently, they might decide to ask more experienced colleagues for ideas, or the director of the school to organize a training course at school (behavioral).

However, later definitions of attitude such as Gilakjani and Leong's (2012), do not focus on its behavioral aspects; instead, they define it as a force that will drive an individual's behavior. Moreover, they identify two important aspects of an attitude. The first one is the idea of an attitude as a "readiness for response", meaning that "an attitude is not a behaviour, not something that a person does, rather, it is a preparation for behaviour, a predisposition to respond in a particular way to the attitude object" (Gilakjani and Leong 2012: 631). In this definition, an attitude object can be plural and singular, and it can not only refer to a person, but also to things, ideas, places, situations, and actions. The second aspect discussed by Gilakjani and Leong is related to what they call "a driving force of attitudes" (Gilakjani and Leong 2012: 631). In other words, attitudes are not seen as a result of past experiences; rather, they express a directive and dynamic influence (Allport 1935 as quoted in Gilakjani and Leong 2012: 631) which can impel or drive behavior (Gilakjani and Leong 2012: 631).

Finally, other scholars also define attitude as a mental state that includes beliefs and feelings (Latchanna and Dagnew, 2009). Alasmari (2022), for instance, defines the term *attitude* as "a person's positive or negative opinion about something. He also mentions, similarly to Gilakjani and Leong (2012), the importance of attitudes in guiding the individual and helping

him/her engage in his/her actions when having an objective. Hence, for this study, I will follow Garrett's (2010) and Gilakjani and Leong's (2012) definitions of attitude. Even though these scholars use different terminology, they are complementary; they will both help me understand how favorable (or not) language teachers are to the use of learning technologies at the end of the lockdown, as well as predict whether teachers' attitudes might lead them to continue (or not) using learning technologies in the future.

1.2 Understanding motivation

Even though the main aim of this study is to investigate teachers' attitudes to the use of Educational Technology (EdTech), it is also important to define the term *motivation*, as some of the questions asked to the participants in this study are also related to motivation and both terms are closely connected. *Motivation* and *attitude* are two terms that tend to overlap; similar to *attitude*, *motivation* seems to be a difficult term to define and measure, without a single definition (Soureshjani and Naseri 2011: 662). Before I explore the relationship between motivation and attitude, I will first define *motivation*.

According to the *Oxford English Dictionary*, motivation is "the general desire or willingness of someone to do something" and it is also defined as "drive, enthusiasm" (OED 2022). Likewise, Slavin describes it as "the internal push that gets and keeps one going and clears the path one tries to follow" (Slavin 2012:279 as quoted in Zamir and Thomas 2019: 313). The definition that this study follows is the one given by Cullen and Greene (2011), who describe motivation as being "comprised of internal and external components of human life that encourage or discourage behaviors" (Cullen and Greene 2011: 33). Many studies in language education and the integration of learning technologies focus on learners' motivation to study a foreign language, or their motivation towards learning a language by using Computer-Assisted language learning CALL (Nakata 2006, Kong 2009, Paton 2009 as quoted in Liu 2014). Also,

recent studies have investigated teachers' motivation when using EdTech in the classroom (Hobbs and Tuzel 2017) or teachers' motivation when teaching online (Panadero et al. 2022). One of the theories that scholars use to investigate the relationship between teachers' motivation and the use of learning technologies is Ryan and Deci's Self-Determination Theory (SDT) (Ryan and Deci 2000 as quoted in Cullen and Greene 2011). This theory is used to capture the various facets of motivation, with different forms of motivation that are defined depending on what the individual wants to achieve.

Due to the scope of this study, I am only interested in the main difference between the three types of motivation outlined in Cognitive Evaluation Theory, which is a sub-theory of SDT (Deci and Ryan 2008 as quoted in Cullen and Greene 2011). It aims to explain the effects of external consequences on internal motivation, which may help us understand the kind of motivation the participants of this study have. The first type of motivation proposed by Ryan and Deci (2000) is *intrinsic motivation,* which is considered to be "the pinnacle of motivation" (Cullen and Greene 2011: 33). Intrinsic motivation refers to the eagerness to engage in something enjoyable and satisfying. Hence, people who are intrinsically motivated have an internal drive to do a certain activity and they tend to be "more persistent, more self-regulated, [and] will enjoy the process, and perform better" (Cullen and Greene 2011: 33). For example, teachers who are intrinsically motivated to use learning technologies usually like technology in general and are curious about different tools. Extrinsic motivation, on the other hand, is when we do something because we want to achieve a goal. That is to say, it is when people expect a reward, and perform an activity not because they genuinely want to but because some external forces or regulations motivate them (Ryan and Deci 2000 as quoted in Cullen and Greene 2011, Panisoara et al. 2020). Extrinsically motivated teachers, for instance, use learning technologies because their schools ask them to. Finally, Ryan and Deci (2000) mention amotivation, which "occurs when people see absolutely no point in engaging an activity" (Ryan and Deci 2008 as

quoted in Cullen and Greene 2011:33). This is the case of teachers who completely refuse to use learning technologies as they do not see any advantage or any interest in doing it.

As for the difference between attitudes and motivation, even though both terms are similar and have an influence on each other, Ahmed (1989) points out that attitudes usually determine the motivation we will have to carry out everyday tasks, and that "motivation seems to be more dependent on attitude since the latter is said to send strong roots into the motivational system of one's personality" (Ahmed 1989: 286). In other words, if we have a negative or positive feeling about something, it will motivate us to act or not. In the case of this study, if teachers have a positive attitude towards EdTech, they tend to feel more motivated to use it, and the other way around.

2. Theoretical framework

2.1 Technology in Education

First and foremost, it is important to define some important terms to understand what is meant by educational/learning technologies and what the scope of this study is. The term *learning technology* refers to digital learning technology, which is defined by Richards (2015: 19) as a broad category that includes:

- Online learning, whether self-paced or collaborative;
- Digital learning resources (e.g., e-textbooks, e-grade books, interactive media); and
- Mobile learning apps, including educational games and other mobile services.

Similarly, Hockly (2016: 4) defines digital learning technologies as "technologies that first made their appearance in language education in the early 1980s, with the advent of computer software for language learning". She goes on to say that the use of digital technologies should have a purpose and it should also affect the learning process positively.

The use of technology in language teaching has improved considerably in the last few decades, and the different terms that we use to refer to it also changed over time. In the 1960s, for instance, there were language laboratories, tape recorders, and videos, which were considered to be a revolutionary learning method at the time. In the 1980s, Computer Assisted Language Learning (CALL) emerged, with programs in which students had to respond to stimuli on the computer screen (Dudeney and Hockly 2007). There were activities such as fill-in-the-gaps or multiple choice, as well as text reconstruction, which provided students with immediate feedback and allowed them to notice their mistakes.

Warschauer and Kern (2000 as quoted in Walker and White 2013: 2) discuss the development of CALL, and they mention three phases. They define the first phase as structural CALL, as it "focused on drill and practice methods to achieve accuracy" (Walker and White 2013: 2). For example, grammar-translation methods[1] or audio-lingual approaches[2] to teaching language can be considered as part of this first phase. The second one, according to Warschauer and Kern, is communicative CALL, which includes open-ended interactions between users of different computers. It also corresponded to cognitive theories "which stressed that learning was a process of discovery, expression, and development" (Warschauer and Healey 1998: 57). The most popular communicative CALL software included text reconstruction programs, in which students had to work alone or in groups and rearrange words or sentences to discover patterns of language and meaning. Other CALL communicative software focused on simulations, by encouraging discussion among students. The focus was on what students did with each other when working at the computer. The third and final phase is the integrative one. Warschauer and Kern (2000 as quoted in Walker and White 2013: 2) mention "multimedia and

[1] A method of teaching a foreign language in which students learn grammatical rules and then apply those rules by translating sentences between the target language and the native language (Richards and Rodgers 2001).
[2] A method of teaching a foreign language which emphasizes the teaching of listening and speaking before reading and writing, by using dialogues as the main form of language presentation and drills as the main training techniques (Richards and Rodgers 2001).

internet", which at the time were limited to desktop computers.

Hidalgo, on the other hand, refers to CALL as an educational approach in which computers are used to establish "a digital environment that promotes a natural-like language learning process" (Hidalgo 2020: 121). He also explains that, although CALL has been used for a long time, it has become even more trendy in language education with the development of e-learning and virtual learning environments (Hidalgo 2020). Furthermore, Hidalgo mentions that different technologies and web resources can be considered to be CALL, as long as they provide students with the opportunity to interact with other speakers of the target language. For example, when engaging with blogs, wikis, podcasts, Massive Open Online Courses (MOOCs), social media, and social networks, students have the chance to be exposed to the language and also interact with native (L1) speakers. As for the advantages of CALL, it can facilitate language learning, and "it promotes a student-centered learning process, adapted to learners' abilities, preferences and cognitive and learning styles" (Hidalgo 2020: 121). It can also provide learners with authentic communication and motivates them to use the language not just in the classroom, but also outside in their everyday lives (Hidalgo 2020). As for its disadvantages, Hidalgo points out that the use of CALL requires time and money investments, not to mention that teachers must have a good command of computers and technology for CALL to be effective (Hidalgo 2020)

Another term that is also used in the field of learning technologies is *Technology Enhanced Language Learning* (TELL) (Hockly 2016). TELL refers to "the use of the computer as a technological innovation to display multimedia as a means of complementing a teaching method language teacher" (Hidalgo 2020: 120). One of the key features of TELL is that technology is considered "part of the environment in which language exists and is used", and not just a tool that assists language learning (Walker and White 2013: 9). It is considered by some scholars not as a method, but as an approach that can be used in combination with another

teaching method to facilitate learning (Kranthi 2017). It includes software, hardware, and the internet to enhance teaching and learning; therefore, the use of TELL means that teachers and learners are going to use technological devices such as computers, mobile phones, game consoles, and tablets. Examples of these types of learning technologies are electronic dictionaries, instant messages in the target language, reading the news online, or creating and uploading multimedia content (Hidalgo 2020). Previous research shows the benefits of TELL for students, especially when it comes to motivation and adapting a lesson to different needs. Arifah (2014, as quoted in Ahmadi 2018: 118), for example, argues that the use of the internet increases learners' motivation and that "learners can learn meaningfully when technology is used in the process of learning through using computer and internet". Additionally, it can lead to more flexible language learning compared to more traditional teaching methods (Hidalgo 2020); students and teachers do not only have the book as a resource and they can use different types of material

The terms *CALL* and *TELL* still intersect and are used by authors in different ways. Some do not make much distinction between these terms and choose to use them interchangeably (Kranthi 2017). Others say that there is a difference between the two, with an evolution from the term *CALL* to the term *TELL*. Indeed, CALL and TELL have their differences in terms when they came into use, as the term *CALL* was the first one to be used, in a time before the spread of the internet, which is the reason why it used to refer only to computers. Hidalgo points out that the term *TELL* is not meant to replace CALL, as they are both different innovative language-learning-focused approaches (Hidalgo 2020). Some scholars claim that the change in terminology and the shift from "computer-assisted" to "technology-enhanced" is because "computing devices have become physically smaller but significantly more powerful and more varied" (Chun 2019:14). But when looking at Warschauer and Healey's definition of CALL, we can see TELL is very similar to CALL's second and third phases, which also include the

use of the internet. Regardless of these similarities between both terms, Walker and White (2016) suggest some different phases of CALL and TELL and their development, as shown in the table below:

Table 1: Different phases of CALL and TELL (Walker and White 2016: 10)

Approach	Structural/ restricted CALL	Communicative CALL Open CALL	Integrative CALL	TELL
Technology	From mainframe to mobile	PCs	Multimedia, internet	Mobile devices, tablets, multiplayer games, virtual worlds
English-teaching paradigm	Grammar-translation, and audio-lingual	Communicative language teaching	Content-based ESP[3]/EAP[4]	Communication
View of language	Structural (a formal structural system)	Cognitive (a mentally constructed system)	Socio-cognitive (developed in social interaction)	Structural, cognitive, socio-cognitive, adaptable
Principal use of technology	Drill and practice	Communicative exercises	Authentic discourse	Normalized
Principal objective	Accuracy	Fluency	Agency	Autonomy within community
View of learning	Behaviorism	Constructivism	Social constructivism/situated learning	Connectivism
Role of technology	Tutor	Tutee	Mediational tool	Environment, resource

Even though CALL and TELL are still referred to when it comes to learning technologies, other terms have been used more frequently these days. For instance, the term EdTech (educational technology) has been in vogue recently, and it is also the term that I am going to use in this study. Concerning language teaching, EdTech can refer to different means that can

[3] ESP : English for Specific Purposes
[4] EAP : English for Academic Purposes

be used when teaching a language, from audio-visual devices ranging from televisions or CD players to computers, phones, or tablets (Rahmati et al. 2019), and it also includes hardware and software. In the context of this study, EdTech refers to hardware and software used not only in online teaching but also in face-to-face lessons. It also refers to the items defined by Richards (2015) as being part of digital language learning.

The use of technology plays an important role when it comes to learners' autonomy. Dam (2003: 137 as quoted in Lai 2019: 52) defines autonomy as "the willingness and capacity to act independently and in co-operation with others as a socially responsible person, to take charge of one's learning." Since its introduction in the field of language education in the 1970s, technology has been a part of the discussion about autonomy (Lai 2019). According to Lai (2019: 53), there is a dynamism in the relationship between autonomy and technology in which "autonomy influences how learners perceive and position technology in relation to language learning, and technology impacts the exercise and development of autonomy". In other words, when learners are autonomous in their learning process, they see technology as their ally and they use it to their advantage, by trying to find resources that will help them improve their language level. On the other hand, by using technology, students will depend less on their language lessons or their teacher, and consequently, they will become more autonomous. Similarly, Healey (2002) discusses the role of technology in fostering students' autonomy; she notes several points that have been made to show that TELL supports learner autonomy. For instance, one of the arguments she mentions is the fact that "computers and the Internet provide a wealth of resources to independent learners" (Healey 2002: 2). Indeed, when I think about my experience as a language learner in the late 1990s, we had limited EdTech resources, so it was natural that we would be very dependent on the teacher or the language center. This context has changed considerably in the last 20 years, and there are now countless resources readily available online, such as YouTube videos or websites to practice grammar and vocabulary.

Teacher training is also another important aspect of technology in education. When teachers learn how to work with EdTech and have the appropriate training, they will gradually overcome any insecurity they might have regarding its use, and they will also be able to adapt to the constant change in the educational field (Bancheri 2006). However, as Bancheri points out, once teachers are trained, they need to learn how to evaluate language technologies to help students, and also to be trained "to become users of such technologies and to be actively involved in their creation or modification" (Bancheri 2006: 32). In other words, it is important for teachers to know how to select tools according to students' needs and context, and to make sure that they will help students. Similarly, Ahmadi (2018: 122) concludes that teachers "need support and training for integrating technology into language teaching". In other words, it is not just about developing new tools and advanced methods for helping students' learning process. It is also important that teachers have the support they need to follow the changes. They need to learn which tools to use, how to use them, and most importantly, why making use of technology can facilitate learning and it can be beneficial in the classroom.

2.2 Online teaching/learning

Online teaching is a very important element of the field of EdTech. During the COVID-19 pandemic, many schools and universities had no other choice but to put into practice a plan so that students could continue their studies online. For further clarity, it is important to differentiate online learning from e-learning, as they are not the same thing. Ananga (2020: 312) defines e-learning "as electronic learning that includes all learning situations that employ the new technologies". Similarly, Akimova et al. (2015: 349) refer to e-learning as "the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaborations". In other words, it can be understood that e-learning is a broad concept in which electronic devices are

used in learning but does not necessarily include teaching/learning online. Online learning, on the other hand, is an element of e-learning, and it is defined as "learning experiences in synchronous or asynchronous environments using different devices (e.g., mobile phones, laptops, etc.) with internet access" (Dhawan 2020: 7). The synchronous learning environment allows students to attend live classes and have real-time interactions with their teachers and classmates, whereas, in the asynchronous learning environment, students can have access to videos or content that they can watch/read whenever it suits them. As previously mentioned, during the lockdown in 2020, some teachers involved in this study had to teach synchronously by using video-conferencing platforms such as Zoom or Microsoft Teams, while other teachers worked asynchronously and sent emails to students with the work they had to do.

Online learning has developed from the tradition of distance education, which began with correspondence courses (Ng 2015). It has been used more often at the tertiary level or in adult education, and we can see universities from all around the world providing students with different options of courses. In Switzerland, for instance, UniDistance has offered different university study programs since 1992, and it is accredited under Swiss law (UniDistance 2022). The tools available these days are more and more sophisticated, and they allow teachers to use materials that make the classes resemble in-person ones. Zakarneh (2018: 172) gives some examples of these tools and puts them into nine categories:

- photo-editing (e.g. Pixir)
- audio recording and editing, rich internet applications (e.g. multimedia projects)
- videoconferencing (e.g. Skype, Zoom, Microsoft Teams)
- video-production (e.g. iMovie, ShowMe, WeVideo)
- vocabulary learning (e.g. Quizlet, Wordwall)
- presentation (e.g. Prezi, Genially, PowerPoint)
- word reference (e.g. collaborative working and dictionaries)

- editing (e.g. Amara)
- e-portfolios (e.g. Weebly, Padlet) and websites (e.g. Yale Center for Language)

By making use of some of these tools when teaching online, classes can be more varied and motivating for students (Zakarneh 2018). The tools used by the participants in this study will be discussed in detail in the Results and Discussion section.

Even though online learning has evolved considerably in the last decade, there is still a lot of debate about whether this is an efficient way of learning or not. In terms of its advantages, Ng (2015) defends the use of asynchronous discussions and points out that they can provide students with a democratic atmosphere in which all the students can participate, without the dominance of certain groups. Another advantage of this kind of online learning is that "students are able to have the time to self-reflect and think critically about the different perspectives offered by their peers to make judgment that value, support or oppose the different views" (Ng 2015: 12). Perale and Matthews (2021) point out that asynchronous online lessons provide students with a lot of flexibility, which is very practical when considering that some people might have problems related to time zone differences or lack of access to technology, wi-fi, or private spaces at certain places or certain times of the day. For example, as a graduate student and someone who has worked throughout my studies, it was very practical for me to have some of the lessons from home, and the fact that I did not have to commute every day was less stressful for me.

As for the disadvantages of online learning, Dhawan points out that students might find online lessons "boring and unengaging" (Dhawan 2020: 8). The flexibility of online lessons that are seen by Perale and Matthews (2021) as an advantage can become a problem for students when it comes to organizing themselves and finding time to study (Dhawan 2020). Focus and personal attention can also be a problem, as not everyone has a calm environment at home to

study. Moreover, many students feel lonely and encounter technical problems. In Switzerland, for instance, a study conducted with 1,459 students by the University of Geneva in 2016-2017 shows that distance courses favor high-achieving students (Pellizzari et al. 2021). Michele Pellizzari, a co-author of the study, explains that the use of innovative tools has a very positive impact on high-achieving students, as they are usually more autonomous. However, these pedagogical innovations reduce the time used by teachers to explain things in more detail, which is very useful for lower-achieving students. My experience as a language teacher has shown me that online lessons can work very efficiently with adults and with small classes. Nevertheless, when teaching larger groups, some students lose interest or get distracted, and it is difficult to make sure that everyone is focused on the lesson, especially when they refuse to turn on the camera.

2.3 Previous studies on attitudes of language teachers to the use of technology

Teachers' attitudes are an important factor when it comes to the use of technology in the classroom, as, depending on teachers' perceptions of EdTech tools, they will decide to adopt them in the classroom (or not). In order to better understand the intentions of EdTech users, researchers have based their studies on different social psychology theories (Teo 2011). For example, the Theory Acceptance Model (TAM) model was proposed by Davis (1989 as quoted in Teo 2011), with the aim of helping researchers to predict users' acceptance of information systems. This model is considered to be very efficient in explaining users' behavior in different populations, as well as to explain "the relationships among perceived usefulness, perceived ease of use, attitude towards use, and behavioral intention to use technology" (Teo 2011: 2433). Teo (2011) explains that perceived usefulness is related to how the user sees the use of technology as something that is going to facilitate (or not) his/her life (or not). As for perceived ease, it is about if the user sees technology as something difficult or easy to use, even before trying to use

it (Teo 2011). Therefore, with the help of TAM, studies have shown that perceived usefulness and perceived ease affect attitudes (Teo 2011). In other words, the idea that some teachers have towards the use of technology, regarding its usefulness or whether they are able to use it, might lead them to have a negative attitude, and therefore, avoid its use, or a positive attitude can also arise under these circumstances.

Perceived usefulness and ease are some of the reasons why training courses play a key role in teachers' attitudes to the use of technology. Gilakjani and Leong (2012) discuss the relationship between attitudes and computer technology training; their research shows that training is a crucial factor that will influence teachers' implementation of technology, as well as their perception of it. Saye (1998) stresses that it is necessary to explore teachers' attitudes toward technology integration, as they are the ones who can make changes in the classroom, and they usually accept these changes if they see that they facilitate their work. Furthermore, according to Dudeney and Hockly (2007: 9), "a large part of the negative attitudes teachers have towards technology is usually the result of a lack of confidence, a lack of facilities or a lack of training, resulting in an inability to see the benefit of using technologies in the classroom". As more and more schools acquire computers, tablets, and interactive boards, it is also important for them to train teachers on how to use this equipment and to also shed light on the advantages of its use, so that to promote teacher's positive attitude towards technology. Training can also increase teachers' self-efficacy and decrease their anxiety when using EdTech (Hismanoglu 2012). For example, Gilakjani and Leong (2012) explain that many teachers in basic education school systems in Turkey are not computer literate, which is why some of them prefer not to use technology in the classroom. They underscore the fact that "teachers' attitudes toward computer technologies are related to teachers 'computer competence'" (Gilakjani and Leong 2012: 633). This lack of competence leads teachers to prefer using traditional methods, as they are afraid of the unknown. Hismanoglu's (2012) study of pre-service teachers'

perceptions of the use of EdTech in teaching English as a foreign language in the distance higher education system in Turkey, on the other hand, shows different results.[5] The participants of his research seem to have negative attitudes toward the integration of technology. This is probably due to lack of training, as they felt less competent using EdTech due to lack of knowledge and experience. Thus, it highlights the importance of pre-service training, as it can enable teachers to become competent in and receptive to the use of technology in the classroom.

Other studies investigating teachers' attitudes towards EdTech show that some teachers have a positive attitude towards the use of learning technologies. For example, a quantitative study in Indonesia with high school English teachers shows that, overall, these teachers have a positive attitude towards the use of technology in the language classroom (Cahyani and Cahyono 2012). They seem to believe that technology enhances second language learning and that classrooms should have different types of technology that teachers can use to develop students' language skills (Cahyani and Cahyono 2012).

Teachers' attitudes are also related to different factors such as the experience level and age of teachers (Seraji et al. 2017: 182). For example, in their exploratory study, Seraji et al. (2017) use a survey to collect data from 100 teachers working in eight language institutes in Iran. The main aim is to investigate whether there are any statistically significant relationships between teachers' experience, tenure, and age and their attitude toward technology. The results of their study show that, generally, new teachers and experienced teachers have positive attitudes toward technology, and the amount of time a teacher has been working at a school had no influence on how much that teacher integrated technology. As for the variable of age, Seraji et al. (2017) mention that there is a significant relationship between teachers' age and their attitudes but they do not provide more details, suggesting that future studies could investigate this topic further. They also argue that attitudes may be a key aspect in teachers' decision to use

[5] A pre-service teacher is a person who is doing a *teacher* preparation program prior to obtaining his/her initial *teaching* license.

technology in the classroom, but "school climate, lack of hardware or software, lack of training or motivation, and intrinsic beliefs can also affect teachers' attitude toward technology" (Seraji et al. 2017:182).

2.4 Previous studies on the impact of COVID-19 on education

As a result of schools around the globe being forced into remote teaching, studies have been conducted to investigate the attitudinal and motivational factors towards the implementation of technology and online learning, as well as teachers' preparedness during the process and the problems they faced when teaching online. For example, in relation to teachers' preparedness to cope with online learning, a study with 574 Norwegian and 239 American teachers indicates that most of the teachers had little previous experience with online teaching (Gudmundsdottir and Hathaway 2020). The results of this study also show that, even though teachers were not adequately prepared for teaching online, "they were willing to go the extra mile to move teaching to online platforms" (Gudmundsdottir and Hathaway 2020: 244), and they showed a positive attitude to trying to cope with this transition. In Switzerland it was not different; I remember colleagues of mine who did not have experience with EdTech working hard to find the best possible solution for their students. Some of them had a negative attitude towards the use of learning technologies before the lockdown, thinking that it was not necessary to implement EdTech in their teaching practice. The transition to the online environment was not easy, and the results were not always as expected, but at least the courses could continue. Similarly, Trust and Whalen's (2020) survey of 326 US grade 12[6] teachers indicates that they were unable to provide quality instruction due to a lack of preparation and support with the use of technology. For some teachers, there was a wide choice of resources, which made them feel overwhelmed; without guidance, they were not sure about which digital tool was more suitable

[6] Grade12 is the last year of high school in the US

to support learning (Trust and Whalen 2020). Hence the importance for schools to give clear guidelines and suggestions to teachers on which tools to use and for which purpose.

Teachers' well-being and stress were also objects of investigation. Kim and Asbury (2020) explain that some teachers in the United Kingdom felt stressed for not knowing exactly how long the situation was going to last, and also for not being sure about the best way to teach online. They also claimed that they felt insecure and that having to teach online was like "a rug had been pulled from under you" (Kim and Asbury 2020:1070). Another aspect that was difficult for the teachers in this study was workload, as they found it very difficult to manage their working time at home, and consequently, end up working more than usual.

Another important factor to be considered is the impact of teachers' pedagogical decisions on students' learning experiences. During the lockdown, some schools took time to give teachers clear guidelines, after which they had to decide on the best way to deliver their online lessons. Lepp et al. (2021) shed light on what influenced teachers teaching decisions. The results of their study indicate that most of the teachers' decisions were motivated by short-term goals, such as "maintaining students' social interaction and more broadly, supporting student motivation in this irregular situation" (Lepp et al. 2021: 19). There was also a considerable effort to maintain students' social interaction and a "desire to keep students' and teachers' own workloads affordable, for the purpose of well-being" (Lepp et al. 2021: 19).

In relation to the tools used by teachers during the lockdown, Alimyar and Lakshmi's (2021) study of English teachers in India and Afghanistan reveal that most teachers used smartphones, computers, and devices for recording videos, Google Classroom, Google Meet, Zoom, and YouTube. Even though teachers and students faced difficulties adapting to this online environment, the results of this study show that most of the teachers agreed that this was the best solution "to reach students and to help English teachers improve their teaching skills during the outbreak of the coronavirus" (Alimyar and Lakshmi 2021:14). However, the study

also depicts some challenges teachers had and their beliefs after this experience. In sum, teachers claim that preparing for online classes was more time-consuming and students also took time to adapt to the online environment. Moreover, they found it difficult to engage students during the lessons, as some of them did not participate actively during the activities (Alimyar and Lakshmi 2021). Other difficulties that teachers had were concerning students' lack of equipment. For example, in some households, there was only one computer at home, which parents and students had to share (Wahab and Iskandar 2020). Also, some students live in rural areas where the internet connection does not work and the mobile network is unstable, which made the implementation of online learning very difficult for teachers (Nashruddin, Alam, and Tanasy 2020).

As far as attitudes are concerned, Alasmari (2022), for instance, examined English teachers' attitudes to the use of e-learning in Saudi-Arabian public schools. The study took place after the lockdown; according to Alasmari, the participants in his study had never used e-learning before COVID-19, as online learning was only used mostly in higher education. Consequently, they encountered difficulties at the beginning of the lockdown. Alasmari had 202 teachers answer a questionnaire containing statements about their general attitudes towards using e-learning, their opinions about the advantages of teaching online, and also its disadvantages. Overall, most of the participants in his study seem to have a neutral opinion about the disadvantages of online teaching, and a positive view of the advantages.

Considering all the studies mentioned above, it can be stated that teachers experienced online teaching in different ways, and in various contexts depending on the country, and this surely affects their attitudes and raises the question of whether they are going to continue using EdTech and online learning or not. Panisoara et al. (2020) use different models to explore teachers' intention to continue using online instructions in Romania. The main aim of their study is to investigate whether extrinsic and intrinsic motivation play a role in teachers'

willingness to continue working in an online environment. They conclude that extrinsic motivation and external regulation are not major factors in motivating teachers. Furthermore, teachers with previous technology pedagogical knowledge are the ones who seem to have more intrinsic motivation, and consequently feel more motivated to continue teaching online. Hence, schools need to provide teachers with training courses so that they build up their confidence when using EdTech.

In this chapter, I have presented an extensive theoretical background on technology in education and online teaching, as well as empirical studies on teachers' attitudes to the use of EdTech and the impact of COVID-19 in education for different reasons. Firstly, to better understand the development of EdTech and what equipment and tools are currently being used, which is central to this study. Secondly, it is necessary to shed a light on teachers' attitudes to the use of EdTech in different contexts, to allow me to compare and contrast teachers' experience with learning technologies and their attitudes towards it.

3. Understanding the context of this study

3.1 Education in Switzerland

In Switzerland, the State Secretariat for Education, Research, and Innovation (SERI) is the federal body that oversees education in Switzerland while public schools are regulated and administered by the 26 cantons while having a set framework by the central government (SERI 2022). According to SERI, the cantons are grouped by the three linguistic regions (French, German and Italian); these different regions can decide on their school calendar and curriculum. In general, children begin their formal compulsory education (*école obligatoire*) at the age of around six years old in primary school, then progress to lower secondary school/middle school (*secondaire I*), which they finish at the age of 15. After this, students can decide whether they

want to continue their studies at an upper secondary school (*secondaire II*). If they wish to continue, students can choose to study in a *gymnase* or *Kantonsschule* and later go to university, or they want to go to a vocational/professional school. This is illustrated below in Figure 1:

Figure 1: Overview of educational pathways and titles awarded (Orientation.ch 2022)

As we can see in the figure above, if students intend to go to university when they finish obligatory school, they can choose to study at an *école de maturité gymnasiale* or an *école de culture générale*. The difference between the two is that with the diploma from the former, you can access any university in Switzerland, regardless of the field, and with the latter, you can only choose the fields of health, education, social work, arts and design, music or communication and information (EDK 2022). This is valid for the whole country, but the *maturité gymnasiale* can last from 3 to 4 years depending on the canton. However, if students want to start working, they can do an apprenticeship by attending either an *école de commerce*,

where students have business-oriented classes and can work in different administrative sectors or an *école de métiers*, where they have a wide variety of professions from which they can choose. During their studies, students go to school a few times a week and also work at the same time; the duration of their apprenticeship is on average three years (orientation.ch 2022). After finishing these programs, students have to sit an exam to obtain a *certificat féderal de capacité* (CFC), after which they can start working, or they can also choose to do a *maturité professionelle* and pursue their studies. It is also possible for adults who already have work experience in Switzerland to obtain a CFC without having to do an apprenticeship, following Article 32 of the *Ordonnance sur la formation professionnelle* (orientation.ch 2022). In this case, people without formal qualifications who have been working in the same profession for years, can take the same CFC exam the apprentices do; this qualification procedure is open to people with at least 5 years of experience in the profession concerned (orientation.ch 2022).

Even though most students attend public schools in Switzerland, there are also private and international schools. These schools can have an international curriculum, such as International Baccalaureate (IB), *Baccalauréat Français*, or International Primary and Middle School Curriculum (IPC, IMYC), or they can offer the national curriculum FSEP 2022). There are also bilingual schools that combine an international curriculum with the local Swiss curriculum. As my study mainly focuses on public school teachers, I will not provide greater detail about the private and international schools.

3.2 Swiss context for digital technologies and ICT in education

Digital technology is transforming almost all areas of life and is now an integral part of our modern society. Schools play a significant role in teaching children and young people how to acquire digital skills and to use them critically. The integration of information and communication technologies (ICT) in education aims at developing ICT skills while offering

the possibility to make disciplinary teaching more efficient by integrating new methods of instruction and new sources of information (Livingstone 2011). In Switzerland, the Confederation (another name for the deferral government) and the cantons have started to create strategies and programs to include ICT in the school curriculum; major investments have been made in equipment, as well as training and continuing education. For instance, in 2018 the Swiss Conference of Cantonal Ministers of Education (EDK) approved a national strategy regarding digitalization in the field of education (EDK 2022). With this strategy, the cantons agreed upon goals for digitalization and education, which they will then supplement with concrete measures for each level of education. The main aim is to improve the pedagogical and didactic use of digital technologies in Swiss schools by including digital skills in the school curriculum, focusing on compulsory schooling and upper secondary schools (EDK 2022). The strategy also aims to develop cross-curricular skills related to the use of technology and to use new media and digital devices as tools for disciplinary learning (EDK 2022). The COVID-19 crisis has accelerated the implementation of this strategy, as it has shown how important it is to better prepare teachers and students for a world that is becoming increasingly digitalized.

According to a report by Educa[7][8] (2021), despite the creation of this national strategy, the way digital technology is being implemented at Swiss schools varies depending on the school level and also the linguistic region. For instance, schools in the German-speaking part of the country tend to use more digital technology with students than the schools in the French- and Italian-speaking areas (Educa 2021). Also, in terms of equipment, schools in Romance-language cantons tend to have fewer devices and digital equipment than the German ones. When it comes to the integration of digital literacy in the curriculum of obligatory schools, the three linguistic regions (German, Italian and French) now include digital skills that students

[7] Report prepared on behalf of the SERI and EDK as part of the education monitoring
[8] EDUCA is an specialized agency for the Swiss digital field of education

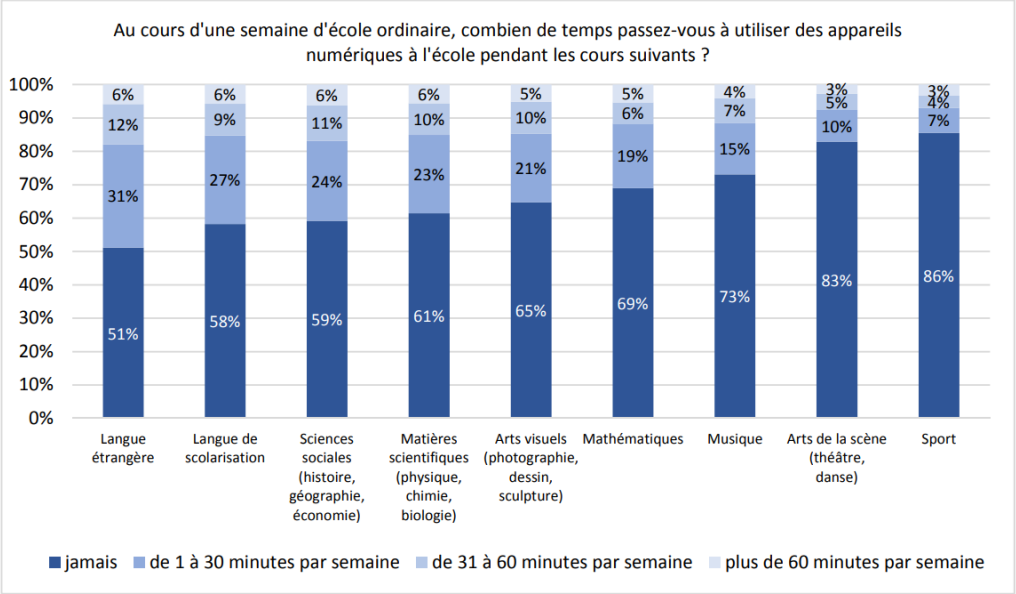
have to acquire throughout their schooling; however, this implementation is not synchronized among the cantons. For example, some schools in German-speaking cantons started to introduce digital skills in their curriculum in 2015, whereas other cantons started two or even 3 years later (JAMESfocus 2019). In upper-secondary schools from the Romandie,[9] which is the context of this study, different cantons have implemented their own strategies. For instance, in the canton of Fribourg, the Bring Your Own Device (BYOD) project will be put into practice next school year (2022/2023). The idea is for students to come to class with their computers, while the canton provides an Office 365 account to all of them. While the devices are the responsibility of the students, schools can give them recommendations for the suitable equipment they have to buy, if necessary (Passello 2021). Similarly, in Valais, IT (information technology) became a compulsory subject from the 2020-2021 school year in the *gymnase* (upper secondary), and the principle of BYOD is gradually being introduced in these schools. On the other hand, the canton of Geneva plans to install Wi-Fi connections in all the classes and also invest in equipment for schools, but it is still reluctant toward the BYOD principle. According to the State Council of Geneva, this project can have a high cost for some students, as not all of them can afford to have their own devices and sometimes have to share a computer with the rest of the family (as quoted in Passello 2021). The canton of Vaud also refuses to provide each student in *Secondaire II* with a tablet or a laptop for the moment; they, therefore, have to find an alternative solution in order to implement IT as a mandatory subject in the schools' curriculum. This is a challenge for the canton, as students who are enrolled in this program already have a full schedule with all the other courses they have (Passello 2021).

As for teachers' ICT use and skills, according to the Program for International Student Assessment (PISA) survey conducted in 2018 by the Organisation for Economic Co-operation and Development (OECD), students claim that most of their teachers do not use any digital

[9] Romandie is another name for the French-speaking part of Switzerland

technology during their lessons. They also mention that the school subject in which teachers use ICT the most is in foreign languages, as illustrated in the figure below:

Figure 2: Frequency of use of digital devices during lessons, by discipline, in Switzerland (OECD2018)



Furthermore, 35% of school directors believe that teachers are not sufficiently encouraged to integrate ICT in the classroom, and 28% believe that teachers do not have the technical and pedagogical skills necessary to use ICT (PISA 2018). The study also mentions that it is not enough to have a good IT infrastructure for the effective integration of ICT in education, but that it is also essential to provide support to teachers through in-service training and the provision of resources so that they can be competent in their use. In fact, previous studies have shown that one of the barriers to the integration of ICT into teaching is precisely the teacher and, in particular, his or her lack of confidence in their technical skills (Jones, 2004; Bingimlas, 2009 as quoted in PISA 2018).

3.3 The context of emergency remote teaching due to COVID-19

The COVID-19 pandemic lockdown changed the education landscape all over the world. Schools and universities were closed in most countries, as an immediate response to the crisis. Consequently, online teaching replaced face-to-face lessons, to address the urgent need of keeping education in progress. In Switzerland, the Federal Council decided to take drastic measures at its meeting on March 13, 2020, in order to contain the spread of the coronavirus in Switzerland and to protect the population and the health system. Among the different measures, from March 16th, 2020, until the end of April, schools were closed down, and teachers had to quickly adapt to a different reality (Federal Council 2020). Each canton was told by the Confederation to set its own policies, which were generally very similar; these policies applied to both public and private schools. The cantons were also in charge of giving teachers recommendations on how they would continue to give their lessons to maintain the annual school program. For example, I was working for a private school at the time, and we were told to teach synchronously from March 16th until the end of the lockdown. However, I heard from colleagues who were working in public schools in the cantons of Vaud and Valais that they were free to choose how they would teach and manage their classes. For example, some of these teachers, who were employed at primary schools, chose to send some assignments to their students by post, while other teachers who were working in secondary schools, chose to have synchronous online lessons every week, or every two weeks, to check how students were progressing. They could also send students work to do by email, or they would use platforms such as Google Classroom or Teams to communicate with students. From the beginning of the lockdown, the population would wait for the weekly recommendations of the Federal Council to know how the situation was progressing. On April 16th, they announced several steps for loosening the restrictions in a press conference (RTS 2020). As far as schools were concerned, students from primary and lower secondary classes could return to school on May 11th and

upper secondary students on the 8th of June. In total, upper secondary students and teachers had ten weeks of distant learning, considering that they had two weeks of holidays during this period. According to the Cesla Amarelle, former State Councilor and Head of the Department of Education, Youth and Culture in the canton of Vaud, the aim of this brief return to school before the summer holidays was to "allow each student to renew the pedagogical link with his or her teachers and to achieve the end-of-year objectives set by the study plans" (Amarelle 2020). The idea was to provide students with the opportunity to consolidate the content they worked on during the distance learning, and also to address students' eventual learning gaps.

4. Data and Method

As stated in the introduction, the question I aim to investigate in my MA thesis is the extent to which language teachers' attitudes to the use of technology in the classroom changed after the initial COVID-19 lockdown. My main focus is on the French-speaking part of Switzerland. The data used in this study consists of an attitude questionnaire that was filled in by 52 language teachers from this region.

In Section 4.1 of this chapter, I will give more details about the participants, the age group they teach, and the kind of school they work at. In the following subsection, I will explain how the questionnaire was elaborated. Finally, I will describe the method used in this research to collect data and the procedure to analyze it.

4.1 Participants

A total of 52 language teachers answered my questionnaire. They all work in state and private schools, and they are from different age groups and gender. One of the requirements to take part in the study is that teachers must teach in upper secondary schools. The reason I chose this scope is that the students they teach are more than 15 years old and, consequently, more

autonomous while studying from home. For this reason, it was easier for teachers to interact with them online. Also, the way primary and secondary school teachers had to proceed with their lessons during the lockdown was different. The former did not necessarily have to teach online; many of them could just send their students some work to do by post, so they did not have to use any learning technology tools to interact with their pupils.

Another requirement for inclusion in this study is that participants have to work in the French-speaking part of the country (also known as Romandie). There are different reasons why this was a requirement, and the first one is due to the language. As I do not speak German, I would have had to administer the questionnaire in English, which would limit my study to English teachers or language teachers who can also speak English. The other reason I chose participants from the French-speaking part of Switzerland is due to the difficulty to find participants outside of the Romandie. It would have taken me more time to find teachers in the Swiss-German part to answer the questionnaire, as I do not have as many contacts as I do in the French-speaking part.

I am interested in investigating whether the social variables of gender, age, and languages taught play a role in the teachers' attitudes to the use of learning technologies. This is the reason teachers of different ages and gender, and who teach any language, could participate in this study.

4.2 Questionnaire

The questionnaire used in this study (Appendix I) was available for 2 months; participants were invited to answer it from February to March 2021. I decided to wait almost a year after the lockdown to start collecting my data so that teachers could finish the school year and start a new one with in-person classes. By doing that, I have a better idea of the impact that these 2

months of teaching from home had on teachers' practice with regard to the use of learning technologies. Consequently, I can also see how their attitudes have changed after this experience.

The questionnaire was designed to be self-administered so that I could maximize the number of participants in my study beyond my personal contacts. One of the disadvantages of this type of questionnaire is that it makes it difficult for researchers to know if participants completed all the questions or not (Codó 2008). In order to avoid this kind of problem, I used Google Forms to create the questionnaire, which is "a cloud-based data management tool used for designing and developing web-based questionnaires" (Raju and Harinarayana 2016: 5). By using this tool, I can choose the main questions to be mandatory, which means that participants cannot move on to the next questions unless they answer the mandatory ones. I also chose this tool as it is a practical way to reach a larger number of participants who do not live in the same city. It is also easier to visualize the results and analyze the data by using this tool, as it automatically records the participants' responses in a spreadsheet (Raju and Hari Narayana 2016). All the questions were written in French, one of the official languages in the Romandie. I chose French and not English because I thought it could help make the questionnaire accessible to a broader group of potential participants, considering that French is the everyday language spoken where they live. However, in the introduction of the questionnaire, I told participants that they could also answer some questions in English if they preferred to.

Before answering the questions, participants had a brief introduction to my research, with details about the context, how long it would take to answer the questionnaire, and the reason I am conducting this study. The introduction was followed by a consent form; by accepting it, participants allowed me to use their data in this research. The questionnaire was divided into sections that deal with questions related to the participants' teaching practice before, during, and after the COVID 19. Section 1 contained questions related to the use of

learning technologies before the lockdown. In this part of the questionnaire, I asked participants about the equipment they had in their classroom, whether they used this equipment or not, and if the school asked them to use it. I also asked them if they had taken any training courses on the use of technology in education, and some details about the tools they know and their motivation. The reason I began with these questions is that I wanted to have an overview of their practice before the lockdown. If I take the school where I worked in 2020 as an example, teachers there had no obligation to use any learning technology tools in the classroom so I could understand the difficulties of many of them when they were asked to teach online. Therefore, I want to understand if the same thing happened to teachers from other schools and understand their motivation (or lack of) before they were obliged to use it. Then, in Section 2, I asked questions about their experience during the lockdown. I ask teachers how much time it took for them to receive instructions from their school, and if they received any kind of support or training courses during the lockdown. Moreover, I asked the participants if they had to teach online, as not all the schools asked their teachers to do it so. Finally, there were questions about the tools they used and how they learned to use them, as well as how motivated they were at the end of the confinement. In Section 3, I wanted to know to what extent they changed their perspective on the use of technology, and if they intend to keep on using learning technology now that the lockdown is over. Therefore, I asked the participants the reasons why they feel more or less motivated to continue using learning technologies in the classroom. Finally, section 4 contained 7 demographic questions to investigate the social variables contained in this questionnaire. Specifically, I plan to determine if the kind of school the participants teach at (state or private), the canton where the schools are based, the age of the teachers, how long they have been teaching, and/or the language they teach play a role in their attitudes towards the use of technology in the classroom.

As for the design of the items on my questionnaire, I decided to use mainly interrogative

sentences and directives, as they better serve the purpose of my study. One of the reasons is that I needed to gather factual information on the participants' use of technology, and in that case, interrogative questions are considered more appropriate (Codó 2009). Even though declarative questions are recommended for attitude research, I did not include them in my questionnaire. As I intend to see if their attitudes changed and if they are more or less motivated to use learning technologies in the classroom, I focused on questions that would also gather information on their use before, during, and after the lockdown. For that purpose, I used a variety of closed-ended questions, as they help me avoid the problem of participants' not being able to focus on the expected dimension of my study (Agheyisi and Fishman 1970). I included multiple-choice and rating scales such as semantic differential questions, as they are frequently used in attitudes research (Garrett 2010) and also because they are "particularly suited to quantify subjective experiences, such as feelings and emotions" (Schleef 2014: 46). Finally, I included a few open-ended questions at the end of each section. This type of question is not recommended in questionnaires, as they are more difficult to score and can be discouraging for participants to answer (Dörnyei 2010). However, I agree with Dörnyei that open-ended questions have their merit as "they can provide a greater richness than fully quantitative data" (2020: 36). Moreover, participants might feel the need to express themselves with more detail and feel frustrated if they are not able to do so (Fowler 2002 in Dörnyei 2010). Therefore, by including a few open-ended questions, I can avoid this kind of problem. Some of them are placed at the end of each section, and I also included some clarification questions, in which the participants could add more details on their answers. All the clarification questions were optional, as I aimed to have only participants who had something more to say answer these questions. However, there was one open question that was required. In section 3 of my questionnaire, the last question I ask them is to give a general description of how their experience when using learning technologies after the lockdown went. The reason I added that question as a compulsory one is to have a

more detailed description of their experience teaching during the lockdown. The participants went through the lockdown in different contexts and had different requirements from their schools, so I thought that by having an open question, my questionnaire would collect a wider variety of data.

4.3 Method

When investigating people's attitudes, it is sometimes difficult to make sure that participants give their detailed opinion, especially if asking them face-to-face. Moreover, in a professional context, which is the case in this study, it is even more complicated as teachers might feel afraid that their answers might have negative repercussions in their workplace. For this reason, I chose an anonymous survey tool so that teachers would not feel discouraged to say what they think and to ensure the validity of their answers. Also, I wanted to avoid acquiescence bias, as some of the participants I sent the questionnaire were my work colleagues at the time. Therefore, I did not want them to give me the answers they thought I wanted or needed for my study (Garret 2010). On the contrary, I wanted the responses to reflect the respondents' attitudes as much as possible so that they could express how they feel towards the use of technology in their teaching practice. For this reason and also because I do not have the names of the participants, when presenting my results, I will refer to the participants by using cardinal numbers.

This type of survey can be defined as a direct approach, in which "respondents are either informed that their attitudes are being measured or are made aware of it by the nature of the attitude measurement technique" (Antonak and Livneh 1995: 4). Like any other approach, it has its positive aspects and its drawbacks. One of the advantages is that the questions were asked in a direct way and participants knew exactly the kind of attitudes that I am investigating. The instructions were clear, and they could also contact me in case they needed any clarification. However, this approach might present some limitations such as the thoroughness

effect, which is the failure to give clear answers due to a lack of motivation or interest in the measurement task (Antonak and Livneh 1995). This is the reason when sharing my questionnaire on social media pages, I gave a brief introduction of my study so that I could attract teachers who relate to the topic of my study. Also, wrote a general post and did not ask people directly, as I did not want them to feel forced to participate in the study because they knew me, on the contrary, I wanted people to voluntarily take part in my research**.**

Before sending my questionnaire to participants, I decided to run a pilot study as this is an efficient way to make sure that the instructions are clear, and the questions are understood by the participants (Schleef 2014). It is also a great way to verify if the questions are within a reasonable time frame and if I will be able to elicit data that can be analyzed efficiently. In order for a pilot study to be as realistic as possible, it is important to conduct it with a "sample of people who are similar to the target sample the instrument has been designed for (Dörnyei 2010: 53). For that reason, I asked 3 colleagues who are also language teachers to answer the questions and provide me with feedback. After that, I made some minor corrections and, at the beginning of February 2021, I started sending the link to the online questionnaire by email to colleagues from my school and also to all the language teachers I know. However, I needed teachers who are also from other cantons in the Romandie, so I made a list of different contacts I had in the cantons of Geneva, Neuchatel, Fribourg, Jura, and Valais and also sent them the questionnaire via email. Social networking sites are also a great tool to advertise and distribute surveys (Schleef 2014), so I also decided to share my questionnaire on Facebook and LinkedIn. Some of my colleagues also shared the questionnaire via the same social media websites, which also allowed me to have more participants. By the end of February, I had about 40 completed questionnaires, and finally, 52 participants answered it by the end of March. As for the profile of the participants, I am going to give more details about them in the next section.

4.4 Data Analysis

In the current study, given that I have opened and closed questions in my questionnaire, I am going to use qualitative and quantitative analysis. Bijeikienė and Tamošiūnaitė suggest that there are different ways in which quantitative data can be analyzed, and they mention the use of descriptive and inferential statistics (2013). Levon describes descriptive statistics as a method that "allows us to define patterns in the data," while "inferential statistics then allow us to determine whether those patterns truly exist in some kind of meaningful way" (Levon 2010 as quoted in Bijeikienė and Tamošiūnaitė 2013: 66). Therefore, I intend to first analyze the participants' answers and compare the results from before, during, and after the lockdown to have an overview of teachers' experience with the use of technology in the classroom. Then, I am going to look for patterns, similarities, or differences during these three periods. Finally, I am going to contrast the results with the social variables of age, languages taught, and the canton where they teach, so that to find correlations between the results and these variables. As for the qualitative data, I am going to analyze the answers to the open question concerning the lockdown by using quantitative content analysis, as suggested by Züll (2016). I am going to analyze the answers and code them according to the main themes that appear in the responses, which are: reference to a positive experience, oppositional/contrast, with a mix of positive and negative experiences, and reference to challenges/ frustrations/a negative experience. Examples of these themes will be found in sub-section 5.3.1. By doing that, I will be able to contrast and compare the answers and analyze the participants' attitudes, particularly during and at the end of the lockdown period.

5. Presentation of results and discussion

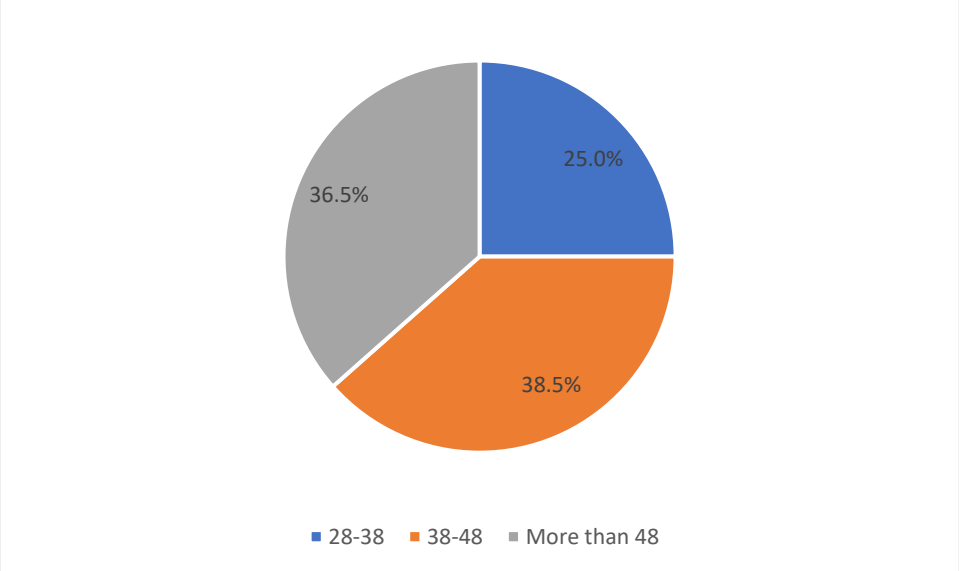
In this section, I am going to present the results of the questionnaires as follows: in the first sub-section, I am going to give an overview of the participants' profiles in terms of biological sex,

their age, the canton where they work, the kind of school they work at, the language they teach, and how long they have been teaching. In sub-section 5.2, I will present the overall results from the quantitative questions, portraying teachers' experience with EdTech before the lockdown. Then, in sub-section 5.3, I am going to analyze the results related to participants' experiences during the lockdown, with results from quantitative and qualitative questions. Finally, the findings concerning participants' experiences and impressions after the lockdown will be shown in sub-section 5.4. I will also present respondents' attitudes according to the social variables of age, languages taught, and the canton where they teach at the end of each sub-section.

5.1 Overview of participants' profiles

The results of the demographic part of the questionnaire show that, out of the 52 language teachers who responded, 65.4% of them are women (34), 30.8% are male (16) and 3.8% answered "other" (2). As far as the age of the participants is concerned, 36.5% of them are over 48 years old, 36.5% are aged between 38 and 48 years old, and 25% are in their late 20's and 30's, as Figure 1 illustrates:

Figure 1: Number of language teachers per age group



When looking at variables in these three age groups, from the 13 participants who are aged between 28-38 years old, 69,2% teach English, 15,3% teach German and 15,3% French. As for the canton where they work, the results are quite varied with 23% from Vaud, 38,4% from Valais, 15,3% from Neuchatel, and 23% from Fribourg. As for the group of 38-48 years old, 50% are English teachers, while 30% teach French, 15% German and only one participant teaches Italian. Most of them come from cantons of Valais (45%) and Vaud (35%), with only a few from Jura (5%) and Fribourg (15%). Finally, most of the participants who are more than 48 years old teach English (36,8%) and German (31,5), with only one participant who teaches French and one for Italian. They work predominantly in Valais (31,5%), followed by Neuchatel (21%), with two participants in Vaud and Fribourg, and only one participant in Jura and Geneva

Regarding the canton where the participants work, most of them teach in the cantons of Vaud and Valais, as these are the cantons where I have most of my personal networks. There are also some participants from Fribourg and Neuchâtel, and a small number from Jura and Geneva, as shown in Table 2:

Table 2 Number of participants per canton

Canton	Number of participants	Percentage
Valais	20	38%
Vaud	15	29%
Fribourg	8	15%
Neuchâtel	6	12%
Jura	2	4%
Geneva	1	2%

Most of the participants from Valais are aged between 38-48 years old (47%), and they teach mostly English (55%), with few participants who teach German (15%) and French (25%), and only one who teaches Italian. The same trend is followed by participants from Vaud, with 60%

aged between 38-48 years old, and the majority of English teachers (46%). Participants from Fribourg, on the other hand, are similarly divided among the three age groups, as well as the languages taught. Finally, four out of six participants from Neuchatel are more than 48 years old, and they teach mainly English and German.

In relation to the kind of school they teach, the vast majority of the participants work in public schools (75%), 18% of them teach in private schools, and only one respondent works in a language school. Out of the 52 respondents, three answered "Other", which means that they could be independent language teachers. The kind of school varies significantly, with participants teaching at *Maturité gymnasiale*, *École de Commerce*, among others, as we can see in Table 3:

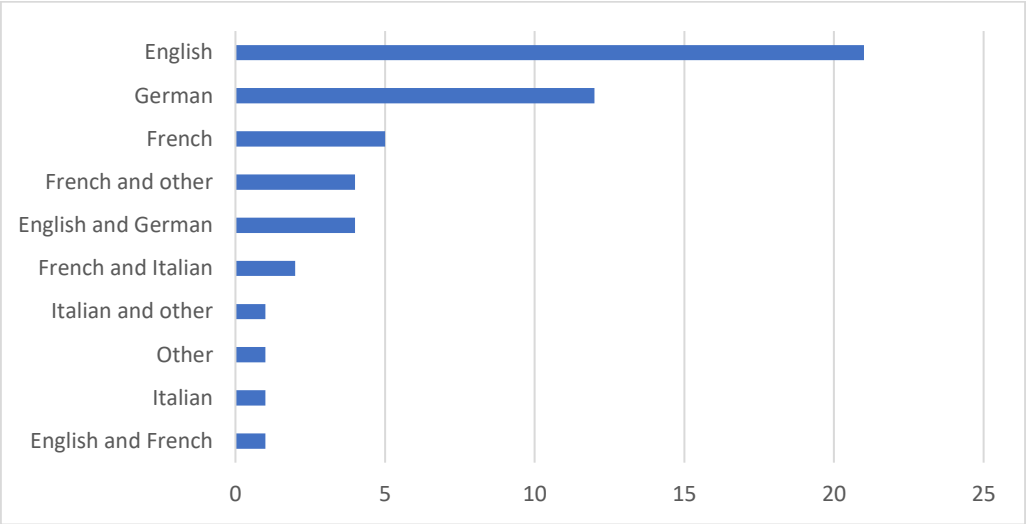
Table 3: Type of schools where participants teach

Type of school	Number of participants	Percentage
Maturité gymnasiale	29	56%
École de commerce	11	21%
École de métiers/Maturité professionnelle	2	4%
Article 32/Enseignement d'adultes	4	8%
Other	6	11%

Some teachers work for two different types of schools, but the numbers in Table 3 above include their first choice in the questionnaire.

As for the languages taught, the predominant language of instruction is English (21 participants), followed by German (12), French (5), and a few Italian teachers. Some participants teach more than one language, as illustrated in Figure 2:

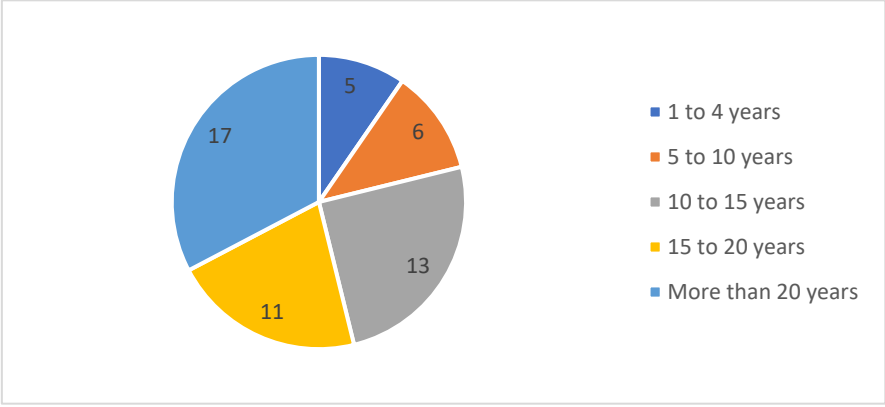
Figure 2: Number of participants and the languages they teach.



Most of the English teachers in this study are aged between 38-48 years old (47%) and they work mainly in Valais (47%) and Vaud (28,5%). As for the German teachers, the majority of them are over 48 years old (58%), with no predominant canton. Similarly, French teachers also show no predominant canton, and the age range varies.

Finally, in terms of how long the participants have been teaching, most of them seem to be experienced teachers, as the results show that 33% have been teaching for more than 20 years, 21% from 15 to 20 years, 25% from 10 to 15 years, versus only 12% from 5 to 10 years and 10% from 1 to 4 years, as illustrated below:

Figure 3: Number of years participants (in numbers) have been teaching



Overall, the profile of participants in this study seems to be representative of Switzerland, depending on the variable. In terms of gender, 45,5% of teachers who work in public schools in *Secondaire II* in Switzerland are women (OFS 2021), which is fewer than the female participants in this study. This could be explained by the fact that the present study includes only language teachers, and the numbers from OFS refer to teachers of all the subjects. In terms of age, on the other hand, the profile of the participants from this study is very similar to the one from Switzerland in general (OFS 2021). There are some limitations in the sample when it comes to the representativity of some cantons, as very few participants work in the cantons of Fribourg, Geneva, Jura, and Neuchatel. Nevertheless, this sample will allow us to have a global idea of the Romandie and allow future studies to investigate specific cantons further.

5.2 Participants' experience with EdTech before the lockdown

When it comes to the equipment that teachers had available, as shown in Table 4, the first section of the questionnaire shows that 48% of the participants had a personal laptop that they used at school before the lockdown, 42% of the teachers had a laptop but they did not use it at school, and 9% of the participants did not have a personal computer. As for the equipment at school, laptop and desktop computers are the equipment mostly used by teachers in the classroom. Also, 67% of the participants use a projector, which allows them to use PowerPoint or show students videos in their lessons:

Table 4: equipment teachers have at school

Equipment available in the classroom		Number of participants	Percentage of participants
Laptop/desktop computer		37	71%
Projector		35	67%
Interactive board		10	19%
Tablets for students		2	4%
Other		5	9%

As for the use of interactive boards, only 10 participants (19%) have this kind of equipment at school. These results reflect not only the context in the Romandie but also in other regions in Switzerland. Even though interactive boards have been increasingly used in countries like England (Educa 2010), where three-quarters of public schools invested in such devices, in Switzerland, the situation is different. According to a report published by *Educa* in 2010 on the use of interactive boards, the introduction of this equipment in Swiss classrooms has not been considered a priority in terms of the overall strategies and objectives for the integration of ICT in education (Educa 2010). The main aim of Swiss schools in the last decade has been to purchase computers and projectors and to improve the internet connection (Barras and Petko, 2007 as quoted in Educa 2020:16). The same happens with the use of tablets; the result of the questionnaire shows that only 2 out of 52 participants use tablets with students. According to the *Office federal de la statistique* in Switzerland (Appendix II), 25 % of 15-year-old students in Swiss schools use a tablet during their lessons, and 65 answered that they don't have such a device, as shown in Table 5:

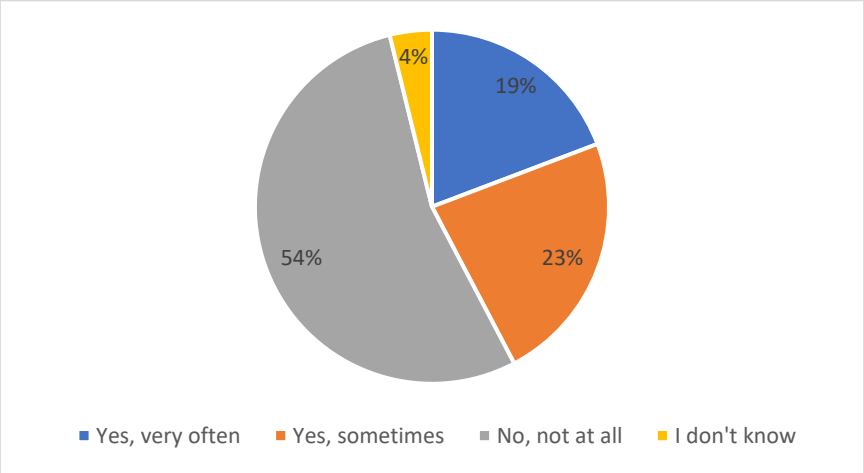
Table 5: Share of students who have the opportunity to use learning technology equipment at school (Rapport national, PISA 2018)

Availability of EdTech at schools, 2018			
	I have it and I use it	**I have it, but I don't use it**	**I don't have it**
E-book reader	8%	7%	85%
A tablet	25%	10%	65%
An interactive board	37%	17%	47%
A laptop computer	51%	11%	38%
Wi-Fi connection	63%	12%	25%
A desktop computer	66%	13%	21%
Cloud storage for school use	71%	12%	17%
Computers connected to the internet at school	79%	13%	8%

Even though the numbers concerning the use of tablets are low, the situation will probably change in the next few years with different cantons putting into practice a Digital Education Action Plan, which will include the investment in equipment at schools (EDK 2022).

Regardless of the fact that teachers had some equipment available for them, the use of EdTech tools does not seem to be a requirement for all the language teachers. As shown in Figure 4, 19% of the participants were often asked by their schools to use technology in the classroom, and 23% were sometimes asked, against 53% of the teachers who were not asked to use EdTech in their lessons:

Figure 4: Percentage of teachers who were asked to use technology in the classroom



Also, 56% of the participants had never done any formal training on the use of learning technologies before the lockdown, while 44% had already done a course on EdTech. Among the different courses, the ones most mentioned are shown in Table 6 below:

Table 6: Training courses done by teachers before the lockdown

Courses	Number of mentions
Courses on the use of Moodle	5
Formation Continue at the HEP	5
Courses on how to use Kinaps[10]	4
Courses on Gaming (Quizlet, Kahoot)	3

Gilakjani and Leon (2012: 631) argue that training can have a major influence on teachers' attitudes to the use of technology and it can "impact the ways in which a teacher embraces technology tools in the classroom". The fact that more than half of the participants had not done any training before the lockdown might influence their attitudes when having to teach online during that period.

As for the frequency in which participants used EdTech equipment such as computers or projectors in the classroom, most teachers used them very often before the lockdown. The results show that 40% of the teachers used it for every course and 40% used it almost all the time, versus 17% of the participants who answered "sometimes" and only 1 teacher who seems to never have used it. Having 71% of the language teachers in this study who have a laptop or desktop computer available in the classroom indicates higher chances of integrating EdTech in their lessons. Some teachers do not like to bring their own devices to schools for practical reasons (transport for instance) and that could be the reason some of them prefer to use traditional methods in the classroom.

In general, participants seem to use the equipment they have in the classroom mostly to watch videos and do listening comprehension exercises, as shown in Table 7 below:

[10] Kinaps is an online platform for digital teaching and classroom collaboration

Table 7: Reason for using Edtech in the classroom

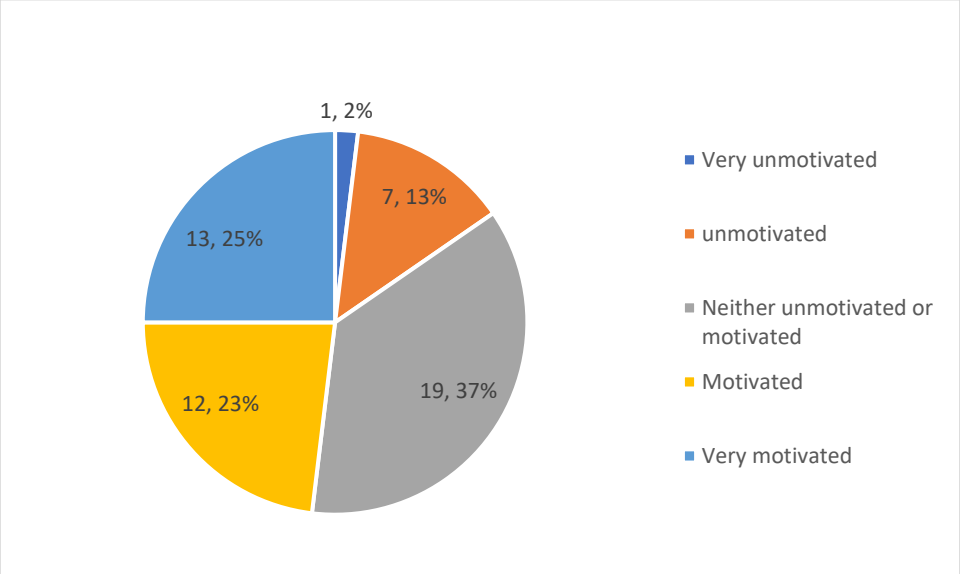
What do you use EdTech equipment in the classroom for?	Number of participants	Percentage of participants
To watch videos with students or to show images	46	88%
To do listening comprehension exercises	37	71%
To do grammar/vocabulary exercises	35	67%
To do interactive activities with students	29	55%
To evaluate students	10	19%
Other	6	11%

It is true that, for language teachers, video platforms such as YouTube are a very useful source of materials, as we can find authentic videos in different languages, and it is also free and easy to use. As for listening exercises, most of the language coursebooks do not provide CDs any longer; they usually have an online platform where we can find the audio materials, which explains why many language teachers use computers for this kind of activity. In order to teach grammar, vocabulary or other types of activities with EdTech, language teachers in this study mentioned a wide variety of tools and websites (Appendix III). The number of tools varies according to the language taught, but the most mentioned tools among all the teachers independent of the language taught were Kahoot, Quizlet, and YouTube. However, before the lockdown, most of the participants (71%) had never taught online, while 13% had done it many times and 15% a few times. These results could be explained by the fact that most of the participants in this study teach teenagers in secondary public school. Therefore, before the lockdown, it was not a common practice in public schools to offer online courses to students. Also, this was not a very popular teaching method in Switzerland; according to the *Office Federal de la Statistique* (2018) in a survey that they conducted in 2017 less than 10% of the Swiss respondents in the *Secondaire II* program took any kind of online courses before the

lockdown (Appendix IV). This is probably the reason why among all the tools used by the teachers, nobody mentioned any video conferencing platforms such as Skype or Zoom.

All in all, it seems that language teachers had different experiences with the use of EdTech before the lockdown, and the results show that in terms of motivation to use EdTech in the classroom at that time, their feeling was quite varied:

Figure 5: Participants' motivation to use Edtech in the classroom before the lockdown

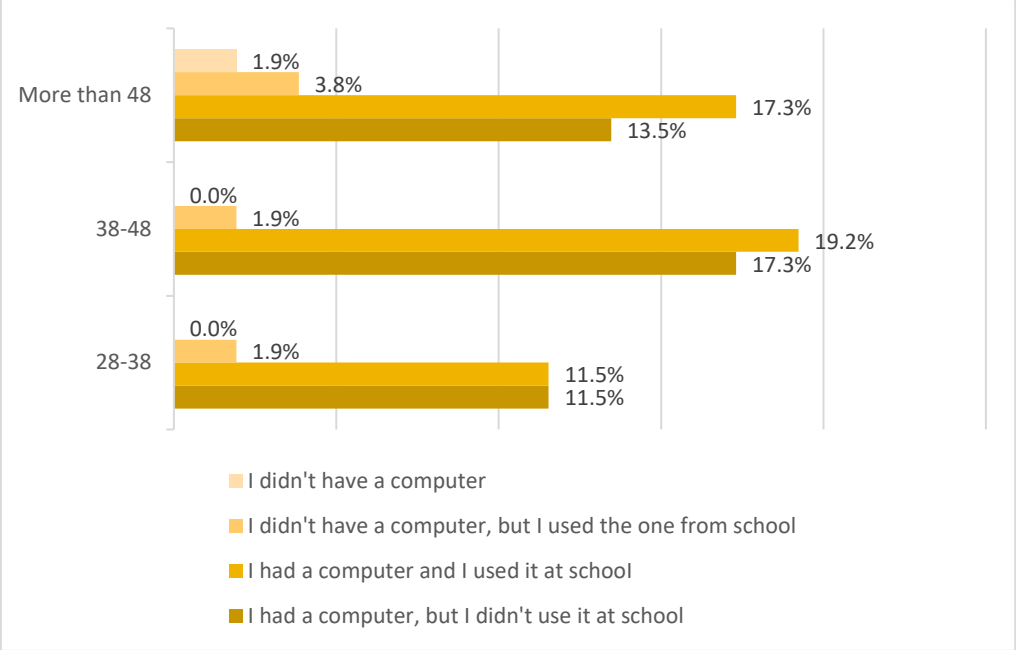


Most of the participants were neutral concerning motivation to use EdTech in the classroom, while 13% seemed to be very motivated and 12% were motivated. On the other hand, 7% showed that they were unmotivated, and a small percentage were very unmotivated. Many factors can explain the lack of motivation of some participants, for example, the fact that most teachers were not asked by their schools to use any EdTech tools or take any training courses. Consequently, only the ones who were curious or interested in learning technologies tried to implement them in their lessons. Also, even though most of the teachers seem to have a personal laptop, we do not know to which extent they know how to use it. Therefore, if teachers are not computer literate, this can lead them to have a feeling of low confidence; thus, their lack of confidence can result in high anxiety towards the use of computers, which consequently might

lead to negative attitudes to the use of EdTech (Gilakjani and Leon 2012). Another reason most of the teachers were not motivated could be the fact that they did not necessarily have to teach online before the lockdown, which can lead them to be unmotivated if they are not well trained specifically for this teaching modality. However, from all the participants who were not asked to do any training course (28), we can say that most of them were intrinsically motivated to use EdTech. The fact that they were not asked by their schools to use any EdTech tools or take any training courses, and 67,8% of them used EdTech in every or almost every lesson indicates that they did not need an external force to make them use EdTech (Ryan and Deci 2000 as quoted in Cullen and Greene 2011, Panisoara et al. 2020). Also, 42,8% of these participants were motivated or very motivated to use EdTech, which again shows us that they probably had a positive attitude towards it.

As for the age variable, the participants who took part in this study belong to three different age ranges (28-38, 38-48, and over 48), and when presenting the results, I am going to refer to these groups as Group 1, Group 2, and Group 3, respectively. The percentages shown in the Figures throughout the analysis of the variables correspond to the total number of respondents in this study (52), and not the total number of respondents in each group. However, I put them together in Figure 6 so that we can see the difference among the different groups. According to the analysis of the results, the difference between the number of participants who had their own laptop and the ones who did not is quite the same among the different age groups:

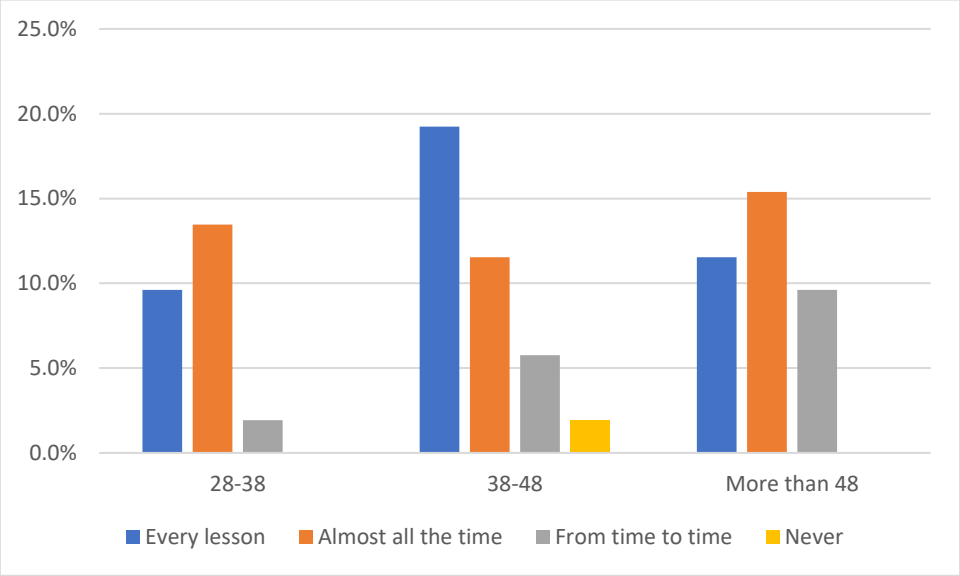
Figure 6: Percentage of participants who had their own laptop according to different age groups



As Figure 6 presents, most of the participants had their own computer, with participants from Group 2 having slightly higher results. Group 3 is the only group with participants who did not have their own laptop before the lockdown, even though that result counts for only three respondents. However, we do not know if they had a desktop computer or another device. Having their own laptop computer is an important element to consider when thinking of attitudes, as teachers can benefit from the fact that they can bring their device to school in case they do not have a computer in the classroom. In that way, they can try to get familiar with EdTech tools in their own time and consequently become more at ease with EdTech tools. The fact that they do not have their own laptop or computer "creates challenges for teachers if they have to set different tasks for different students, or if they avoid setting homework with a digital component" (Hyndman 2018). The fact that most of the teachers in this study have this equipment does not guarantee that they have a positive attitude to the use of EdTech, but it is a good indicator that they are technologically inclined.

As for the use of EdTech in the classroom, the numbers are quite varied among the age groups:

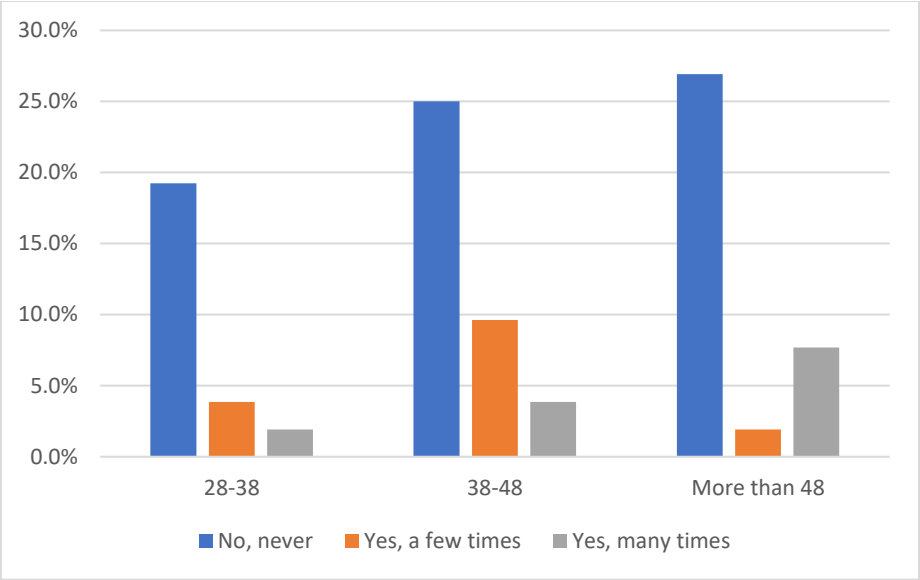
Figure 7: Frequency in which participants used EdTech tools in the classroom before the lockdown according to different age groups



As we can see from the results, in the three groups, participants who frequently used EdTech in the classroom are the majority, with small differences among each group with respondents who used it in every lesson and almost all the time. One could assume that the older the participants, the less frequently they would use technology in the classroom. However, more than half of the participants in Group 3 used EdTech in the classroom almost all the time, which shows that age was not a determining factor before the lockdown.

When it comes to online teaching, it is also possible to see that the vast majority of participants had never taught online before the lockdown. We can also see the number of teachers who had never taught online before increases with age:

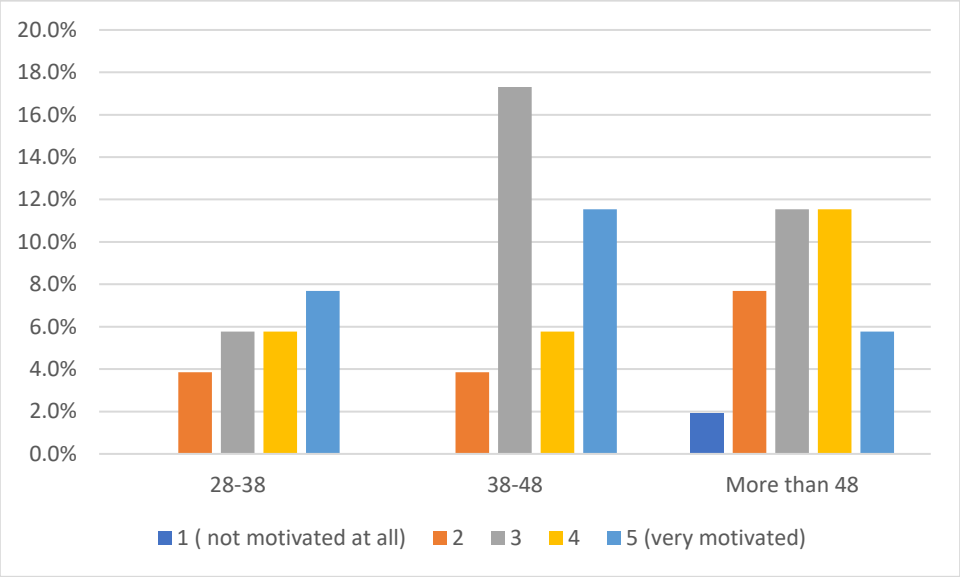
Figure 8: Participants' experience with online teaching before the lockdown according to different age groups



In spite of the fact that the majority of participants who had taught online many times belong to Group 3 (7.7%), it is also in this group that most of the participants had never had this experience (26.9%). We cannot infer that because teachers did not have a lot of experience with online teaching before the lockdown, they will not appreciate it or have a good experience during that period. We shall see in the next sub-section if these results will interfere with their feelings towards the use of technology once the lockdown is over.

Finally, the variable of age does not seem to interfere with the participants' motivation to use EdTech before the lockdown, as shown in Figure 9:

Figure 9: Participants' motivation to use EdTech before the lockdown according to different age groups



On a scale from 1 (not motivated) and 5 (very motivated), most of the respondents from Group 1 were motivated, whereas in Group 2 most of the participants have an average level of motivation (3), and in Group 3 the majority of the respondents answered 3 and 4. Therefore, as the results are quite varied in all the groups, we cannot see any trends that could indicate that younger or older teachers were more (or less) motivated than others.

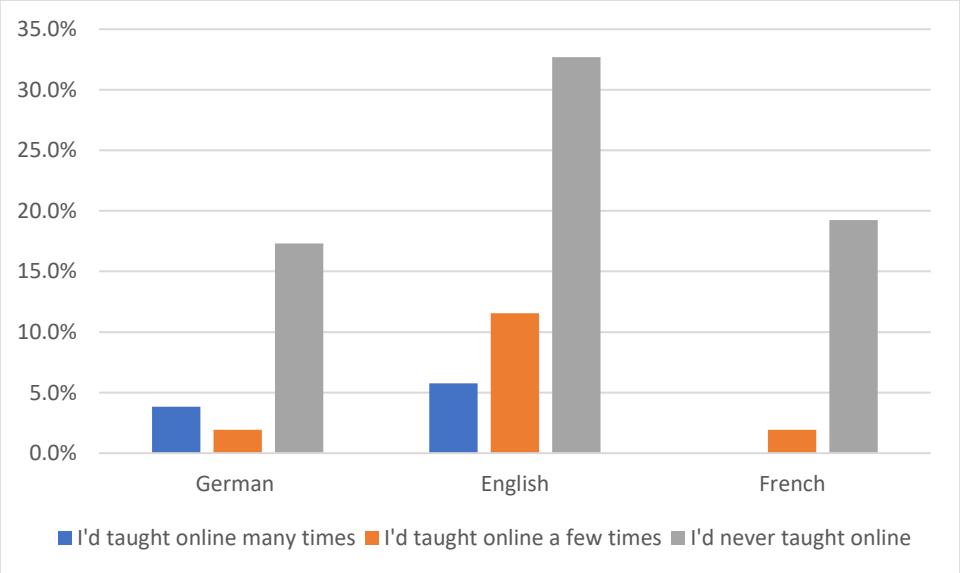
When dividing participants into different groups according to the languages they teach, we have 3 main groups: German, English, and French teachers. Some participants teach 2 languages, so I added them to the group of the first language they teach. We also had 2 participants who teach Italian, but this number is very low in comparison to the other languages, and it would be difficult to compare the results with such discrepancy. Therefore, I did not include Italian teachers in the analysis of the language variable. When it comes to doing courses on the use of learning technologies in the classroom, the results show that except for German teachers participants, the majority of the French and English teachers had never done a course on EdTech before the lockdown, as we can see in Table 8:

Table 8: Number and percentage of teachers per language taught who did a course on learning technologies before the lockdown

	Number of teachers who did courses on EdTech	Number of teachers who did not do any course on EdTech
English	11 (42%)	15 (57%)
German	7 (58%)	5 (41%)
French	3 (27%)	8 (72%)

However, as we can see in Table 8, when comparing the number of teachers per language, out of 26 English teachers respondents, the difference between the ones who did and did not take any course is not very large, with 42% who answered positively and 57% negatively. However, 72% of the respondents who teach French answered negatively, in contrast with 27% who answered positively, which shows that in this group, the majority of the participants had never done any courses on Edtech before the lockdown. The same trend is observed when it comes to online teaching, as we can see from the results below:

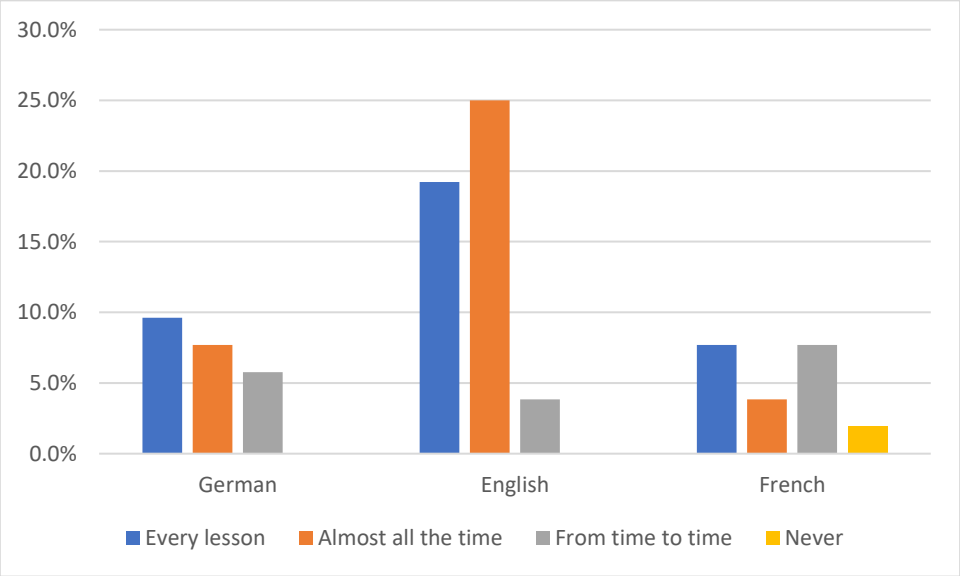
Figure 10: Participants' experience with online teaching before the lockdown according to languages taught



As discussed earlier in this section, most of the participants in this study had never taught online before, and the numbers are proportionally distributed according to the respondents in each language group. Nevertheless, 10 out of 11 respondents who teach French (90%) had never taught online, against 65% from the English teachers' group and 75% from the German teachers' group.

When it comes to the frequency in which participants use EdTech in the classroom, the results show that respondents who teach English have considerably higher results than the other two groups:

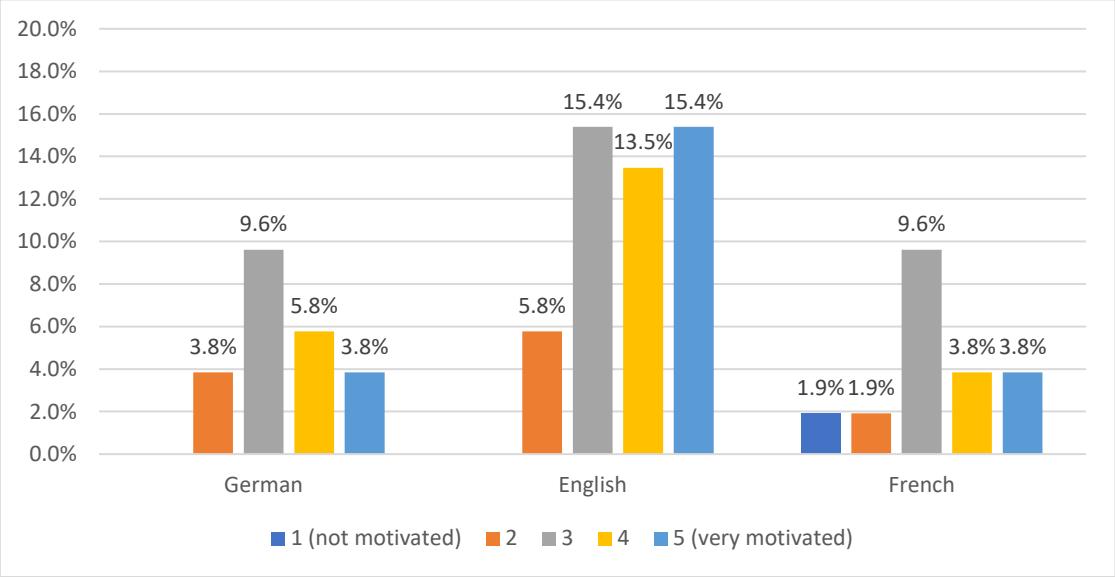
Figure 11: Participants' use of EdTech before the lockdown according to languages taught



The difference in frequency of EdTech use among the three language groups cannot be explained by their background knowledge of learning technology, as we could see that German teachers also took courses on learning technologies before the lockdown. There is not enough research on the availability of Edtech materials for each language that would allow us to do a comparison that could explain why English teachers use learning technologies more often than German and French ones. Nevertheless, I have recently started teaching French as a foreign language, and I could see a difference between the number of resources we can find for English

and French language teaching. For instance, all the French course books are still sold with a CD, whereas in English this is more and more difficult to find. Hence, we could assume that English teachers are in a way pushed to use certain digital resources more than German and French teachers. These results correlate with the level of motivation of the English teachers' group, which seems to be higher than the others:

Figure 12: Participants' motivation to use EdTech before the lockdown according to languages taught



Overall, English teachers' respondents seem to have their level of motivation spread at different levels, and 58% of the participants seem to be motivated or very motivated, in contrast with 42% of German teachers and 36% of French teachers. English teachers' slightly higher level of motivation could be due to the number of resources available, training courses, among others. Therefore, we could assume that this group might have had a more positive attitude towards the use of learning technology before the lockdown, which motivated them to use EdTech more frequently.

When analyzing the results according to the canton and the kind of school participants teach, I decided to present the participants' responses as follows. In terms of the canton, the 52 respondents who took part in this study work in sixdifferent cantons (Jura, Geneva, Neuchâtel,

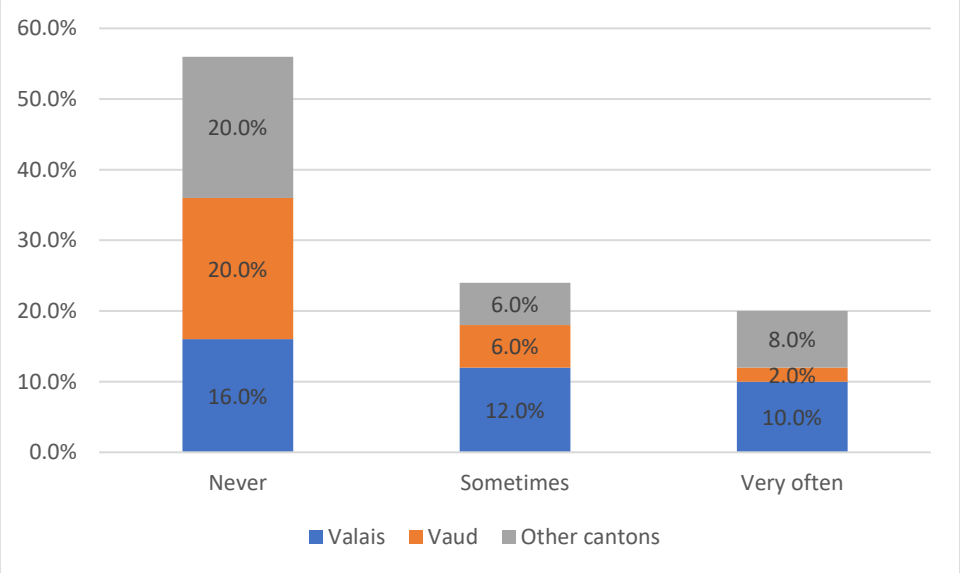
Fribourg, Valais, Vaud). Nonetheless, participants from Valais and Vaud account for the vast majority (38% and 28% respectively), and some cantons only have one participant (Geneva). For this reason, participants' responses will be divided into three groups: Valais, Vaud, and other cantons in the Romandie. As far as EdTech equipment is concerned, the percentage in the table below is presented according to the total number of respondents from each canton, and not the total number of participants in this study. Laptop/desktop computers and projectors are the equipment mostly available in the classroom of all cantons. For instance, we can see in Table 9 that in the other cantons, 82% of the participants have a computer in the classroom, and 94% have a projector, followed by Valais with 70% and 65% respectively:

Table 9: Equipment available in the classroom according to different cantons

Equipment available in the classroom	Valais (20 respondents)	Vaud (15 respondents)	Other cantons (17 participants)
Laptop/desktop computer	14 (70%)	9 (60%)	14 (82%)
Projector	13 (65%)	7 (46%)	16 (94%)
Interactive board	7 (35%)	0 (0%)	3 (17%)
Tablets for students	0 (0%)	2 (13%)	0 (0%)
Others	3 (15%)	2 (13%)	0 (0%)

The canton of Vaud is the least equipped, with 60% of respondents having a computer, and only 46% with a projector in the classroom. Other tools, such as interactive boards, are less frequent in the classroom than computers and projectors, and the canton of Valais is better equipped than the other cantons (35%) when it comes to this equipment. The overall use of tablets by students is very low, with only two participants in the canton of Vaud (13%). Even though equipping schools is essential for the development of EdTech (Slagg 2022), the fact that classrooms are well-equipped does not mean that teachers are going to make use of those tools. In terms of school requirement, the results are presented in Figure 13 below:

Figure 13: Number of participants per canton who were asked to use EdTech by their schools



Most participants from all the cantons were never asked to use EdTech in the classroom, and we can see that in the "never" category, the results were quite balanced, with a fewer number of participants from Valais who were never asked to use technology. Among the ones who answered "sometimes" and "very often," respondents from Valais have the highest numbers as well. Thus, we can see that participants from Valais are not only one of the best-equipped, but also have more encouragement from schools to use learning technologies. When schools ask teachers to use EdTech in the classroom, it is expected that they provide teachers with training courses, or at least, that they encourage teachers to do it.[11] Once again the canton of Valais, as shown in Table 10, is the one with most participants who did a course on EdTech before the lockdown:

[11] It was not within the scope of this study to discuss in detail what kind of courses participants did, or whether they did it because the schools asked them to, or if it was their own decision.

Table 10: Participants who did a training course on EdTech before the lockdown per canton

	Number of respondents who did courses on EdTech	Number of respondents who did not do any course on EdTech
Valais	12 (60%)	8 (40%)
Vaud	3 (20%)	12 (80%)
Other cantons	8 (47%)	9 (53%)

For the other cantons, the results are quite balanced, while in the canton of Vaud we have the opposite trend, with more teachers who had no training courses on EdTech. Finally, in terms of motivation, we can observe that a better-equipped classroom, encouragement from schools, and teachers taking more courses may reflect on the participants' motivation level. The number of participants who were motivated (responding either "motivated" or "very motivated") is much higher in Valais and the other cantons." In general, 25% of respondents from Valais answered 4, and another 25% answered 5. As for the other cantons, this number goes up to 29% each (levels 4 and 5 of motivation), while in the canton of Vaud only 13% answered 4, and 20% of respondents answered 5. Therefore, we can see that the canton where participants work plays a role in different aspects of the use of EdTech in the classroom before the lockdown, with respondents from Valais and the other cantons being not only better equipped and perhaps better trained as they did more courses than respondents from Vaud, but also more motivated. Their level of motivation could be explained by all the aspects mentioned above, as other studies have shown that computer literacy and training courses play a role in teachers' motivation (Gilakjani and Leong 2012).

5.3 Participants' experience with EdTech during the lockdown

On the 13th of March 2020, the Federal Council announced the closure of all educational establishments in Switzerland. Therefore, the first question in this section of the questionnaire concerns how language teachers felt when they discovered that they were going to work remotely and probably teach online. Participants could tick on more than one answer, and the results show mixed feelings concerning the possibility of teaching online. As the answers were varied, I decided to count the number of times that the responses occurred, as illustrated in Table 11:

Table 11: Participants' feelings when hearing about the lockdown

How did you feel when you found that you had to teach online during the lockdown?	Number of times answer occurred	Percentage of occurrences
I panicked because I had no idea of what I had to do	4	7%
I felt very stressed because I didn't feel comfortable using a computer	1	1%
I was stressed because I had no clear instructions from my school on what I had to do	13	25%
I was curious to see how things would work	23	44%
I was excited about the idea of trying new things with my students	22	42%
I felt nothing, I just waited to see what I had to do	12	23%

As we can see, only one person seems to be uncomfortable with the use of computers in general, and only 7% of the participants seem to have panicked when they heard they had to teach online. In terms of stress, 25% of the teachers answered that they were stressed by not having clear instructions from schools. Regarding curiosity and enthusiasm, 44% of people answered that they were curious about how things would work, even though some of the respondents expressed this feeling along with the feeling of stress (6 participants). Indeed, being curious does not mean that teachers were motivated; instead, it seems to be a neutral feeling that

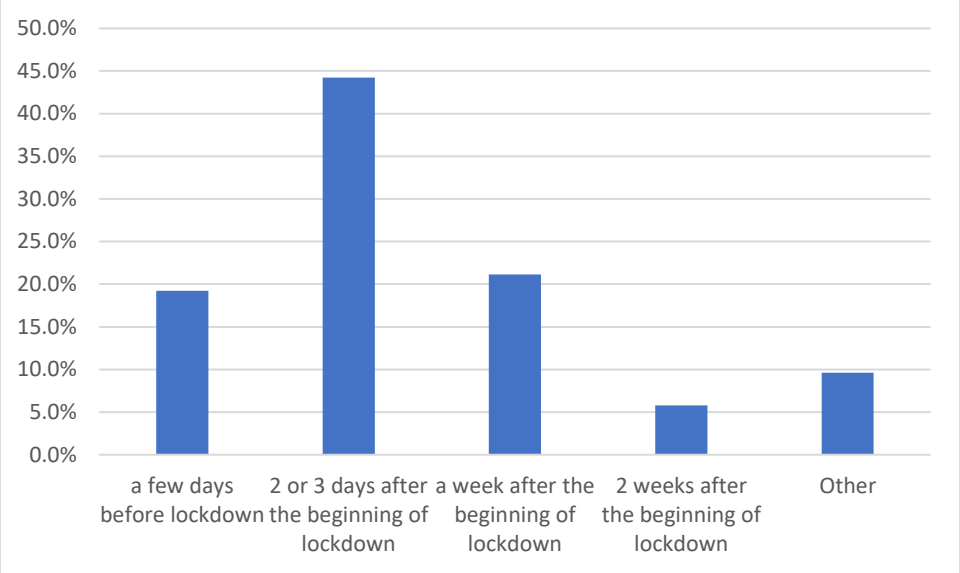
expresses that they were open-minded to try and see how the lessons would happen. However, 42% of teachers answered that they were enthusiastic, or curious and enthusiastic (11 participants). Therefore, we can see that teachers had different feelings before their experience with online teaching, and eight participants added more details to their answers, as shown in Table 12 below:

Table 12: Detailed answers from some participants concerning their feelings at the beginning of the lockdown

Participants' code	Original answer	Translation to English
23	"Angoissée, stressée devant l'ampleur de la tâche mais motivée de le faire au mieux et de réinventer ma manière d'enseigner"	"Anxious, stressed by the magnitude of the task but motivated to do it the best way I can and to reinvent my way of teaching"
52	"Je me suis sentie stressée car rien ne fonctionnait comme cela devait et je devais faire du support informatique"	"I felt stressed because nothing was working as it should and I had to do IT support"
51	" J'ai été stressé parce que je ne connaissais pas moodle et il fallait apprendre à utiliser toute seule"	"I was stressed because I didn't know Moodle and I had to learn how to use everything by myself"
26	"Je me suis sentie dévastée devant l'irréalité de la chose et ce n'est pas à l'école que j'ai pensée en premier"	"I felt devastated by the unreality of it all and it wasn't the school that I thought of first"
16	"Le stress venait de la nécessité de se familiariser au plus vite avec les outils proposés et d'être sollicité à tout moment"	"The stress came from the need to become familiar with the new tools as quickly as possible and to be called upon at any time"
29	"Content d'utiliser les outils technologiques mis en place avant le confinement"	"Happy to use the technological tools put in place before the lockdown"
27	"J'ai pris tout le week-end pour mettre sur pied mes cours Moodle, inscrire tous mes étudiants ..."	"I took the whole weekend to set up my Moodle courses, register all my students ..."
29	"Un certain stress parce que c'était la première fois que je travaillais avec un tel système"	"Some stress because it was the first time I worked with such a system"

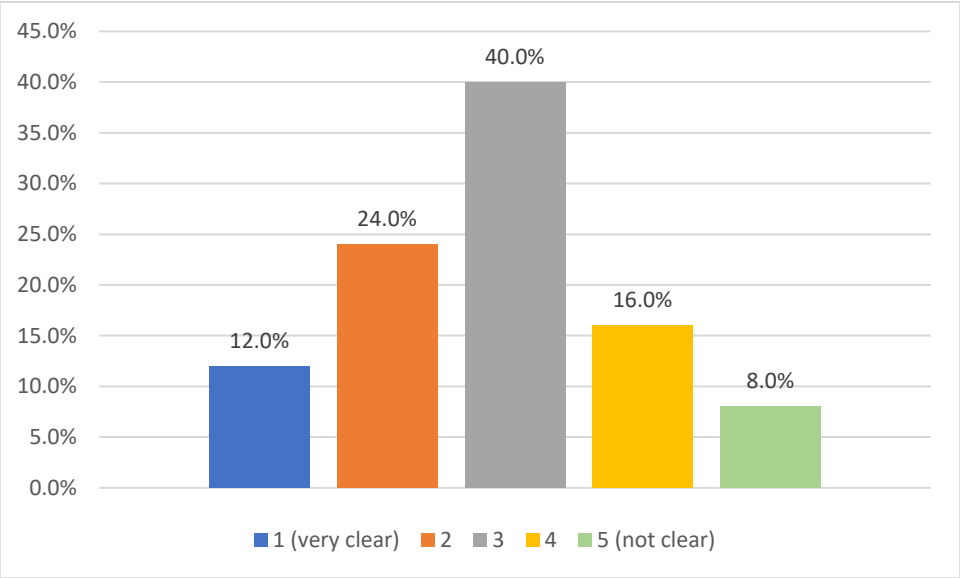
We can see that the word “stress” occurs quite often, and it is expressed in relation to different things. Some teachers seem to be stressed by not knowing what will happen, others due to lack of technical skills to deal with problems, while still others were stressed by the idea of having little time to become familiar with the tools, or having to spend time on the weekends preparing their lessons. As we could see in the results above, the amount of time that schools took to give instructions was an issue for some teachers. It is true that some schools took more time than others to decide on a temporary solution and inform the teachers. In the case of public schools, which meant thinking of a larger number of students and teachers and giving clear instructions to schools of the entire canton. Also, it was the first time that we teachers and schools faced this kind of situation, so it was expected that schools would need some time to tell teachers how to proceed. The results of this part of the questionnaire show that 19% of the language teachers in the present study received some guidelines a few days before the lockdown started. Even though schools were not sure of what would happen, some teachers started to hear rumors about a possible lockdown during the week that preceded the Federal Council’s decision. For that reason, it is possible that some smaller schools could have thought of possible solutions in case we went online the following week. This was the case for the school where I worked during that period; the fact that it was a private school with only one campus made it easier for them to provide everyone with school email addresses on short notice, and to inform teachers and students that we had to connect to Google Meets on Monday the 16th of March. However, that was not the case for all the participants in this study, as some teachers were given instructions a few days after the beginning of the lockdown (44%), while 21% received some guidelines a week after, as we can see in Figure 14 below:

Figure 14: Time needed for participants to receive instructions from schools at the beginning of the lockdown



Only 5% of the teachers were given instructions two weeks after the 13th of March, and five participants answered "Others", probably because they are independent teachers or because they were given instructions three or four weeks after the beginning of the lockdown. It is important to point out that the fact that they were given instructions does not mean that teachers knew exactly what to do. For instance, I had some colleagues who received all the information from the school but had no idea how to connect to Google Meets or what to do in an online lesson. Schools needed to find a quick solution, which means that the instructions were not always very clear, as we can see in Figure 15:

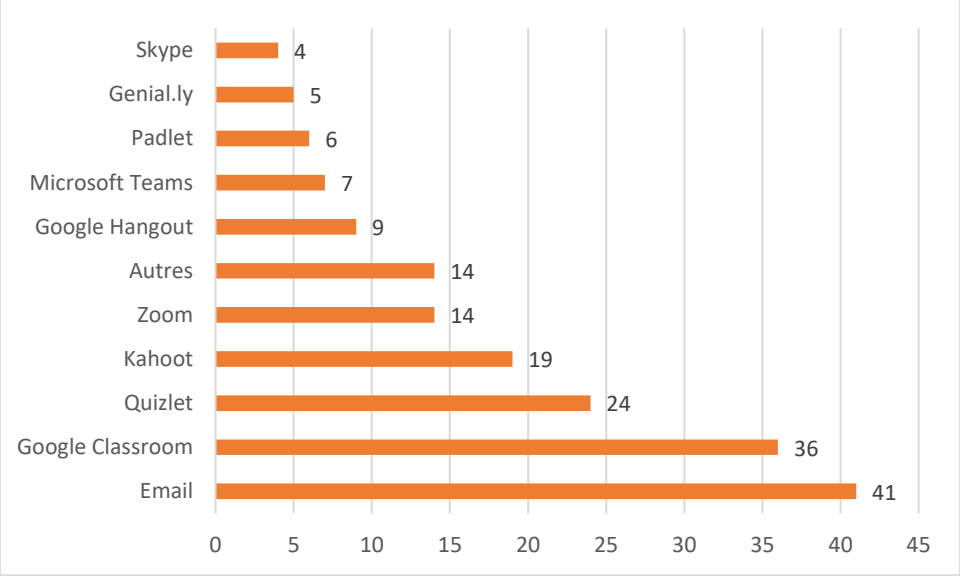
Figure 15: Clarity in the instructions participants received



On a scale from 1 to 5 (1 being very clear and 5 not very clear), only 8% answered that the instructions were not very clear, but also, only 12% thought the instructions were clear. Most of the participants (40%) feel that the instructions were neither very clear nor unclear. The fact that this was the first time that schools faced that kind of situation and had to ask teachers and students to go online explains these results. Nobody was sure of what the best solution was, and the main aim was to be able to continue to provide students with their lessons in the best way possible. There were so many other aspects to consider, for instance, online safety, availability of equipment for students at home, and their family situation, to name a few. Therefore, it was expected that schools were not going to give an exact plan, at least not at the beginning of the lockdown. As far as training courses are concerned, 52% (N=27) of the teachers claim to have done a course on how to use EdTech during the lockdown, while 48% (N=25) answered negatively. These results are quite similar to the numbers before the lockdown, but there is a small increase in the number of participants who did a course and a small fall in the number of teachers who did not do any training course. Even so, these results show that training has not been a priority for some teachers and that schools have the hardware, and software but not necessarily "human ware" (Warschauer 2002: 472, as quoted in Gilakjani and Leon 2012: 632).

In fact, all the courses mentioned by teachers are related to video conferencing platforms such as Teams or Zoom, or other educational tools such as Google Classroom. That could explain why almost half of the teachers did not do any training courses during the lockdown, as not all the participants had to teach online prior to this period. Some participants had to teach synchronously (53%), while 19% had to go online just to check if students had questions, and 19% had to send activities to students via email or post. That explains why email was the tool mostly used by teachers, followed by Google Classroom and Quizlet, as shown in the Figure below:

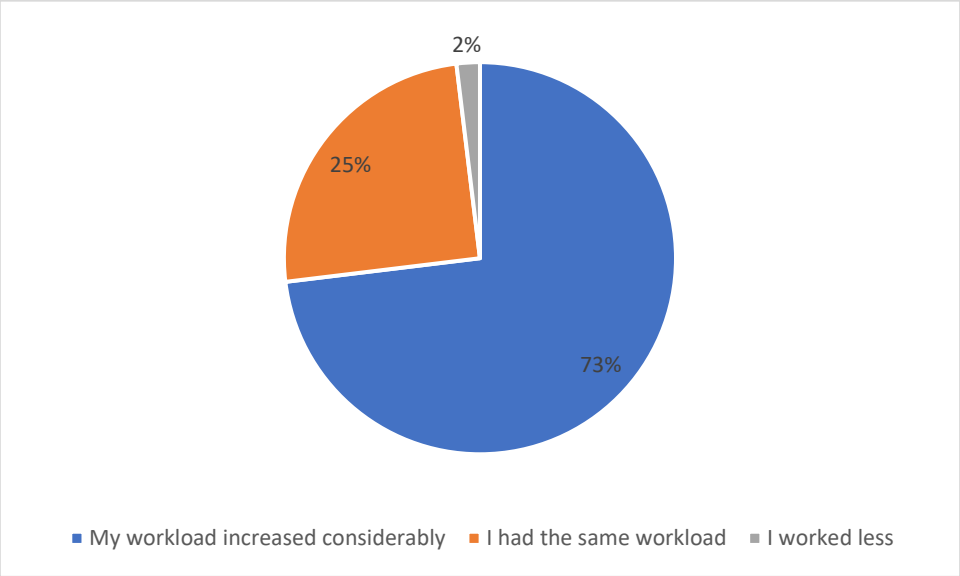
Figure 16: Number of participants in relation to the tools used during the lockdown



In regard to the use of the above tools, participants could tick on more than one answer to explain how they learned how to use them. Most of them learned autonomously (42 participants), while 16 teachers answered that they learned through courses, 25 people learned from colleagues and five people answered “other”. It probably depends on the tool, as some of them are easier to use than others, and teachers could probably find videos, tutorials, and webinars that allow them to learn by themselves. As for other resources such as lesson plans and worksheets in general, most of the participants (71%) responded that they could find a

considerable amount of material online, while 28% answered that it was difficult to find material in the language they teach. It is true that, as an English teacher myself, I could find a wide range of online resources in English before the lockdown, and before conducting this study I had already the impression that for languages like Italian or German, the situation was not the same. However, during the lockdown, I was surprised to see the number of webinars and other free materials available that could also be adapted to other languages, but it takes time for teachers to discover about them. Learning about these new tools and implementing them in the lessons is a time-consuming task; unsurprisingly, most of the teachers claim that their workload increased during the lockdown, as we can see in Figure 17 below:

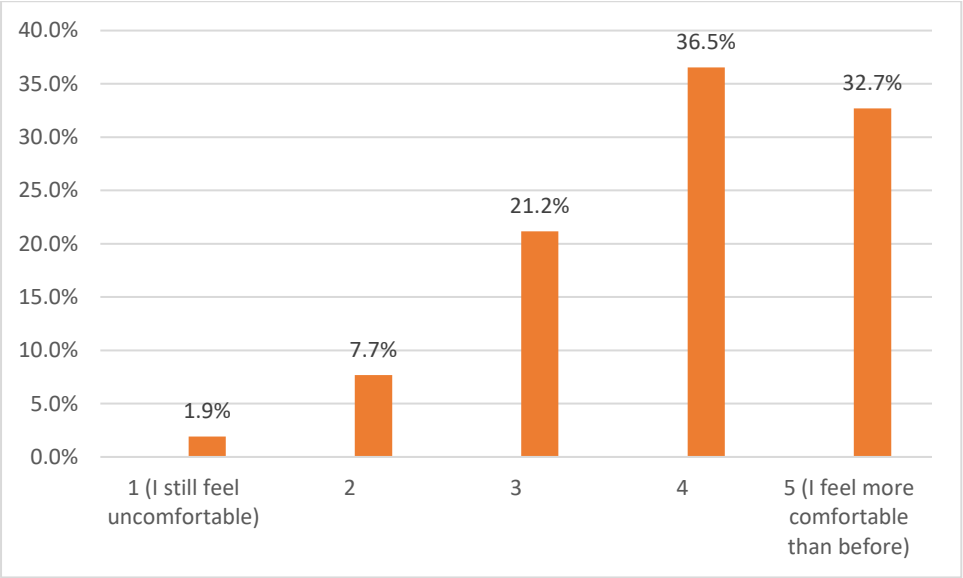
Figure 17: Participants' workload during the lockdown



The unpredictability of the situation might have contributed to the increase in the workload. Teachers usually plan their semester in advance, and many of them have been teaching for a while, which means that they are probably used to the curriculum and the materials they have. Nevertheless, having to adapt the material to an online format requires some knowledge of different platforms or tools, and teachers have to think of clear instructions to give to students so that they can work more autonomously.

Even though the experience using EdTech during the lockdown was more demanding than teaching face-to-face, in general, it allowed most of the teachers to feel more comfortable with learning technology tools than before, as shown in Figure 18 below:

Figure 18: Level of comfort (in percentage) of participants with the use of EdTech at the end of the lockdown

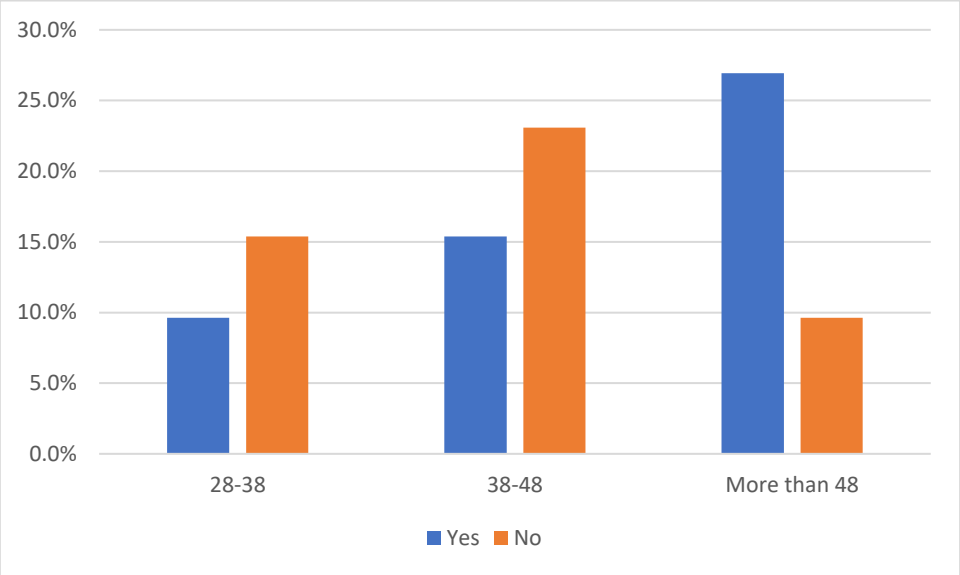


Hence, 32% of the language teachers in this study feel considerably more comfortable with these tools than they did before the lockdown, followed by 36% who feel more comfortable, and 21% who seem to feel more or less at ease with the use of EdTech. Only 1 participant seem to feel as uncomfortable as before, and 7% who feel slightly uncomfortable. Even if some teachers were not interested in using EdTech before the lockdown, the fact that they were obliged to use it during that period could have allowed them to learn and discover new ways of teaching a language. For instance, I had some colleagues who did not use any learning technology before the pandemic, but who started to seek training courses once the schools reopened.

The variable of participant age during the lockdown seems to play a more significant role in participants' experience with EdTech than before the lockdown. At first, it does not seem to interfere with the feelings participants had when they were informed the schools were going

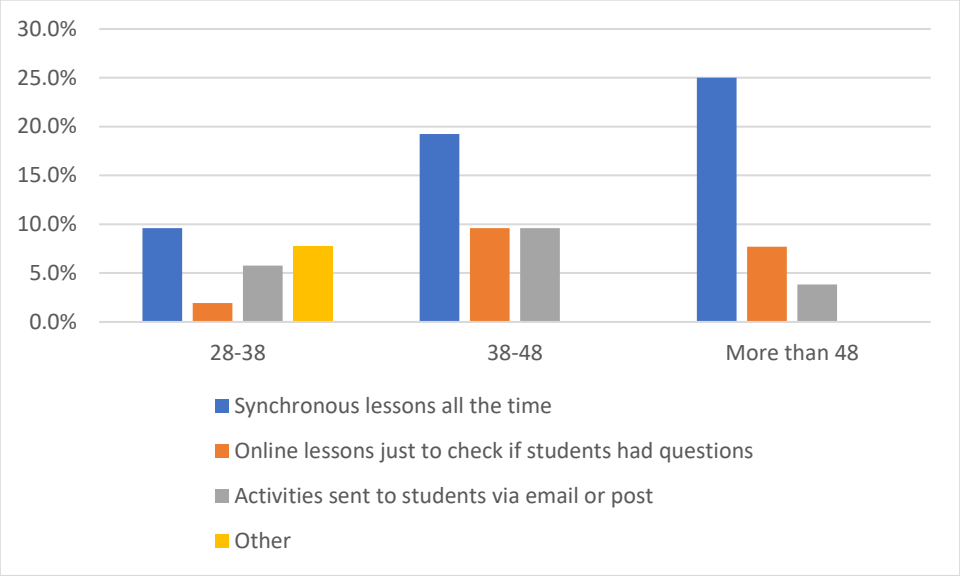
to close and they had to teach online. Even though the four participants whose answers expressed a feeling of panic are over the age of 38, all the other feelings are shared among the different age groups in a balanced way. As for the courses they did during the lockdown though, we can see a difference within the older group:

Figure 19: Participants' training courses per age group



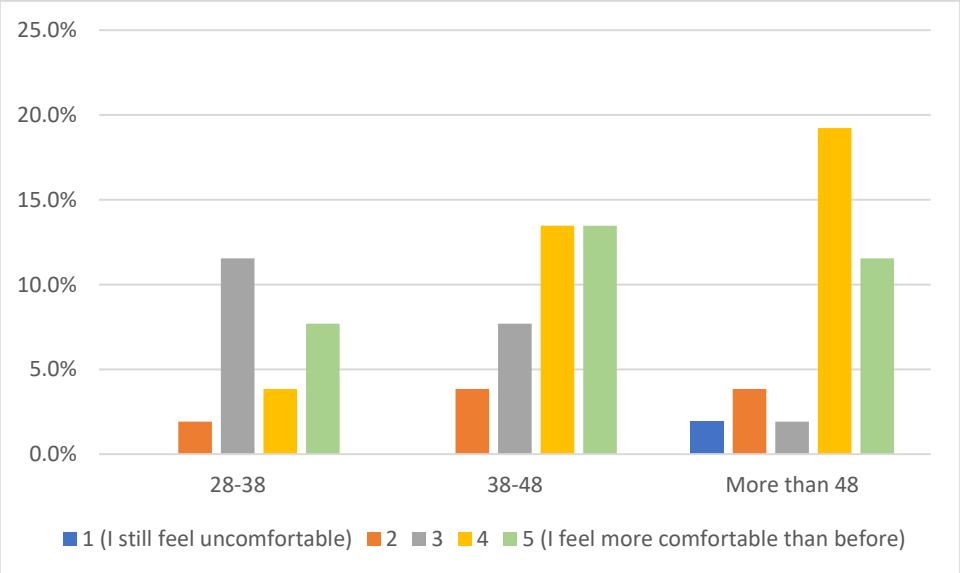
The results from Figure 19 above show that most of the 28–38-year-old and 28-48 respondents did not do any courses during the lockdown, whereas with the older participants we have the opposite trend. Out of the 19 participants from this group, 73% took a course on EdTech during the lockdown. As we saw in the previous sub-section, this age group is the one with the most participants who had never taught online before the lockdown, which might explain why they felt the need for more training on how to use EdTech tools and teach online. Also, the older participants are the ones who had to teach synchronously more often, as we can see in Figure 20:

Figure 20: Participants' experience with online teaching per age group



As a result, participants from the two older groups seem to feel more comfortable when using EdTech and online teaching than before the lockdown, as we can see from the results in Figure 21:

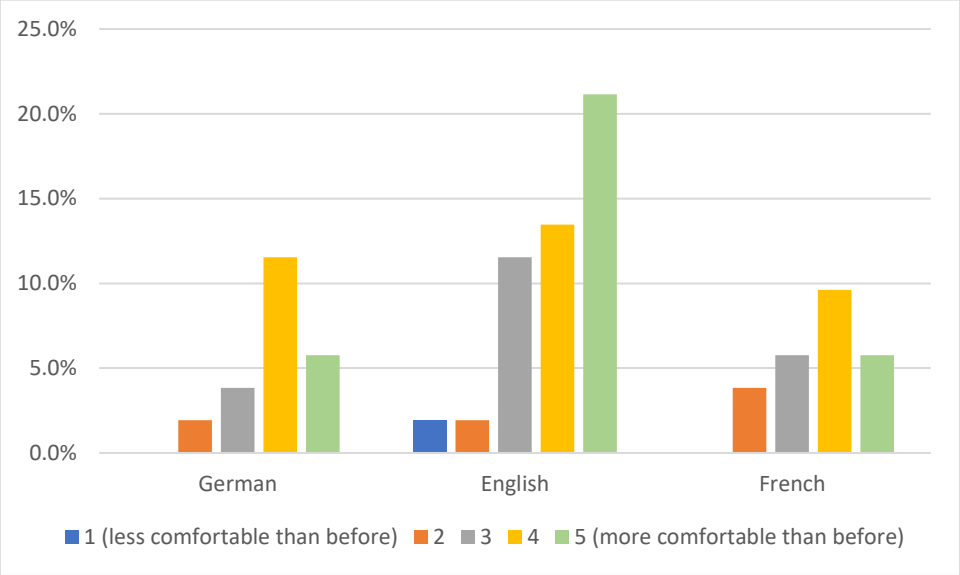
Figure 21: Participants' level of comfort with EdTech per age group



In the group of 28–38-year-old respondents, the answers are mostly 3, which is neither comfortable nor uncomfortable, whereas with the group of participants ages 38-48 have mostly answered 4 and 5, and the same with the group over age 48. These results are expected, as most of the participants had to teach online for approximately two months, and on a daily basis for some of them, so they had time to get familiar and more at ease with online learning.

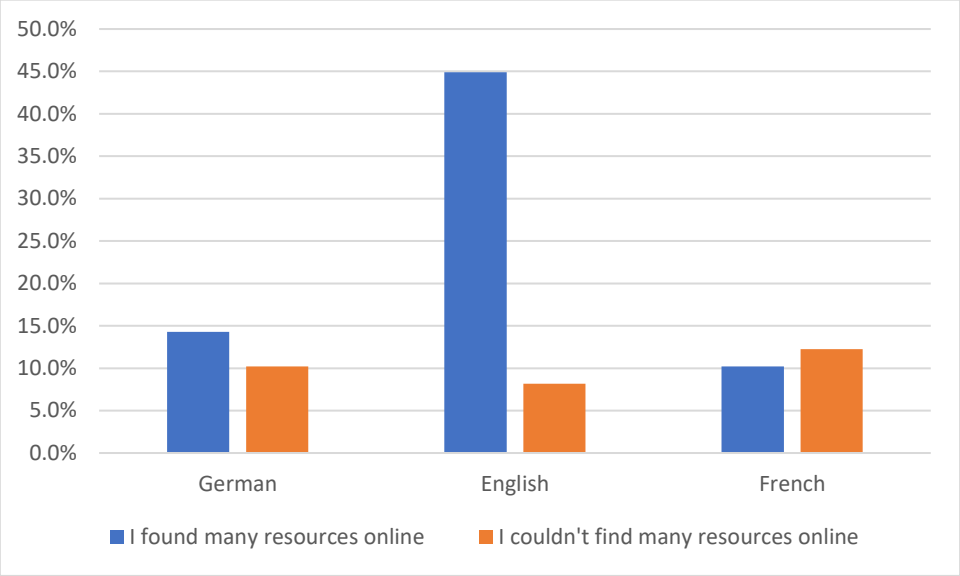
As for the variable of languages taught, the results in Figure 22 below show that the level of comfort of English teachers when using Edtech tools and teaching online is higher than the respondents who teach French or German:

Figure 22: Participants' level of comfort with EdTech per languages taught



This is probably not related to the teachers' years of experience, as 46% of the English teachers have more than 15 years of experience, and the other half are novices. Nevertheless, that could be explained by the fact that they used more technology in the classroom before the lockdown, and they were more motivated towards its use. Therefore, participants who teach English perhaps struggled less and felt more at ease during the two months of teaching online. Furthermore, the results of this study show that it was easier for English teachers' participants to find online resources such as course plans or worksheets:

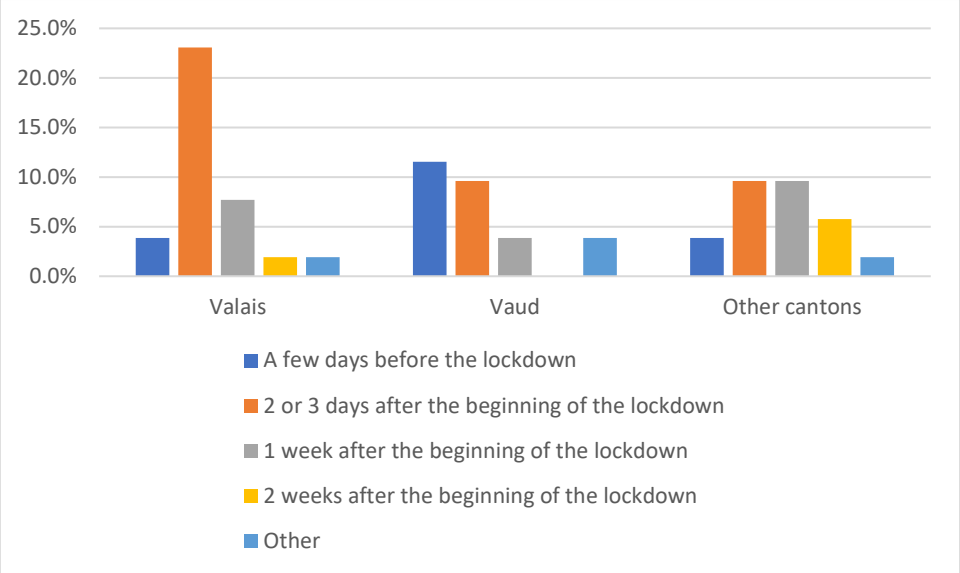
Figure 23: Availability of resources for participants according to the language taught



We can see that the vast majority of the respondents who teach English could easily find online resources, while, for French teachers, there were slightly more participants who found that there were not enough online resources available in the language they teach. As I mentioned in the previous sub-section, as a new French teacher myself, I was surprised to see that the number of online material available for teachers is much lower than in ELT (English Language Teaching). However, regardless of the number of resources available and the level of comfort when teaching online, the variable of language does not interfere with the workload of participants during the lockdown, as the majority of respondents in the three groups claim that their workload increased during the lockdown.

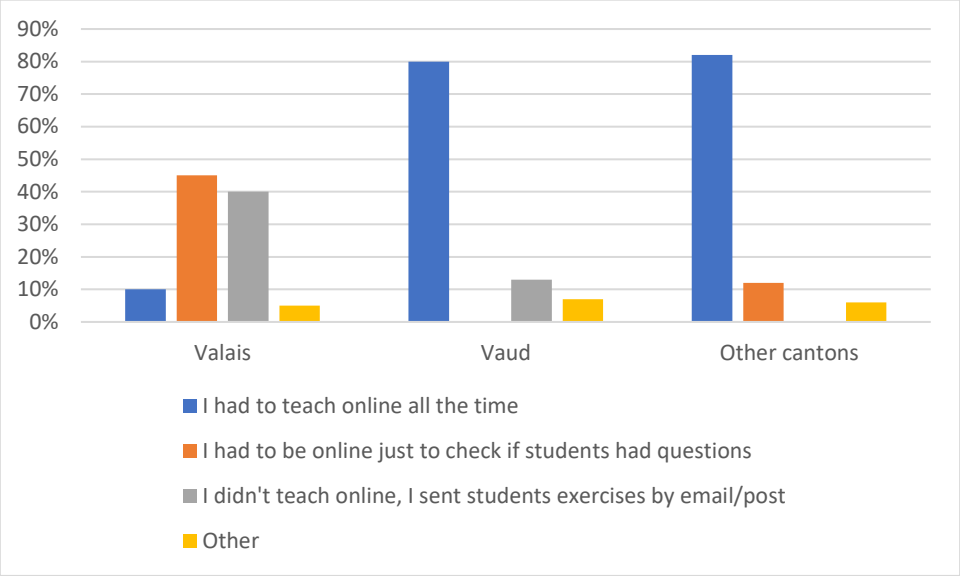
In relation to the variable of canton, most of the respondents who teach in Valais received instructions from school quite quickly, no more than two or three days after the lockdown. Most of the participants from the canton of Vaud received guidelines a few days before the lockdown, and some respondents from the same group a few days later. As for the other cantons, it took most of the schools a few days or up to a week to give clear guidelines, according to the respondents in this study:

Figure 24: Time needed for participants to receive instructions from schools at the beginning of the lockdown



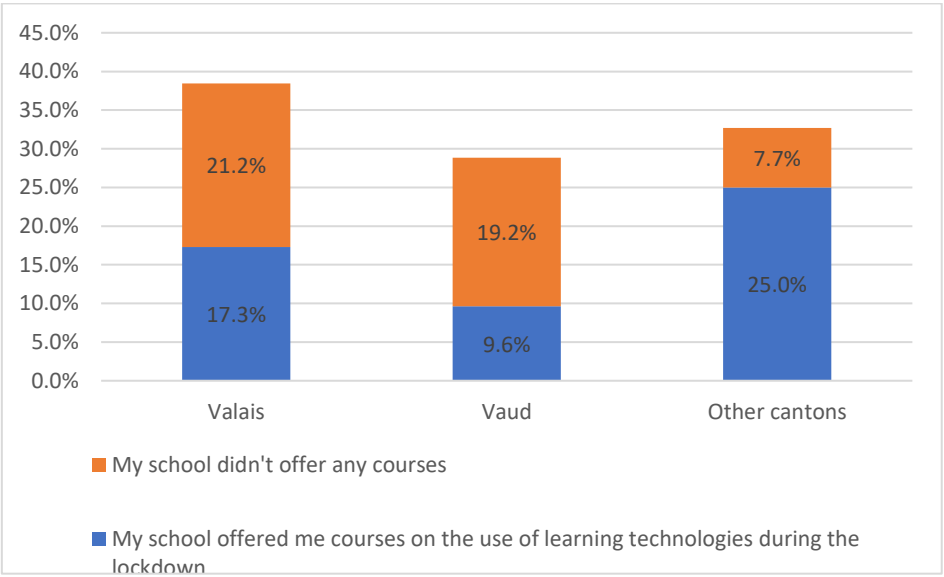
This is something important to consider, as the longer schools take to give teachers instructions, the more the teachers may feel anxious and stressed, which could influence their attitudes to EdTech at the end of the lockdown. As for the clarity of instructions given by schools, the variable of canton does not play a significant role and the results reflect the same trend presented in the previous sub-section with the general results. During the lockdown, many teachers had to use tools that were unknown to them, especially how to use videoconferencing ones such as Teams and Zoom. However, we also saw in the previous sub-section that not all the participants had to teach synchronously. Figure 25 below shows the number of teachers who had to teach online according to each canton in this study:

Figure 25: Online teaching during the lockdown per canton



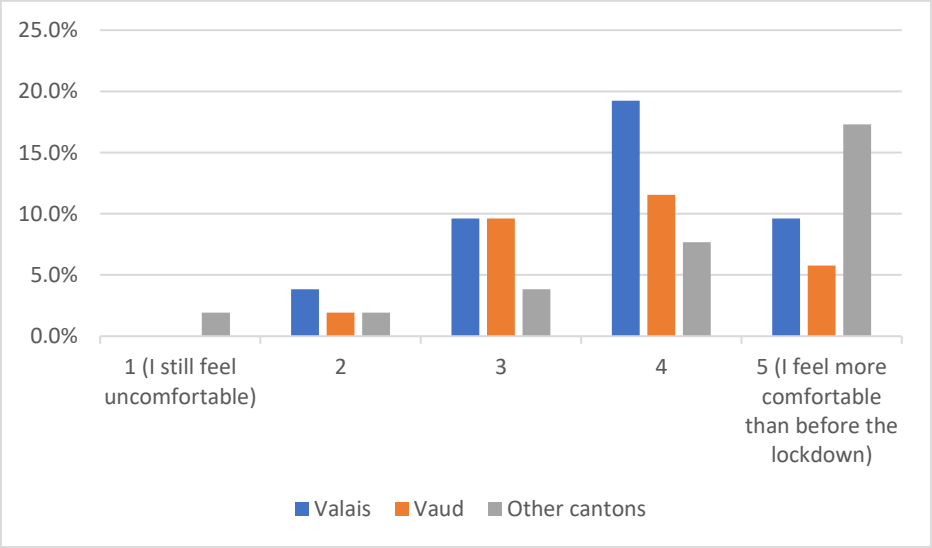
As we can see from the results above, 80% of the participants from Vaud and 82% of those from the other cantons had to teach online, whereas, in Valais, most of the teachers only connected to check if students had questions or sent them work by post or email. That can explain why in this same canton, more than 50% of the respondents claim that their schools did not offer any teacher training courses during the lockdown, as Figure 26 shows:

Figure 26: Number of participants per canton who had courses offered by schools during the lockdown



Overall, 55% of the participants in this group did not take any training courses given by their school during the lockdown; in the canton of Vaud, we have a similar trend, with participants who did not take any courses reaching 66%. However, respondents from "Other cantons" followed the opposite trend, with most of the participants (76%) who took a course on EdTech during the lockdown. Considering that the lockdown was a very challenging period for teachers and that training plays a crucial role in the teachers' attitudes to the use of technology (Bancheri 2006), the number of courses offered by schools in the cantons of Valais and Vaud is very low; this could influence participants' attitudes to the use of Edtech after the lockdown. Nevertheless, at least in Valais, perhaps schools did not train their teachers as online teaching was not mandatory, and we can see that most of the participants from this canton decided to find another solution. Finally, when it comes to feeling more at ease with the use of Edtech at the end of the lockdown, the results are presented in Figure 27 below:

Figure 27: Level of comfort of participants in relation to the use of learning technologies by canton



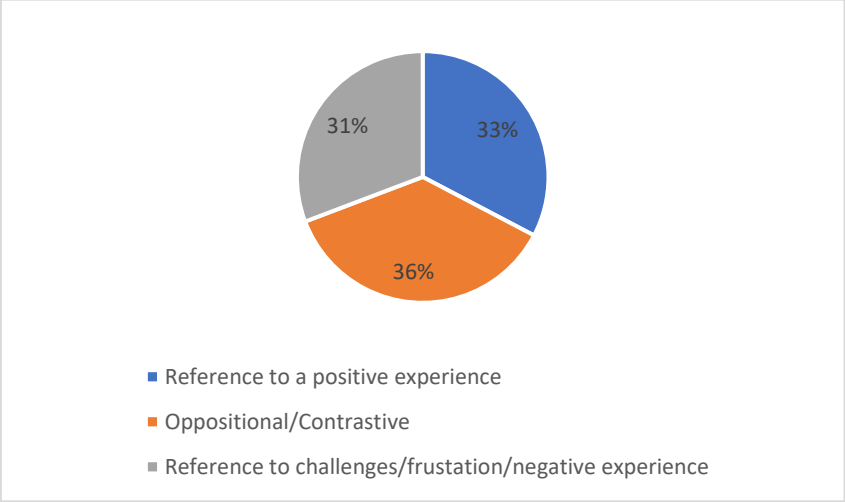
Among the participants who answered 5 (more comfortable than before the lockdown), the majority represent respondents who teach in "Other cantons". The fact that they had more courses during the lockdown could explain this feeling of comfort at the end of the period.

Respondents from Valais are also the majority who answered 4, which is also a high level of comfort. We could see in the previous sub-section that before the lockdown, participants from Valais are the ones who were better equipped and also more motivated to use learning technologies in the classroom. Hence, they are probably more experienced with the use of EdTech and that can also explain why these participants feel more at ease at the end of the lockdown period as well.

5.3.1 Participants' overall experience with the use of learning technologies during the lockdown

In this part of the questionnaire, participants were asked to describe their experience with EdTech during the lockdown in more detail. Respondents were asked open-ended questions, therefore, when analyzing the results, I divided the answers into three groups according to the main themes that occurred in their responses: reference to a positive experience, oppositional/contrast, with a mix of positive and negative experiences, and reference to challenges/ frustrations/a negative experience. Overall, respondents seem to have quite a balanced view of their experience, as we can see in Figure 28 below:

Figure 28: Participants' experience with EdTech during the lockdown



On average, 33% of respondents referred to their experience as positive, whereas 36% showed mixed feelings and 31% expressed negative feelings. Considering that participants' average level of motivation to use EdTech in the classroom before the lockdown, and also the fact that most of them had never taught online before, we can consider it to be positive that only 31% described their experiences as negative. The analysis of the results in relation to the variables shows the following results:

Figure 29: Participants' experience with EdTech during the lockdown per age group

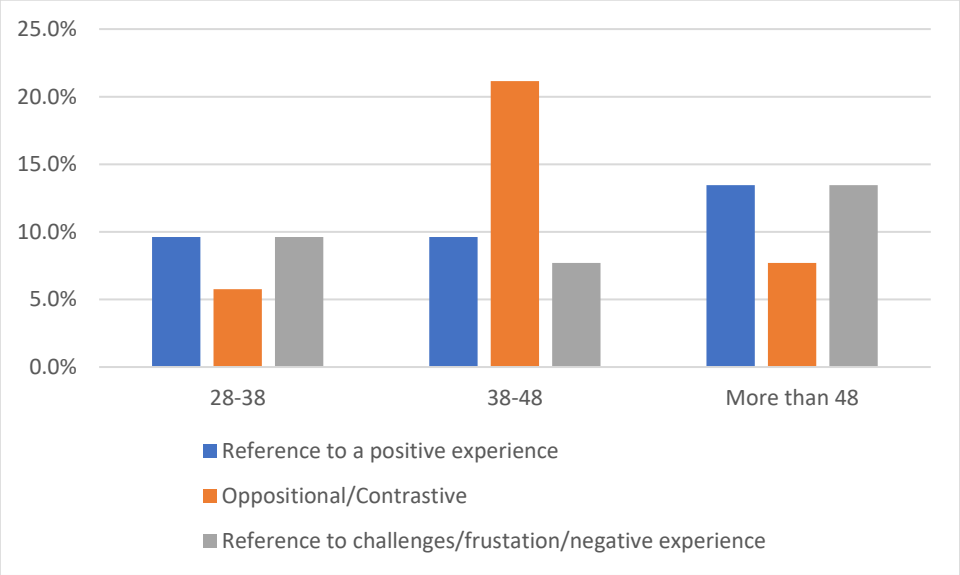


Figure 30: Participants' experience with EdTech during the lockdown per canton

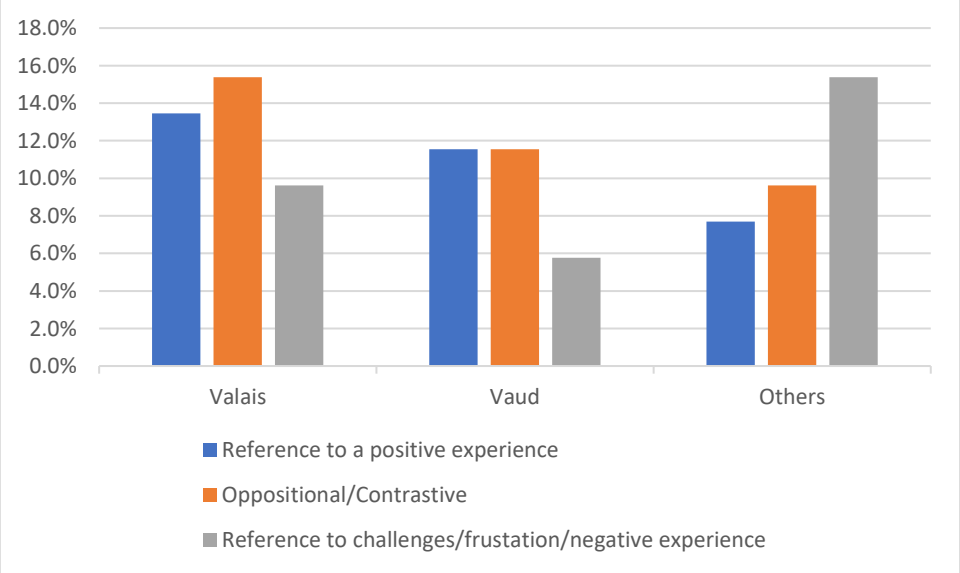
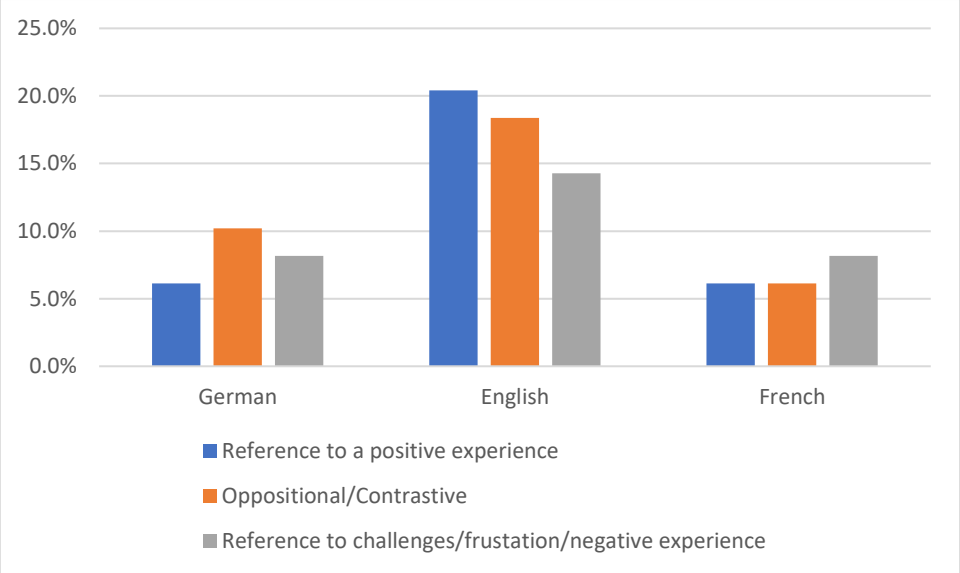


Figure 31: Participants' experience with EdTech during the lockdown per languages taught



In terms of age, results fluctuate slightly among the three groups, except for the 38-48 one, where we can see a clear majority of participants with oppositional/contrastive answers. As for the canton, results are also similar for Valais and Vaud, with more respondents who had a negative experience in "Other cantons." Finally, in the language taught, we can see that the group of English teachers is the one with a majority of participants who had a positive experience. That could at least be partially explained by the fact that it was easier for them to find online resources, which means that preparing their lessons may have been less time-consuming. However, several external factors can contribute to these results, which are not within the scope of this study, Factors such as how the lockdown was experienced by each of the participants their level of stress, family life, among others could also have contributed to how they felt in general during this period, which can also influence their experience with online teaching. In general, participants who held a positive view of their experience (Appendix V) used adjectives such as "enriching" and "interesting," and many of them mentioned the fact that they learned a considerable amount during the lockdown period:

Table 13: Example of answers from participants who described their experience during the lockdown as positive

Participants' number	Original answer	Translation to English
1	"J'ai beaucoup appris et aujourd'hui j'appréhende moins de renouveler l'expérience."	"I learned a lot and today I am less apprehensive about repeating the experience."
25	"Bonne, cela m'a aussi permis de découvrir de nouvelles choses utiles pour mes cours aujourd'hui."	"Good, it also allowed me to discover new things useful for my classes today."
43	"Cela a été un apprentissage. Apprendre de nouvelles façons de faire est toujours positif."	"It has been a learning experience. Learning new ways of doing things is always positive."

As for the participants who used oppositional/contrastive sentences (Appendix VI), they usually mentioned positive aspects of their experience followed by negative ones, very often expressing feelings of stress or tiredness. Also, some of these participants seemed to be motivated, but they had difficulties in dealing with students' lack of attention and motivation, as we can see in Table 14

Table 14: Example of answers from participants who described their experience during the lockdown by using contrastive sentences

Participants' number	Original answer	Translation to English
15	"Les possibilités sont énormes mais la motivation des élèves pour le travail à distance (et sans évaluation) a rapidement baissé. Le lien direct avec la classe manquait et aux élèves et à moi."	"The possibilities are enormous but the students' motivation to work remotely (and without assessment) quickly declined. Both the students and I missed the direct connection to the class"
21	"J'étais motivée mais les élèves n'étaient pas participatifs, et cela m'a frustrée."	"I was motivated, but the students were not participatory, and that frustrated me."
46	"J'ai été assez à l'aise, mais c'était dur de rester devant l'ordinateur toute la journée."	"I was pretty comfortable, but it was hard to stay at the computer all day."

As we can see from the examples above, participants mention external factors such as tiredness, students' lack of motivation, and the fact that they missed being in the classroom. This could be due to the effects of the lockdown in general, and the fact that we had to avoid social contact during this period. Also, they could lack motivation when it comes to online teaching, but not necessarily the use of EdTech tools. Respondents who had a negative experience during the lockdown (Appendix VII) described it as "horrible", "difficult", and they mentioned the fact that the online lessons were too long (respondents 3 and 13). Once again, some of them mentioned tiredness and frustration when having to deal with students' lack of motivation:

Table 15: Example of answers from participants who described their experience during the lockdown as negative

Participants' number	Original answer	Translation to English
4	"Je n'ai pas de gros problèmes avec la technologie. Mais l'enseignement en ligne est beaucoup plus fatiguant car il faut penser à de nombreuses choses techniques en plus de l'enseignement."	"I don't have a big problem with technology. But teaching online is much more tiring because you have to think about a lot of technical things in addition to teaching."
29	"Frustrante, car demandant énormément de temps (sans doute beaucoup plus pour les enseignants que pour les élèves...), et frustrante également car l'enseignement à distance n'arrivera - et de loin - pas à remplacer l'enseignement en classe."	"Frustrating, because it takes a lot of time (certainly much more for the teachers than for the students...), and also frustrating because distance learning will not - by far - replace classroom teaching."
27	"Pas assez d'interactions pour un cours de langue, trop virtuel, perte d'attention des étudiants et décrochage, de très nombreux problèmes techniques...	Not enough interaction for a language course, too virtual, loss of student attention and dropouts, many technical problems..."

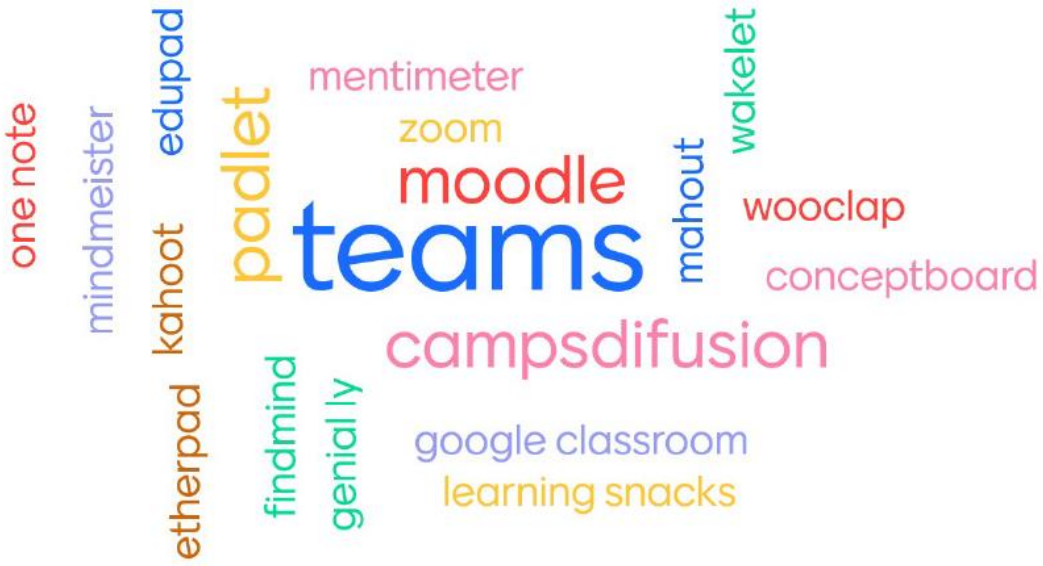
As the examples above show, participants sometimes do not lack technical knowledge, but still, they find the experience of online teaching tiring. They also mention the fact that it is time-consuming, which could be due to the teachers' difficulties in adapting the material they usually use in a face-to-face class for an online one. Moreover, they mention a lack of

interaction and the fact that it is difficult for students to maintain their level of attention. Finally, they also mention technical problems, which can be very discouraging for teachers to deal with, especially if they are not computer literate. Even for teachers who know how to use a computer very well, it is also difficult sometimes, as some technical problems or issues with internet connection are beyond our knowledge and control. Despite the problems mentioned above, online teaching can also offer several advantages, but as with any other teaching method, it takes time to learn and adapt the lessons. Also, it is true that teaching an online lesson with five or six students does not provide the same interaction as a face-to-face lesson with 20 or 24 students. Thus, it would have been useful to ask participants about average class size so that we could see if this made a difference in their motivation and attitude to online learning.

5.4 Participants' perspectives after the lockdown

In this part of the questionnaire, participants were asked about the tools they would like to continue using in the classroom, their motivation, and also whether they would like to have more EdTech training or not. When being asked about the tools they continued using in the classroom after the lockdown, 17 out of 52 respondents gave examples of what they kept using with their students after the lockdown, which corresponds to only 32,6% of the total number of participants in this study. However, that suggests that these participants have a positive attitude towards EdTech. We only know a person's attitude if we get to know his or her behavior (Ahmed 1989), and the fact that participants continue to use the tools illustrates their positive attitude to learning technologies:

Image 1: Word cloud with the tools teachers would like to continue to use in the classroom

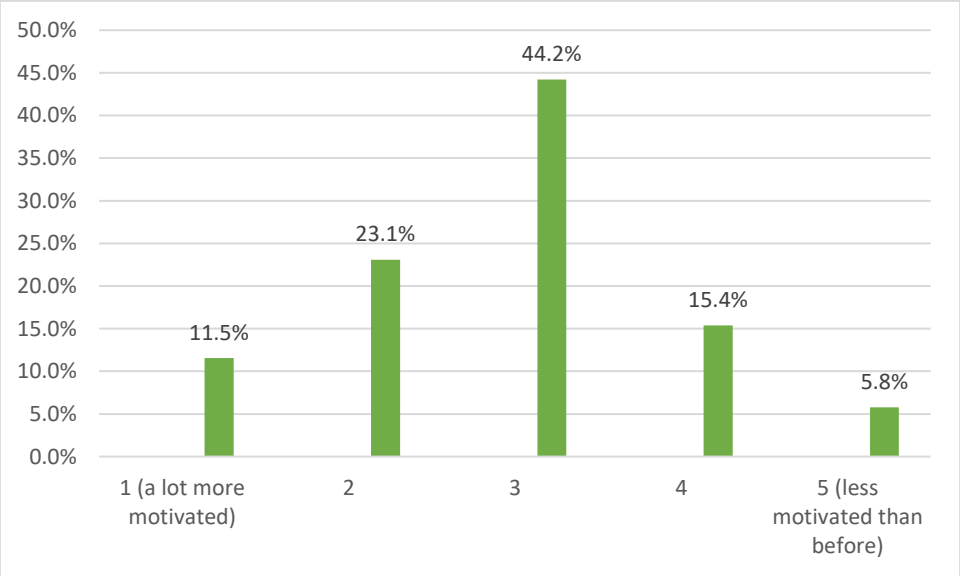


As we can see in the word cloud above, Teams was the most cited one (6 participants), followed by Moodle and Padlet. Some cantons started implementing the use of Microsoft 365 at schools even before the lockdown, which was the case in Valais. However, according to the *Centre de compétences ICT-VS*[12], its use was mainly for communication via email, as schools created email institutional addresses for the school staff, teachers and students. Then, after the lockdown teachers started using Teams for their online lessons. It is a tool that was kept by some participants in this study as it allows teachers to communicate with students easily and also assign them homework. In the questionnaire, participants were not asked to give the reasons why they continue to use certain tools, but some colleagues told me that they find it very useful to be able to organize everything in one single platform, instead of sending different emails and giving students printed documents.

[12] This center provides expertise in the field of Media, Images and Information and Communication Technologies for all levels of compulsory and post-compulsory education in the canton of Valais.

In relation to their level of motivation after the lockdown, the results show that on a scale from 1 to 5 (1 being much more motivated and 5 being less motivated than before), 44% of the participants answered 3, which falls in the category of neither motivated nor unmotivated, while 23% were motivated, and 11% more motivated than before, as indicated in Figure 32:

Figure 32: Level of motivation of participants (1: more motivated- 5: less motivated than before)



Relatively few participants (5.8%) were less motivated than before to continue using EdTech in the classroom, and 15,5% seem to be unmotivated. When looking at these numbers according to the different variables from this study, the results are shown below:

Figure 33: Level of motivation of participants (1: more motivated- 5: less motivated than before) per age group

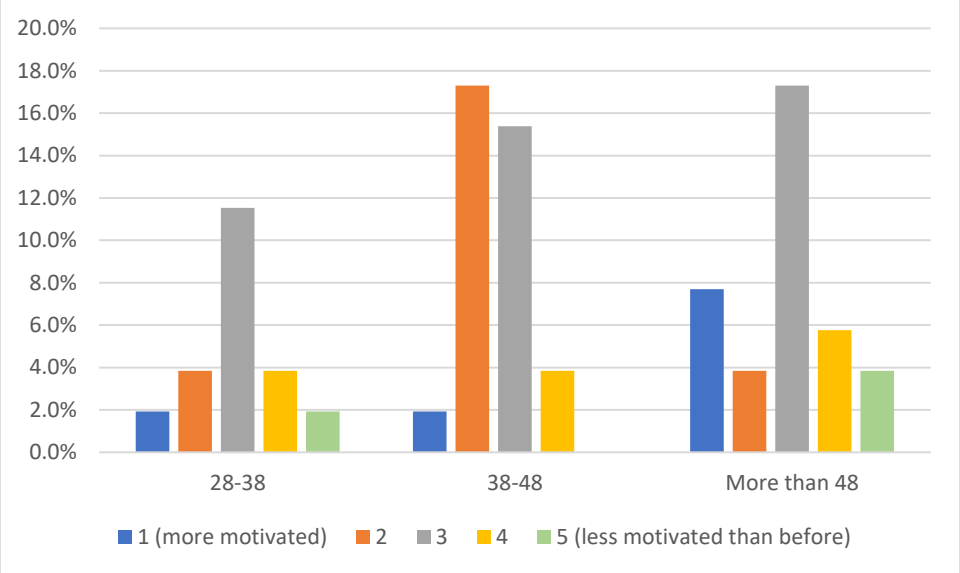


Figure 34: Level of motivation of participants (1: more motivated- 5: less motivated than before) per language taught

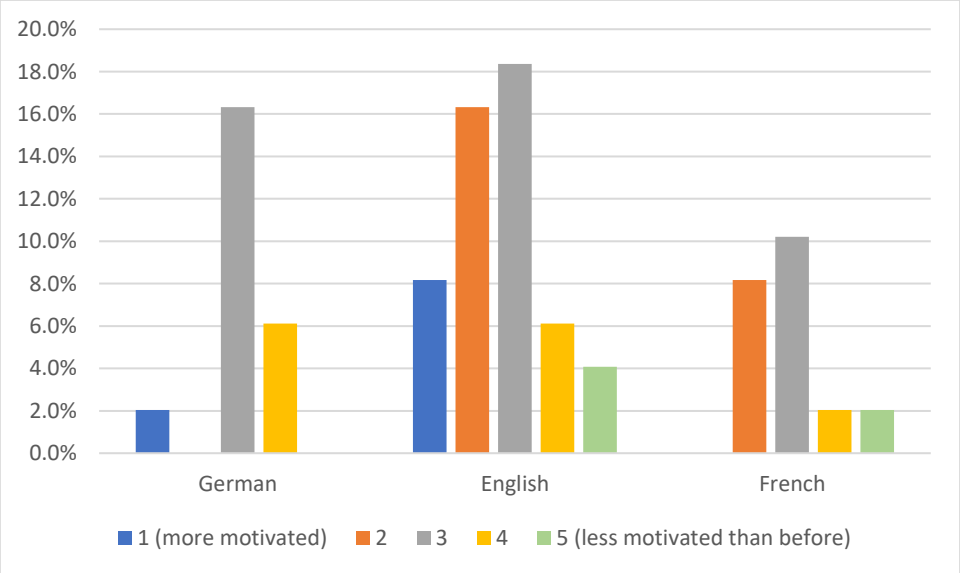
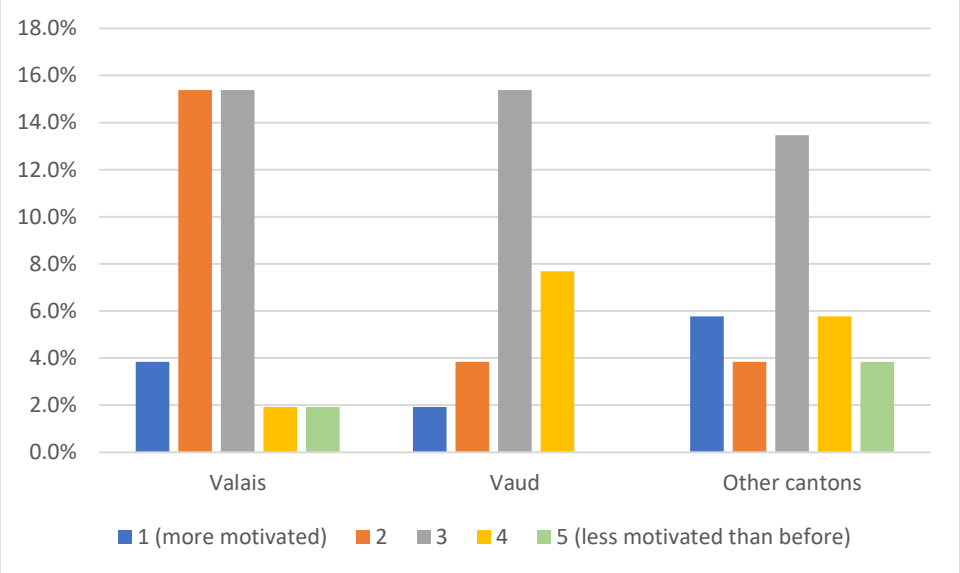


Figure 35: Level of motivation of participants (1: more motivated- 5: less motivated than before) per canton



Among all the age groups, the ones who are 38-48 seem to be the most motivated at the end of the lockdown. English teachers are also the ones with the highest level of motivation in the language group, with 12 out of 26 participants who seem to be more motivated or motivated. From these 12 respondents, half of them are aged between 38-48, followed by the younger group and the older group. followed by participants from Valais for the variable of the canton.

Participants who answered "less motivated than before" were then asked to give their reasons for their lack of motivation. However, not only teachers who answered 5, but a total of 10 teachers who also answered 3 and 4 to their level of motivation expressed themselves regarding this subject, as shown in Table 16 below:

Table 16: Example of answers from participants who are less motivated at the end of the lockdown than before

Participants' number	Participants' level of motivation	Original answer	Translation to English
4	4	"J'en ai marre..."	I've had enough..."
9	5	"C'est très désagréable de travailler avec ces technologies."	"It is very unpleasant to work with these technologies."

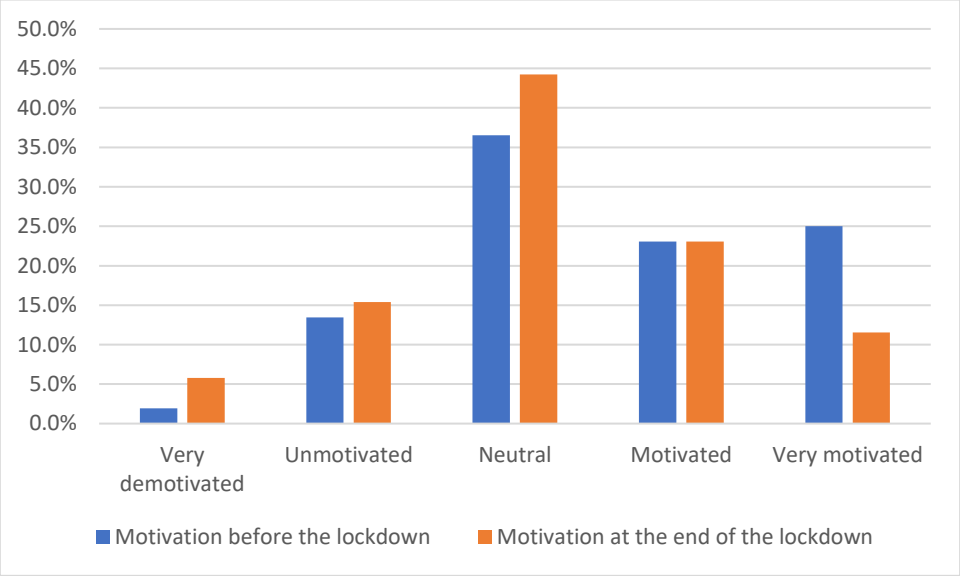
13	3	“Il faudra toujours fixer les objectifs d'abord et évaluer l'efficacité et l'utilité d'un outil informatique pour atteindre l'objectif et non pas l'inverse. Le contact direct reste très important pour l'apprentissage en général mais en langue encore plus particulièrement.”	“It is always necessary to set the objectives first and to evaluate the efficiency and usefulness of a computer tool to reach the objective and not the opposite. Direct contact remains very important for learning in general, but in language learning in particular.”
14	4	“Perte des éléments essentiels de l'enseignement (groupe moteur, information non verbale), élèves perdus, infrastructures insuffisantes chez certains élèves.”	“Loss of essential teaching elements (motor group, non-verbal information), lost students, insufficient infrastructure for some students.”
16	4	“J'ai de sérieux doutes sur l'utilisation du numérique qui sont la conséquence de l'enseignement à distance mais aussi de lectures effectuées durant l'été.”	“I have serious doubts about the use of digital technology, which are the result of distance teaching and also readings I did during the summer.”
32	4	“J'ai réalisé que l'essence même de l'enseignement était le contact en classe, les travaux de groupes et l'émulation.”	“I realized that the essence of teaching was classroom contact, group work, and encouragement.”
33	5	”Je suis maintenant certain que la technologie électronique finira par détruire l'enseignement -- ce que je n'aurais pas pensé il y a 15 - 7 ans en arrière.”	“I am now certain that electronic technology will eventually destroy education -- something I would not have thought 15 - 7 years ago.”
41	4	“Parce qu'il n'y a toujours pas formation, pas de fil rouge ou de guide-âne officielle.”	“Because there is still no training, no guidelines, no official guide.”
47	4	“Coaching presqu'inexistant ou bureaucratique.”	“Coaching almost non-existent or bureaucratic.”
51	3	“Les élèves n'ont toujours pas les utiles nécessaires.”	“Students still do not have the necessary skills.”

The answers can be divided into 3 main themes which are training, students’ needs, and the expression of negative attitudes. For instance, we could say that participants 41 and 47 are unmotivated but in an extrinsic way, as the factors for their lack of motivation are external.

They mentioned the lack of training and coaching, which is an essential factor if schools want teachers to implement EdTech in their practice in the long term. Teachers need to learn how to use learning technology and deal with problems related to it, and therefore "there is a need for ongoing training and assistance in helping teachers to better employ computer technology resources in pedagogic practices" (Gilakjani and Leong 2012: 634). As for students' needs, participants mention the importance of human contact and the fact that students need this direct contact with their teachers and their peers (participants 13 and 32). They also highlight that learners benefit from group work and the encouragement they can have in the classroom. Moreover, 2 participants (14 and 51) cite the words "infrastructure" and "skills", meaning that not all the students have the necessary equipment and digital knowledge, probably in relation to online learning. Moreover, students have different social contexts, and while some of them probably had their own computers to access the lessons, others likely had to share them with their parents or siblings during the lockdown. Finally, some participants expressed a negative attitude towards their experience with the use of Edtech during the lockdown, which explains their lack of motivation. For example, one participant seems to be tired of the situation (4), while others use adjectives such as "unpleasant" (9) or express doubts about the efficacy of Edtech, with one teacher who believes that Edtech "will destroy eventually education" (33). Everyone indeed experienced the lockdown differently, which explains the lack of motivation and negative attitudes of some participants. In less than a year, everything changed, from the way we greeted each other to the way we traveled, from our leisure activities to the way we worked. According to the *Office federal de la statistique,* the majority of the Swiss population seems to have coped well with the crisis. However, factors such as unemployment, financial worries, loneliness, and family conflicts are particularly difficult to cope with and may have been exacerbated during this pandemic. Also, many people complained of the amount of time spent in front of a screen and the fact that they were more tired when working from home,

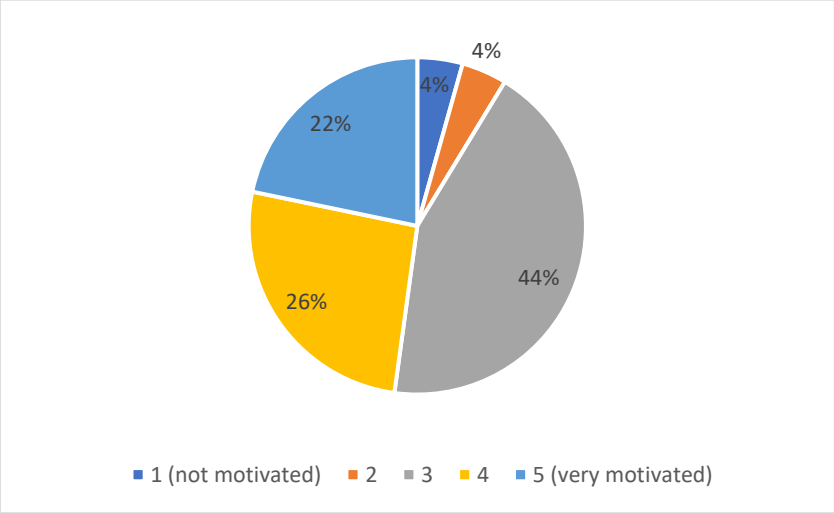
which could explain why the level of motivation to the use of EdTech changed before and after the lockdown:

Figure 36: Comparison of participants' motivation to the use of Edtech before and after the lockdown



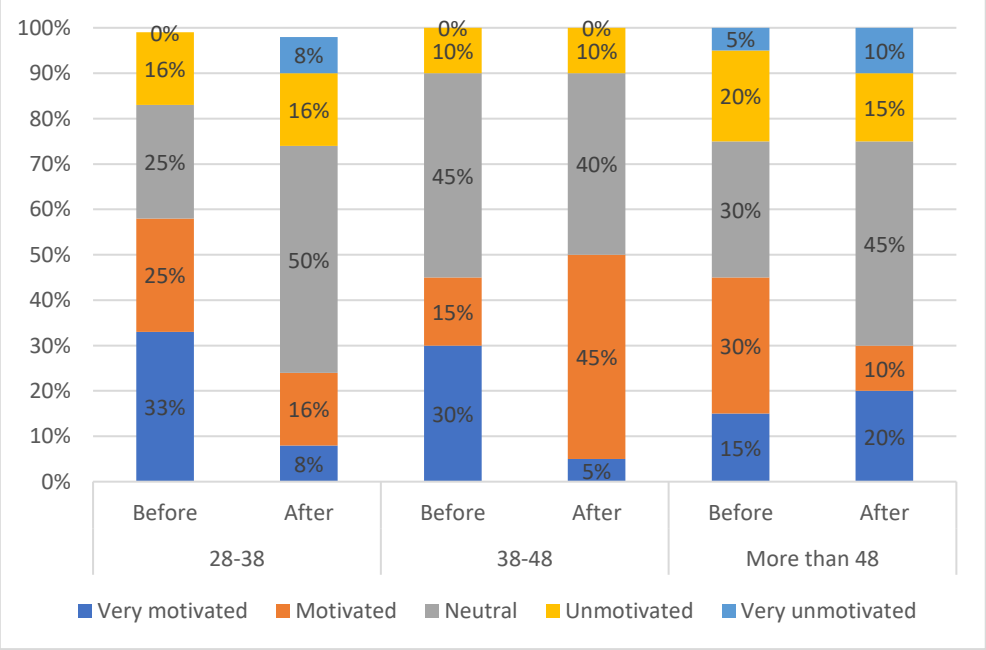
When comparing the respondents' level of motivation before and after the lockdown, we can see in Table 36 above that the overall number of participants who are very motivated to integrate Edtech in the classroom decreased, while the number of people with a lack of motivation went up slightly, as well as the number of neutral participants. It is interesting to see that 44% of the people in this group (neutral) did not change their level of motivation, but 48% were motivated and very motivated before the lockdown, so their experience during that period at home lowered their level of motivation:

Figure 37: Level of motivation of participants who are now neutral before the lockdown



This change in motivation before and after the lockdown could therefore be explained by the influence of different aspects of the pandemic in the participants' life. For instance, when comparing the participants' motivation to the use of EdTech before and after the lockdown according to the variable of age, the results are the following:

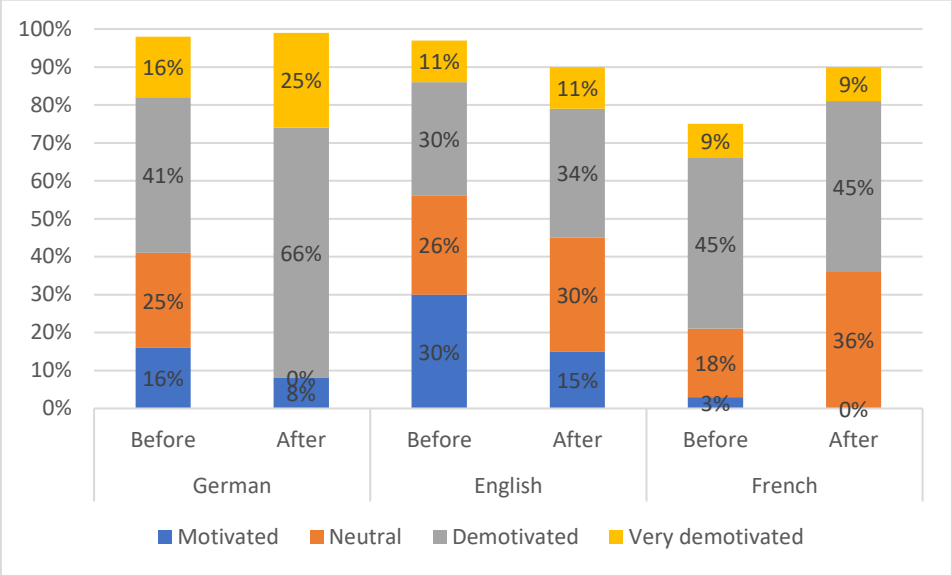
Figure 38: Level of motivation of participants before and after the lockdown per age group



In Figure 38 above, we can see that the number of very unmotivated people in all age groups went up slightly, and the percentage of more unmotivated respondents remained almost the same as well. However, when it comes to motivation, we can see a great difference in the 28-38 group, which had a total of 58% motivated/very motivated before, and only 24% after the lockdown. According to the *Office Fédéral de la Statistique*, the average age of women in Switzerland who have their first child is 30 years old (Appendix VIII), so participants in the 28-38 age group fall into the age range of people who were likely had small children at home during the lockdown. With schools closed and after-school activities canceled, these families were particularly affected (Venard et al. 2020). A large majority of parents had to fulfill their professional obligations by working from home while caring for their children. Thus, parents were faced with the challenge of providing care and education for their children while working, without being able to count on the help of grandparents or other support structures, for example. Therefore, all these constraints could influence participants' level of motivation, that is, their lack of motivation might not be only work-related, but could be a more general level of demotivation at the end of the lockdown.

When doing the same analysis with the variable of languages taught, the analysis of the results shows that within the English and French teachers' groups, the level of motivation did not change much between the 2 periods:

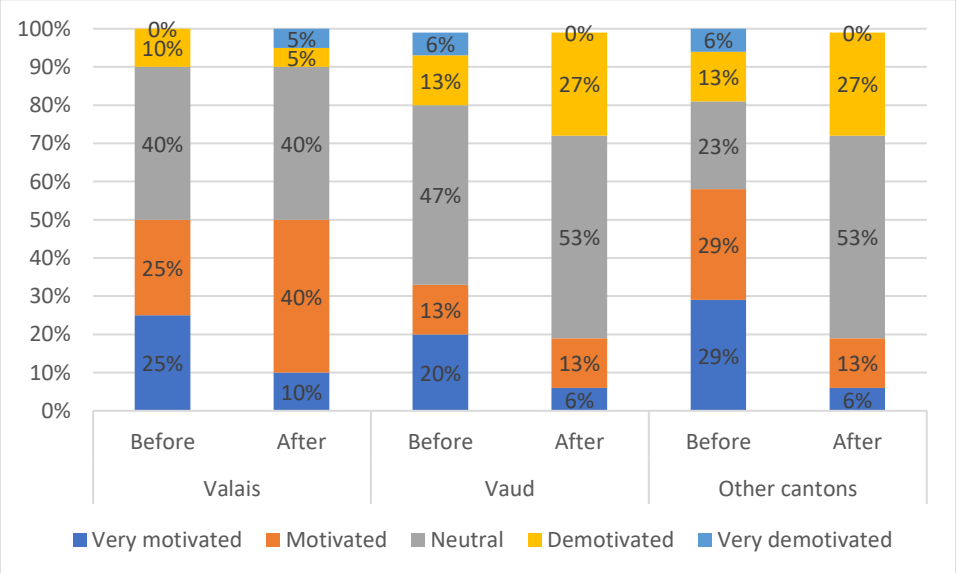
Figure 39: Level of motivation of participants before and after the lockdown per language



There was no increase in the level of demotivation in these two groups, with a higher number of motivated participants. However, participants who teach German are the ones who became more neutral when it comes to motivation, and also had more participants who are unmotivated after the lockdown.

As for the variable of canton, the comparison in the level of motivation before and after the lockdown is presented in Figure 40 below:

Figure 40: Level of motivation of participants before and after the lockdown per canton



The results from the canton of Valais show that the level of demotivation and motivation remained quite the same. There was a small difference between the two extremes (very motivated/motivated, very unmotivated/unmotivated), but overall, the numbers did not change much between the two periods. However, we can see that the number of participants who are unmotivated increased in the canton of Vaud and "Other cantons", whereas the number of participants who are motivated went down, especially in the "Other cantons". As we could see in the previous sub-section, most of the participants did not have much experience with online teaching before the lockdown; this could be a stressful and tiring experience for teachers as it demands a different type of interaction with students and different ways of preparing their lessons. According to a report on the challenges of online learning during the lockdown in secondary schools in the Romandie (Aeschlimann et al. 2020), teachers claimed that the lack of personal contact was felt to be a great challenge. Also, teachers in vocational schools and colleges reported, for example, difficulties in assessing students' moods and participation (Aeschlimann et al. 2020). As most of the participants from Valais did not teach synchronously, they did not have to go through these challenges, and therefore, this could explain why their level of motivation did not change much between before and after the lockdown.

Despite the neutral level of motivation of most of the participants to continue using technology, most of the respondents would like to have more training courses in the future on how to use Edtech in the classroom, as indicated in Table 17:

Table 17: Participants' interest in doing training courses on the use of Edtech

Would you like to be better trained to use Edtech in the classroom?	Number of participants	Percentage
Yes, I would love to	16	31%
Yes, but I would like to have training on specific tools	29	56%
no, I am not interested	2	4%
No, I think I have had enough training	5	9%

Overall, 31% would like to be better trained in the future, and 56% would like to have training courses on more specific tools, whereas only 4% are not interested in doing training courses, and 9% believe that they have had enough training so far. Furthermore, when analyzing these numbers in relation to the variables, they do not seem to interfere with these results. The results show that in all the groups (age, language and canton), 87% of respondents who would like to have training courses in the future are proportionally spread. These results indicate that, even though participants were not very motivated at the end of the lockdown, they express a desire to learn more about how to use learning technologies in the classroom. Their largely neutral level of motivation could therefore be related to online teaching specifically, and not learning technologies in general. Therefore, the results show that respondents express a favorable attitude to the use of Edtech, as "an attitude provides a reason for forming an intention to act in the sense that the perceived consequences of acting according to one's intentions are believed to lead to valued outcomes" (Bagozzi 1992: 184). Certainly, having a favorable attitude is not enough to motivate teachers to use EdTech, as it also depends on different factors such as the encouragement and support, they have from schools, how well students will respond to their lessons, and how well equipped the schools are. Nevertheless, being open to learning more and being better able to use EdTech in the future shows the intention teachers have to better accept and integrate learning technologies in their practice.

When comparing teachers' experience with Edtech before and after the lockdown, we could see from the results above that many factors can influence their attitudes and level of motivation. We could see that at the end of the lockdown, in general teachers are slightly less motivated than before. If we consider that the individual's attitude will lead him/her to have a low or high level of motivation (Ahmed 1989), we can assume that teachers' attitudes are more negative after the lockdown than before. However, we could also see that this feeling is probably towards online teaching and also other external factors related to the lockdown. On the other hand, teachers seem to be willing to do more training courses to learn how to use EdTech. Therefore, this shows a trend towards a positive attitude, as they express an intention to continue to use it in the future.

6. Conclusion

The main purpose of this MA thesis was to investigate the attitude of language teachers from the French-speaking part of Switzerland towards the use of technology in the classroom before and after the COVID-19 lockdown, by analyzing data collected via a questionnaire. The results of this research show that, overall, teachers are more demotivated at the end of the lockdown, which could be an indicator of a lack of positive attitude, but mainly towards online teaching and not EdTech as a whole. When comparing both periods, it has been noticed that before the lockdown, attitudes to the use of EdTech were neither very positive nor negative, as many participants did not have a broad knowledge of EdTech. Even though teachers had some equipment available in the classrooms, they lacked encouragement from the schools to use it, and they also lacked teacher training courses to learn more about different tools. Despite this lack of encouragement, teachers used computers and projectors quite often in their lessons, even though many of them did not do any training course on how to use learning technology, but they lacked experience with online learning before the lockdown. Most of the participants of

this study were neither motivated nor unmotivated to use technology in the classroom, and this is probably due to their lack of knowledge, and this also reflects their neutral attitude towards EdTech. Training courses on EdTech indeed allow teachers to have more ideas on different tools and activities they can prepare; it also gives them more confidence in using it (Ahmadi 2018, Bancheri 2009, Gilakjani and Leong 2012). Some of the teachers, on the other hand, were intrinsically motivated as they used EdTech frequently without being asked by their schools, which indicates a positive attitude towards the use of EdTech before the lockdown for some teachers.

During the lockdown, teachers faced different feelings concerning the experience of teaching from home; these could also be related to the lockdown experience as a whole, and not only to online teaching. They mention feelings of stress, anxiety, tiredness, but also curiosity about this new way of teaching. These findings confirm what previous studies found about teachers' experience during COVID-19 (Kim and Asbury 2020), with many of them who claim that their workload increased and their level of stress and insecurity as well. Considering that most of the participants in this study had never taught online before, not to mention the fact that we were dealing with the unknown situation of a global pandemic, it is understandable that teachers had those negative feelings. However, it is difficult to say whether using EdTech and teaching online are the main causes of these feelings, or if it is one of the many stressful factors of the lockdown experienced by some people. Despite the increase in the workload and the feelings of stress of some teachers, some of the participants of this study qualify their experience with EdTech during the lockdown as positive as well. It is true that it was a good opportunity for teachers to learn new methods and tools, even if they also had to deal with technical problems. When comparing the level of motivation before and after the lockdown, it has been noticed a slight fall in the level of motivation of participants after the lockdown. Once again, these feelings could be due to different professional and personal reasons, as the lockdown

experience was lived differently by each of us. Nevertheless, the results of this study also show that at the end of the lockdown teachers felt more comfortable with the use of EdTech, and they intend to continue to integrate it into their teaching. Most of the teachers would like to have more training courses in the future, which is a key factor for them to feel more confident in using EdTech. The fact that teachers intend to do training courses in the future also indicates a positive attitude, as this is a "predisposition to act" (Garrett 2010: 23). Moreover, this also shows, as in Dudeney and Hockly (2007) how important the role of schools is when it comes to encouraging teachers and providing them with training so that they can see the benefits of EdTech.

This study also considered 3 variables in the analysis, language teachers' age, the language they teach, and the canton where they work. The findings concerning age show that this variable is not a determining factor in teachers' motivation and attitudes to the use of EdTech. Teachers from the three different age groups were familiar with some EdTech equipment before the lockdown, and their level of motivation was also quite similar. However, we can see from the results that older teachers felt more comfortable with the use of EdTech at the end of the lockdown, probably because practice allowed them to feel more at ease. As for the variable of languages taught, English teachers tend to be slightly more motivated before and after the lockdown, which can be explained by their previous experience with EdTech, as it seems that they have a wider range of EdTech resources and teaching training courses available for the language they teach. Nonetheless, my data is not sufficient to explain these findings in more detail and so further research should be pursued on this subject and compare the different languages to investigate if the availability of resources influences teachers' attitudes and motivations to the use of EdTech. Regarding the variable of canton, teachers who work in Valais seem to be better equipped at schools and also have more encouragement to use EdTech in the classroom. We can see how important it is for teachers to be well equipped and well

trained, as they are also the ones who had their level of motivation unchanged between before and after the lockdown, while the teachers from other cantons had their level of motivation decrease. However, the participants from this canton are also the ones who taught synchronously the least. Therefore, the results indicate that the more teachers taught online, the more they had their workload increased, and the more stress they had as they also had to deal with technical problems and the lack of attention and motivation from students. For that reason, future studies could investigate teachers' experience with online teaching in isolation, and not as part of the EdTech as a whole, to better understand their difficulties and lack of motivation with this teaching modality.

In sum, this MA thesis indicates that online teaching and the lockdown experience as a whole could explain teachers 'decrease in the motivation level. This also indicates a possible lack of positive attitude to the use of EdTech, which could be explained by different factors, for instance, the fact that many teachers were teaching online for the first time and that was a stressful experience for them. Therefore, their attitudes are perhaps not related to the use of EdTech as a whole, but to the online teaching experience and lack of contact with students. This study was conducted shortly after the participants returned to face-to-face lessons and were still under the stress effect of the pandemic. We were still not sure if schools were going to close again, and there were a lot of incertitudes about how the situation would evolve. Therefore, it would be interesting for future studies to investigate teachers' use of EdTech now or a year from now, to find out if they are still motivated to use EdTech and if the lockdown, despite being stressful, had a positive impact on their attitudes in a long term. Finally, this study indicates the importance of schools in training and motivating students and providing them with training courses in the future so that they can have a more positive attitude to the use of EdTech, and consequently, be more motivated to integrate it into their teaching practice.

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Appendix I

L'attitude des enseignant-e-s de langues face à l'utilisation de la technologie

Merci de prendre le temps de répondre à cette enquête. Vos réponses m'aideront dans le cadre de mon mémoire en linguistique anglaise à l'Université de Lausanne. Cela devrait prendre environ 10 minutes pour le compléter.

Le 13 mars 2020, tous les enseignants du post-obligatoire en Suisse ont dû passer à l'enseignement en ligne en raison du confinement. L'objectif de cette étude est d'enquêter sur l'attitude des enseignants avant, pendant et après le confinement et d'essayer de comprendre dans quelle mesure cet évènement a eu un impact sur leur attitude et leur motivation à l'égard de l'utilisation des nouvelles technologies en classe.

Pour certaines questions, vous devrez choisir l'une des options en cliquant dessus. Parfois, vous pourrez choisir plus d'une option. Il n'y a pas de bonnes ou mauvaises réponses à ces questions.
Pour les questions ouvertes, n'hésitez pas à répondre en anglais si vous préférez.

Vos réponses seront traitées avec une confidentialité absolue et ne seront pas transmises à des tiers, et pour cette raison votre nom ne sera pas demandé.

Avant de commencer l'enquête, veuillez lire la déclaration ci-dessous et cliquer sur la case "J'accepte" si vous êtes prêt-e à participer.

*Required

1. J'accepte que les réponses que je soumets à ce questionnaire ainsi que toute information que je fournis sur mon groupe d'âge, mon genre et ma localité puissent être utilisées pour un projet d'étudiant de maîtrise mené à l'Ecole de littérature, langue et linguistique anglaises de l'Université de Lausanne. Je comprends que ma participation est volontaire et que je ne reçois aucune rémunération pour ma participation. *

Mark only one oval.

◯ J'accepte

Utilisation de la technologie avant le confinement

2. Quels sont les appareils dont vous disposiez dans votre classe avant le confinement? Cochez toutes les réponses applicables : *

Tick all that apply.

- [ ] tableau intératif
- [ ] projecteur
- [ ] laptop ou PC
- [ ] tablettes pour les étudiants
- [ ] autres

3. Aviez-vous un ordinateur portable personnel avant le confinement ? *

Mark only one oval.

- ◯ Oui, mais je n'utilise pas à l'école
- ◯ Oui, et je l'utilise à l'école
- ◯ Non, mais j'utilise l'ordinateur portable fourni par l'école
- ◯ Non

4. Avant le confinement en mars 2020, votre école vous demandait-elle d'utiliser un outil ou une activité technologique en classe ? *

Mark only one oval.

- ◯ Oui, très souvant
- ◯ Oui, parfois
- ◯ Non, pas de tout
- ◯ Je ne sais pas

5. Avant le confinement, aviez-vous déjà reçu une formation sur l'utilisation des technologies d'apprentissage ? *

Mark only one oval.

- ◯ Oui
- ◯ Non
- ◯ Other: _____

6. Si oui, quel type de formation avez-vous suivi ?

_____

7. Aviez-vous déjà enseigné en ligne avant le confinement? *

Mark only one oval.

- ◯ Oui, plusieurs fois
- ◯ Oui, quelques fois
- ◯ Non, jamais

8. À quelle fréquence utilisiez-vous un outil technologique (ordinateur, beamer, TBI, etc.) en classe avant le confinement? *

Mark only one oval.

- ◯ Dans chaque cours
- ◯ Presque tout le temps
- ◯ De temps en temps
- ◯ Jamais

9. Au cas où vous n'utilisiez pas la technologie, veuillez expliquer pourquoi:

_____

10. Si vous l'utilisiez avant le confinement, à quoi servait-il? Cochez toutes les cases qui s'appliquent : *

Tick all that apply.

- [ ] J'utilisais la technologie pour regarder des videos/ images avec mes élèves
- [ ] J'utilisais la technologie pour faire des activités interactives avec les élèves
- [ ] J'utilisais la technologie pour faire des exercices de grammaire/ vocabulaire avec les élèves
- [ ] J'utilisais la technologie pour faire des exercices de compréhension orale avec les élèves
- [ ] J'utilisais la technologie pour évaluer des élèves
- [ ] Autres

11. Citez 3 sites web ou outils que vous utilisiez avec vos élèves avant le confinement:

_____

_____

_____

_____

_____

12. Dans quelle mesure avez-vous été motivé-e par l'utilisation des technologies d'apprentissage en classe avant le confinement? *

Mark only one oval.

	1	2	3	4	5	
Pas du tout motivé-e	◯	◯	◯	◯	◯	Très motivé-e

13. Si votre réponse à la question ci-dessus est 1 (pas du tout motivé-e), veuillez expliquer pourquoi :

Pendant le confinement

14. Comment vous êtes-vous senti-e lorsque vous avez appris que vous deviez donner des cours à distance une fois le confinement déclaré (Plusieurs réponses sont possibles)? *

Tick all that apply.

- [ ] J'ai paniqué, car je n'avais aucune idée de ce qu'il fallait faire
- [ ] J'ai été très stressé-e parce que je ne me sens pas à l'aise quand j'utilise un ordinateur
- [ ] J'étais stressé-e parce que je n'avais pas d'instructions claires de mon école sur ce qu'il fallait faire
- [ ] J'étais curieux-se de voir comment cela fonctionnerait
- [ ] J'étais enthousiaste à l'idée d'essayer de nouvelles choses avec mes étudiants
- [ ] Je n'ai rien ressenti de spécial, j'ai juste attendu de voir ce que j'étais censé-e faire
- [ ] Aucune de ces réponses
- [ ] Other: _____

15. Combien de temps a-t-il fallu à votre école pour vous donner des instructions sur ce qu'il faut faire ? *

Mark only one oval.

- ◯ Ils nous ont donné des instructions quelques jours avant le début du confinement
- ◯ 2 à 3 jours jours après le début du confinement
- ◯ 1 semaine après le début du confinement
- ◯ 2 semaines après le début du confinement
- ◯ Autres

16. Dans quelle mesure les instructions données par votre institution étaient claires ? *

Mark only one oval.

	1	2	3	4	5	
Très claires	◯	◯	◯	◯	◯	Pas très claires

17. Avez-vous reçu une formation sur l'utilisation des outils technologiques pendant le confinement? *

Mark only one oval.

- ◯ Oui
- ◯ Non

18. Si vous avez répondu oui à la question précédente, quel type de formation?

19. Avez-vous dû enseigner en ligne ? *

Mark only one oval.

- ◯ Oui, tout le temps
- ◯ Oui, mais juste pour vérifier si les étudiants avaient des questions de temps en temps
- ◯ Non, nous devions envoyer les activités par courrier électronique/poste
- ◯ Autres

20. Quels outils avez-vous utilisés pour vos cours pendant le confinement? *

Tick all that apply.

- ☐ Google Classroom
- ☐ Google Hangout
- ☐ Microsoft Teams
- ☐ Zoom
- ☐ Skype
- ☐ Email
- ☐ Kahoot
- ☐ Padlet
- ☐ Quizlet
- ☐ Genial.ly
- ☐ Autres

21. Si vous avez cliqué sur "autres", merci de préciser quel(s) outil(s) ?

22. Comment avez-vous appris à utiliser ces outils ? *

Tick all that apply.

- [ ] Tout-e seul-e
- [ ] L'école a organisé des formations
- [ ] Avec mes collègues
- [ ] Autres

23. Dans quelle mesure vous sentez-vous plus confortable avec l'utilisation de la technologie dans vos cours à l'issu de ces deux mois de confinement? *

Mark only one oval.

	1	2	3	4	5	
Je me sens toujours inconfortable	◯	◯	◯	◯	◯	Je me sens plus à l'aise

24. Vous a-t-il été facile de trouver en ligne des ressources à utiliser dans votre enseignement (plans de cours, feuilles de travail, activités préparées, etc.) ? *

Mark only one oval.

- ◯ Oui, j'ai trouvé plusieurs activités en ligne
- ◯ Non, il n'y a pas beaucoup de ressource pour la langue que j'enseigne

25. Pensez-vous que votre charge de travail lors de l'enseignement en ligne a augmenté pendant le confinement? *

Mark only one oval.

- ◯ Oui, j'ai eu beaucoup plus de travail
- ◯ Non, j'ai eu la même charge de travail
- ◯ Non, j'ai eu moins de travail

26. En général, comment décririez-vous votre expérience d'utilisation de la technologie dans votre l'enseignement pendant ces deux mois de confinement? *

Après le confinement

27. Pensez-vous être plus motivé-e qu'auparavant pour utiliser la technologie en classe ? *

Mark only one oval.

	1	2	3	4	5	
Beaucoup plus motivé-e	◯	◯	◯	◯	◯	Moins motivé-e qu'avant

28. Si vous avez répondu "plus motivé-e" à la question précédente, quels sont les outils que vous avez commencé à utiliser pendant le confinement et que vous utilisez encore aujourd'hui ?

29. Si vous avez répondu "moins motivé-e qu'avant" à la question précédente, pourquoi pensez-vous être moins motivé-e qu'auparavant ?

30. Souhaiteriez-vous être mieux formé-e à l'utilisation de la technologie en classe ? *

Mark only one oval.

- ◯ Oui, j'aimerais bien
- ◯ Oui, mais sur des outils pratiques précis
- ◯ Non, cela ne m'intéresse pas
- ◯ Non, je me sens suffisamment formé-e

Informations personnelles

31. Âge *

Mark only one oval.

- ◯ 18-28
- ◯ 28-38
- ◯ 38-48
- ◯ plus de 48

32. Genre *

Mark only one oval.

- ◯ Femme
- ◯ Homme
- ◯ Autres

33. Depuis combien de temps enseignez vous ? *

Mark only one oval.

- ◯ 1 à 4 ans
- ◯ 5 à 10 ans
- ◯ 10 à15 ans
- ◯ 15 à 20 ans
- ◯ Plus que 20 ans

34. Quelle est la langue que vous enseignez? *

Tick all that apply.

- ☐ Anglais
- ☐ Allemand
- ☐ Français
- ☐ Italien
- ☐ Autres

35. Pour quel type d'école travaillez-vous ? *

Tick all that apply.

- ☐ Ecole privée
- ☐ Ecole publique
- ☐ Ecole de langues
- ☐ Autres

36. Dans quelle filière enseignez-vous? *

Tick all that apply.

- [ ] Ecole de Commerce
- [ ] Maturité Gymnasiale
- [ ] Maturité Professionnelle
- [ ] Ecole des métiers
- [ ] Enseignement d'adulte/ Article 32
- [ ] Autres

37. Dans quel canton enseignez-vous ? *

Merci encore une fois de votre participation!

Appendix II

Titres

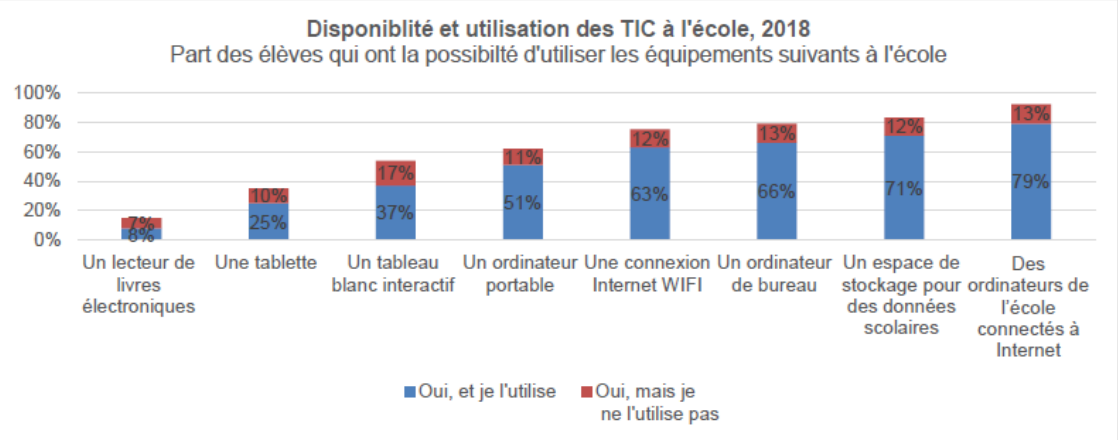
Disponiblité et utilisation des TIC à l'école, 2018

Part des élèves qui ont la possibilté d'utiliser les équipements suivants à l'école

	Oui, et je l'utilise	Oui, mais je ne l'utilise pas	Non
Un lecteur de livres électroniques	8%	7%	85%
Une tablette	25%	10%	65%
Un tableau blanc interactif	37%	17%	47%
Un ordinateur portable	51%	11%	38%
Une connexion Internet WIFI	63%	12%	25%
Un ordinateur de bureau	66%	13%	21%
Un espace de stockage pour des données scolaires	71%	12%	17%
Des ordinateurs de l'école connectés à Internet	79%	13%	8%

Source: Rapport national, PISA 2018

Dernière mise à jour: avril 2020



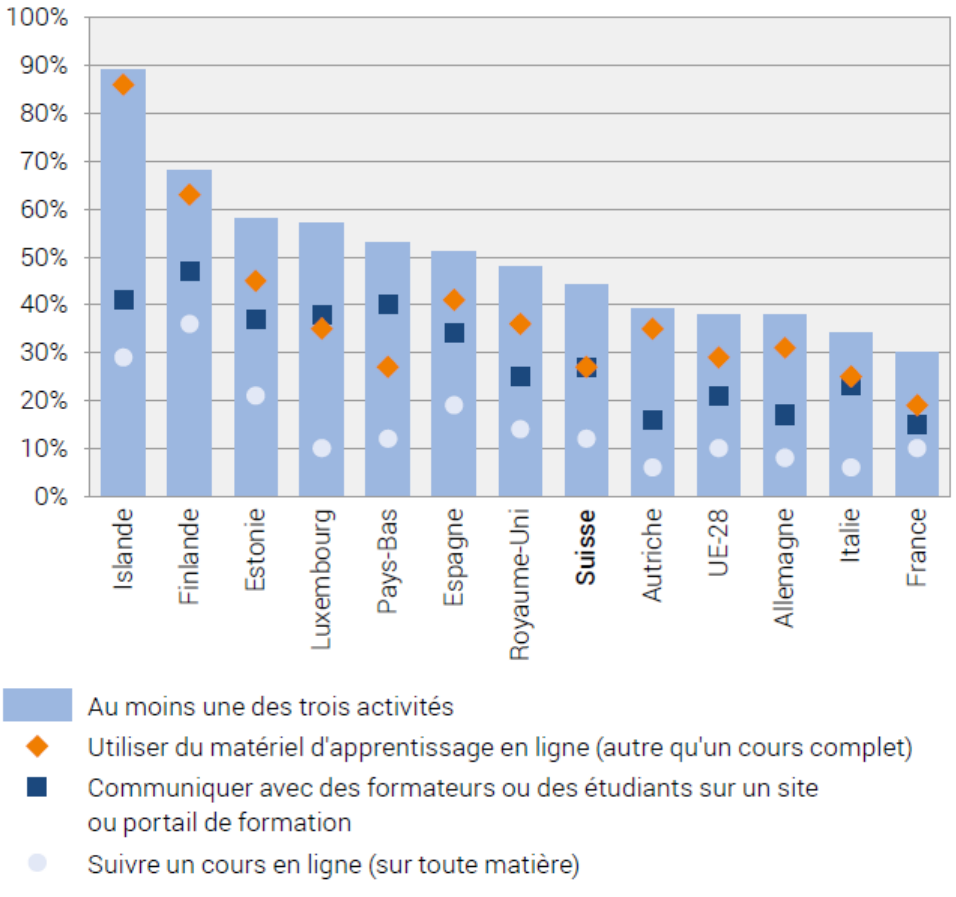
Appendix III

Grammar/Vocabulary	• Exam English • British Council Learning English • Ngl Life • Language Lab • Test-English • ISL collective • Macmillan Education Everywhere • Lingolia (German) • Le point du fle (Français) • http://www.scudit.net/
Interactive presentations	• Mentimeter • Prezi • Padlet
Online dictionaries	• Pons.eu (German) • Macmillan dictionary (English) • Cnrtl (French)
Games/Quizzes	• Kahoot • Quizlet • Textative
News/Texts	• Deutsche Welle (DW) • Encyclopédia Universalis • Oxford Learner Bookshelf • Gallica • Loescher.it
Videos	• Youtube • TedTalks
Others	• Moodle • H5P • Google docs • Kinaps • Dropbox • Classcraft

Appendix IV

Utilisation d'internet pour des activités de formation (sur toute matière)

En % de la population âgée de 16 à 29 ans — G19



Sources: OFS – Omnibus TIC; Eurostat

Appendix V

2) Reference to a positive experience	
1	J'ai beaucoup appris et aujourd'hui j'appréhende moins de renouveler l'expérience.
5	First of all it has been 5 months of confinement and without technology the lessons could not take place. Teams with it's breakout rooms, moodle for assignments, links, videos.. flipgrid for presentations and kahoot, wordwall, quizlet for variety in the lessons
6	très intéressant
10	Enrichissante
19	Cela fut un véritable bond en avant. J'ai beaucoup communiqué avec des groupes de professeurs en ligne. J'ai tout simplement adoré préparé mes cours!
20	Très positive, très bonne
25	bonne, cela m'a aussi permis de découvrir de nouvelles choses utiles pour mes cours aujourd'hui
26	Ça a été
32	C'était un moyen de rester en contact avec les étudiants et de transmettre/recevoir les documents.
34	It was great to test new ways of teaching. I particularly enjoyed using/creating video commentaries on PowerPoint.
37	C'était une expérience positive, j'ai pu tester des outils que je n'avais jamais utilisé avant
38	I ENJOYED IT VERY MUCH, IT HAS TAUGHT ME MANY NEW THINGS...
41	Learning by doing et pas beaucoup de pression de faire complètement faut.
42	Expérience enrichissante
43	Cela a été un apprentissage. Apprendre de nouvelles façons de faire est toujours positif.
48	Productive et stimulante
51	Learning by doing

Appendix VI

1) Oppositional/ Contrastive	
7	C'est faisable, mais je préfère largement le présentiel.
8	The tech was generally ok, but the indecision of school management decreased everyone's engagement. There was a constant desire expressed by the school to get the students back in the classrooms, which made it clear that the online learning was seen as inferior and generally undermined the students' engagement because they were just waiting for "real school" to begin again.
11	A part les crashs informatiques des vidéo conférences, plutôt agréable. Cela m'a permis de plus numériser mes support de cours et d'utiliser Teams comme plateforme de partage et échange avec les élèves.
15	Les possibilités sont énormes mais la motivation des élèves pour le travail à distance (et sans évaluation) a rapidement baissé. Le lien direct avec la classe manquait et aux élèves et à moi.
16	Utile en l'absence d'alternatives, mais fatiguant et déshumanisant
17	Au début c'était difficile de s'imaginer comment tout ça allait être organisé. Mais ça ne m'a pas fait peur pour autant. J'ai même pu aider quelques collègues plus âgés et peu à l'aise avec l'utilisation des ressources électroniques dans un but pédagogique.
21	J'étais motivée mais les élèves n'étaient pas participatifs, et cela m'a frustrée
22	Motivante de mon côté, mais frustrée de ne pas avoir "gardé" tous les élèves
23	Je maîtrise bien les outils de base mais assez mal les nouveaux outils. Il faut s'y mettre, cela a été une bonne occasion mais il y a encore du boulot
24	Cela a permis de découvrir certaines possibilités, mais a aussi démontré certaines limites.
28	Bonne, bien que cela n'ait pas été facile, par exemple pour vérifier que chaque élève participe régulièrement aux vidéoconférences et qu'il/ elle fasse ses devoirs.
31	La technologie m'a aidé, mais je préfère, de loin, de très loin le présentiel
35	Une alternative, mais selon les niveaux à enseigner, rien ne remplace le présentiel.
39	Positive, malgré ses contraintes dans le suivi des élèves.
40	Je bien aimé de travailler avec les nouveaux utiles, mais comme je dit auparavant, je les utilise moins que avant confinement, car je trouve que on utilise beaucoup des technologies pendant la journée et que on passe notre vie devant l'écran. J'essaye de favoriser d'autres méthodes.
46	J'ai été assez à l'aise, mais c'était dur de rester devant l'ordinateur toute la journée
47	Moyen
49	Intéressant mais stressant
50	J'ai beaucoup aimé mais c'était stressant parfois

Appendix VII

3) Reference to difficulties/ frustrations/ negative experience	
2	j'ai beaucoup plus de travail et c'est fatigant
3	ennuyeuse à la longue
4	Je n'ai pas de gros problèmes avec la technologie. Mais l'enseignement en ligne est beaucoup plus fatiguant car il faut penser à de nombreuses choses techniques en plus de l'enseignement.
9	Horrible
12	Difficult
13	Tout en me perfectionnant sur les possibilités technologiques par TEAMS, je gardais en tête les objectifs des cours et une cohérence avec mes exigences habituelles. Il fallait s'adapter et changer le fonctionnement pour atteindre les objectifs. Comme j'ai pratiquement tous mes documents/cours etc. sur un cloud onedrive, il n'était pas compliqué de mettre du matériel de travail à disposition des élèves en mode télé travail. Les séances trop longues en visioconférence avec toute une classe (20-25 élèves) sont inefficaces et les séances en petit groupe que sporadiquement possibles si on veut garder un certain équilibre en temps de travail et investissement. Le travail online est beaucoup plus fatiguant et à la longue frustrant.
14	Très envie de retourner à l'école pour un enseignement en présentiel
18	C'était difficile de garder la motivation des élèves
27	Pas assez d'interactions pour un cours de langue, trop virtuel, perte d'attention des étudiants et décrochage, de très nombreux problèmes techniques...
29	Frustrante, car demandant énormément de temps (sans doute beaucoup plus pour les enseignants que pour les élèves...), et frustrante également car l'enseignement à distance n'arrivera - et de loin - pas à remplacer l'enseignement en classe.
30	Malgré mon aisance avec la technologie et le plaisir que j'ai à utiliser divers outils, cet enseignement en ligne fut catastrophique du fait de la non implication d'énormément d'étudiants. Comme énormément de mes collègues, j'ai passé mon temps à faire beaucoup pour au final réaliser après coup que les élèves n'ont pas fait grand-chose. Très frustrant et même dégoûtant. Si la note n'est pas au bout du chemin, toute cette dépense d'énergie ne sert à rien.
33	J'ai pu constater, comme beaucoup d'enseignants, que l'école en ligne peut fonctionner assez bien pendant un temps très court -- avec beaucoup de suivi. Les élèves faibles finissent toujours par boire la tasse : ils n'ont pas l'attention et la motivation suffisante pour fonctionner sur la durée.
36	not good
44	J'ai utilisé les mêmes technologies que d'habitude (à part Zoom). Je suis sceptique quant à l'efficacité des cours en lignes pour les langues, surtout pour les discussions entre pairs et dans des petits groupes.
45	It was a lot of learning-by-doing! It got more difficult as time went on and students lost their motivation.
52	du bricolage

Appendix VIII