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Essayons: French as a Second Language Teacher Experiences of Technology-Enhanced Practice

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While past research has identified the importance of teacher beliefs in informing practice, this work is underexplored in the context of Canadian French as a Second Language (FSL) teachers. Numerous studies have emphasized the benefits of technology-enhanced teaching practices, yet the daily challenges faced by FSL teachers limit their capabilities to fully integrate these tools and pedagogies into their practices. By considering how practicing FSL teachers experience the integration of technology in second language learning, this research contributes a current understanding of these realities. Through an interpretive lens, this article presents an account of the experiences of four FSL teachers in an urban school board in southern Alberta. The participants' responses reveal that while current trends in technology integration aligned well with their beliefs, numerous barriers have presented ongoing challenges in enacting their visions for their professional practices.

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Despite the recognized benefits and promotion of digital technologies in teacher practice, French as a Second Language (FSL) teachers across Canada face numerous difficulties in enacting technology-enhanced practices in their classrooms. While studies have demonstrated the potential for digital technology to engage students and extend learning environments beyond traditional constraints (e.g. Koua, 2013), the unique context of the FSL classroom presents additional challenges that often go unnoticed and unaddressed in schools (Karabulut, LeVelle, Li, & Suvorov, 2014). This article begins by presenting an overview of the context of FSL learning in Canada, as well as literature relevant to understanding the experiences of four FSL teachers in a school board in Alberta. The stories of these teachers highlight the reality faced by FSL teachers integrating digital technology into their teaching. The article concludes with a call to further study and consider the FSL teacher experience in schools.

With two official languages, French and English, the Canadian government promotes the learning of both languages in K-12 schools across the country. Outside of Francophone schools, FSL programs are usually divided into Core and Immersion levels. Immersion programs use French as the language of instruction, promoting fluency and a deeper connection with Francophone culture. Conversely, Core programs provide a less intensive, single-class offering for those wishing to pursue French language learning.

FSL programs vary considerably in different provinces, particularly at the elementary level (Turnbull, 2000). The amount of instructional time, the grade at which students begin to learn

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French, as well as whether or not the program is compulsory vary both within and across provinces. In Alberta, most students begin learning FSL in grade four as part of the Nine-Year Sequential Program (Alberta Education, 2007). Importantly, however, students in Alberta are not required to take FSL in their program of study, as there is no mandate to offer additional language education. Thus, the actual amount of French instruction time students receive may vary even if these programs are available to students. As of 2016-17, over 1.709 million students (nearly half of all students in Canada) were enrolled in FSL programs across Canada (Canadian Parents for French, 2017). With 191,000 students in Alberta pursuing optional FSL programs, the percentage of participation is lower, at only 30% (Canadian Parents for French, 2017).

Challenges associated with FSL programs are commonly cited in the research literature. In a report from the Standing Committee on Official Languages, Chong (2014) noted that "learning French as a second language remains a challenge in Canada" (p. 10), describing ongoing concerns of accessibility as well as declining enrolment. Despite the promotion of bilingualism and its benefits, FSL programs are frequently marginalized, as seen in the lack of control, integration, and autonomy given to FSL teachers (Lapkin et al., 2009). Kissau (2005) challenged the idea that, despite the rhetoric, "the study of French is not a national priority" (p. 9). FSL programs are also seen as an "add-on" and non-essential subject, which leaves the value and potential of FSL programs up to the discretion of school and board administrators (Faez, 2011; LeBlanc, 1990).

Traditionally, FSL programs are also associated with particularly low retention after the end of the compulsory period. Roughly 95% of students in secondary FSL programs are estimated to leave the program after completing their mandatory studies (Chong, 2014). These issues have been identified repeatedly in the literature yet they continue to plague FSL education. The FSL teacher is generally undervalued and marginalized within the school and teaching community; indeed, "the working conditions of FSL teachers [are] worse than those for teachers of other subjects" (Kissau, 2005, p. 14). Given that FSL is only offered for short periods each day, the FSL teacher may be seen as an outsider in the school community (Lapkin et al., 2009). This issue is often exacerbated by the lack of a designated classroom. Most often, at the elementary level, FSL teachers are not assigned a designated classroom (Lapkin et al., 2006). This forces teachers to move their resources from room to room, creating an impression of inferiority (Kissau, 2005). Similarly, a lack of administrative support can be combined with a lack of parental and student support for the study of French (Kyungsuk & Rixon, 2015; Robinson, 2005). These negative factors may influence the beliefs and practices of FSL teachers, compounding other cognition-related challenges related to technology integration (Lawrence, 2014).

Numerous studies have suggested the possibilities for technology-enhanced instruction to improve, and even revolutionize FSL and general second language learning (Koua, 2013; Wang & Vásquez, 2012). Technology-enhanced teaching and learning extend practices beyond traditional means to support or deepen environments and experiences for students (Brown, 2013; Havard, 2013). Digital devices and their various uses in the FSL classroom allow "interesting and dynamic mediums through which students can exercise and perfect their skills in the target language" (Turnbull & Lawrence, 2003, p. 253). Students who struggle or who are disengaged by traditional FSL teaching methods can benefit greatly from technology's applications. This potential has evolved considerably from grammar and form-based drilling exercises to focus instead on language use and collaborative approaches. Numerous tools are able to support the creation of "engaging learning environments to facilitate communicative competence"

(Lawrence, 2014, p. 60). Indeed, technology has potential for use in all second language (L2) curriculum areas (grammar, listening, reading, writing, speaking, culture, etc.) and in developing various specific language skills (Levy, 2009). Arrays of tools exist to assist with specific content, such as spelling, or with overall language training in online platforms (Koua, 2013). Unfortunately, these benefits may not be reflected in the current practice of classrooms, and technology alone will not transform learning (Motteram & Thomas, 2010).

This study examined the way in which FSL teachers in a southern Alberta school division perceive and experience teaching FSL with technology. By discussing the teachers' practices and approaches to teaching, I was able to explore insights into the beliefs and technology usage of current FSL teachers in Alberta. Thus, the lived experiences of these four FSL teachers provide insights into the core question of this study: how do practicing FSL teachers in Alberta perceive and experience the integration of technology in second language learning?

Literature Review

There is a rich array of literature investigating French as a Second Language (FSL), the impacts of educational technology, and teacher beliefs. However, limited research exists at the nexus of these three areas (Lawrence, 2014). Further, much of the literature examining educational technology and teacher beliefs relate more generally to L2 classrooms, as opposed to FSL, and the Canadian context is largely unexplored.

In Canada, FSL teachers are trained by means of a pre-service teacher education program. Chong (2014) noted that numerous FSL teachers were enrolled in FSL programs themselves, and French is therefore their second or an additional language. There are also longstanding difficulties in recruiting and retaining FSL teachers. Recruitment concerns have resulted in an ongoing shortage of qualified FSL teachers in Canada since the early 2000s (Chong, 2014; Faez, 2011; Lapkin et al., 2009). According to a study from Lapkin and Barkaoui (2008), more than one in five FSL teachers surveyed did not intend to stay in FSL in the next three years (as cited in Lapkin et al., 2009). This may be attributed to the devalued position and lack of attention paid to this side of the profession (Chong, 2014). As previously discussed, a lack of student engagement and motivation, funding concerns, and inequitable treatment in schools are considered factors in this devaluation (Kissau, 2005).

Educational Technology

The prevalence of digital technologies has increased substantially in the 21st century. With the normalization of technology use has come the belief that schools should be integrating technology. Parents, students, and various educational stakeholders, including teachers, expect technology to be used in all classrooms (Gruba, 2006; MacDonald, 2003). This results in an increase in pressure on teachers in all fields to integrate technology, and to be both aware of and knowledgeable about using various digital tools and resources. Stockwell (2009) noted that such technological literacy and uses are also an asset in hiring and promotion practices, which increases the perceived value of these skills. The growing technological competency of students compounds this issue, particularly in the *digital divide* between student and teacher knowledge (Kessler, 2006).

There has been a considerable investment in educational technology, with the drive to equip schools having begun in the late 20th century (Deyrich & Dyson, 2006). Part of the initial mania can be attributed to the perception that technology would serve as a panacea to the problems of education. However, in light of the wide-ranging benefits of educational technology,

it may be more prudent to ask what aspects of educational technologies, and how effective integration will benefit the teaching and learning process (Robinson, 2005).

In integrating technology, the context of each school, and the knowledge of its teachers are significant. Understanding technology generally, being familiar with specific tools, and knowing how technology may be used in the classroom are crucial to this knowledge-building process (Levy, 2009). This is particularly important, as effective technology use distinguishes it from simply being an add-on or a novelty to traditional instruction. It is worth noting that technology is a tool and it cannot produce learning inherently (Brown, 2007; Deyrich & Dyson, 2006). Indeed, simply using a technology does not mean that it is being used in a manner that supports improved teaching and learning (Robb, 2006).

Benefits and challenges of educational technology

While the current landscape of educational technology undoubtedly includes some challenges, the effective integration of technology also affords a number of benefits and opportunities (Koua, 2013). The multiple uses and functions of many digital tools and resources means technologies are able to be integrated in many different ways and for many different purposes (Levy, 2009). Internet-based and other digital tools in particular allow for a wide range of "communicative, socially constructive and dynamic, student-centered learning environments" that can facilitate deeper learning (MacDonald, 2003, p. 455). Effective uses of technology necessitate altering traditional roles and teacher-directed instruction (Kessler, 2006; Kim, 2008). As technology mediates more and more communication outside of the classroom, using these technologies inside the classroom reflects the relevance and real-world connection of these programs (Motteram & Thomas, 2010).

From a pedagogical perspective, technology often serves to motivate students to engage with classroom activities and tasks. The use of dynamic digital resources, multimedia tools, and technologies can serve as a "purposeful motivational strategy," both inherent from the use of technology and the design of the learning opportunity (Kissau & Salas, 2013, p. 99). This is particularly relevant in the language classroom, where motivation is a key element of successful learning (Hess, 2012). While motivation alone is not grounds for effective use, this factor gives technology the additional bonus of both cognitive and motivational assistance (Kim, 2008).

Digital tools provide access to a large array of language resources, student and teacher supports, as well as different means of capturing students' language use (Koua, 2013; Lawrence, 2014). Providing meaningful but enjoyable applications, as well as opportunities for practice and remedial support outside of classroom time, is also beneficial (Koua, 2013; MacDonald, 2003). Interactive websites, apps, digital games, programs, (social) media and other resources are increasingly uploaded and shared online. This is particularly valuable given the current challenges surrounding accessing quality resources in second language classrooms (Chong, 2014).

Changing pedagogies and teaching styles through technology have also afforded a focus on language use and higher-order skills, which promote engagement, motivation, interest and deeper language learning (Koua, 2013). Indeed, student-centered pedagogies are often associated with technology use, which allows for greater student independence and agency than is traditionally seen in the second language classroom (Lawrence, 2014).

However, there are also challenges, limitations, and barriers to technology use for both general and language classrooms. Robinson (2005) and Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, and Sendurur (2012) recognized two broader categories of barriers to technology use:

primary barriers—such as access, time, and insufficient support, as well as secondary barriers—such as beliefs, established routines, and resistance to change.

At the very core, technology use is most restricted by the limitations of the technology, as well as the teacher and learners' technological competency (Chapelle, 2001). Indeed, "as with any tool, their ultimate value and power are largely a function of the capacities of the user" (Murphy, 2002, p. 216). This knowledge is not always easily accessed, and the opportunity to see and experience proficient technology use in practice would likely be more beneficial (Stockwell, 2009). A lack of adequate training makes the integration of technology a more challenging task. Robb (2006) noted that there is a pervasive "tendency for schools to invest in hardware with little regard for the training of personnel in its effective use" (p. 340). Being unfamiliar with appropriate technology-enhanced pedagogies, as well as a lack of knowledge and understanding about the role and possibilities of technology, are substantial barriers to technology use (Lawrence, 2014). Teachers require ongoing and scaffolded learning, building from their current knowledge outward, in order for their technology integration to be normalized and seamlessly connected with their practice (Levy, 2009). When in-school and administrative support is lacking, or worse, restrictive of technology use, teachers are often left to explore and troubleshoot technology integration alone (Kyungsuk & Rixon, 2015; Robb, 2006).

Unfortunately, a number of these concerns are outside of the individual teachers' control (Lawrence, 2014). The school or district's technology infrastructure, professional development and training, policies, and lack of time in balancing curricular demands all constrain technology-enhanced teaching (Lawrence, 2014; Stockwell, 2009). Even when schools have the necessary tools, access to the devices may still pose a challenge. The availability of the devices when shared among staff, the number of devices in relation to the number of students, and technical difficulties can also inhibit integration (Murphy, 2002). Therefore, access alone does not bring about technology use (Motteram & Thomas, 2010).

The unique context of the FSL classroom adds additional considerations to technology integration. Indeed, Hubbard & Levy (2006) warn against taking "too much generic educational criteria" (p. 15) about technology use into the language classroom. Language teachers face difficult challenges when attempting to integrate technology, more so than their colleagues (Levy, 2009). For example, educational technology tools and training are often designed for other courses or for general classrooms (Lawrence, 2014). Language instructors often come away from professional development without the understanding required to integrate it into their own context (Robb, 2006). Language departments and teachers are rarely consulted over technology decisions, and the differences between the language and general classroom are frequently overlooked (Levy, 2009). As Deyrich and Dyson (2006) noted, technology must be linked to the subject, as well as with pedagogies and practices that support its use. While the newest tools may not necessarily indicate effective practice, many teachers are using a limited number of traditional technology tasks in established ways, and new tools that promote higher order thinking and language use are rarely integrated (Peters, Weinberg, & Sarma, 2009).

Teacher Beliefs Literature

Given that the teacher is one of the most important factors in implementing educational change, understanding how teachers think and feel about technology is essential (Lawrence, 2014). As such, the successful integration of technology depends on the teacher's attitudes. Positive beliefs will likely encourage innovation and change, while negative opinions will impede or inhibit its use altogether (Lawrence, Haque, & King, 2013). Indeed, the more positive view of the benefits of computer technology, the more the teacher will be willing to use such

technology in their teaching (Lam, 2000). Robinson (2005) recommended working to uncover and speak to individual teacher's beliefs once technology becomes available in a school.

Many teachers currently perceive technology from a limited viewpoint, regarding it mostly as an add-on to their own didactic instruction, rather than as a student-centered or student-directed tool (Lawrence, 2014). One particularly notable issue concerning teacher beliefs is technology resistance. Teachers often resist experimentation with new technology, as they have likely already developed routines and practices that appear to function in a certain lesson (Meskill, Anthony, Hilliker-VanStrander, Tseng, & You, 2006). A vast number of reasons are thought to develop resistance (Turnbull & Lawrence, 2003), including "discomfort with . . . new roles and the dynamic, increasingly non-hierarchical nature of knowledge building, methodology and interaction which seems to conflict with school structures and previous educational experiences" (Lawrence, 2014, p. 62).

This problem is exacerbated by the fact that many teachers do not transfer a considerable amount of what is taught in formal courses and teacher education into their practice, unless they were motivated to use technology before entering the program (Kessler, 2006). This is not surprising, given that teachers who are "able to fit [technology] into an existing framework of beliefs and practices" are more likely to experience success in integrating it into their practice (Wong & Benson, 2006, p. 261). This implies that teacher education programs are not consistently addressing the negative perceptions of technology during their degree courses. This leaves teachers to supplement their learning later on with informal information gathered from their colleagues and other sources after they graduate (Walker & White, 2013).

Methodology

This study employed a qualitative, instrumental case study (Merriam, 2009; Stake, 2006). The interest in providing several cases is grounded in the idea that these cases allowed for a greater quantity and variation in the responses of the participants, supporting the precision of the interpretation and the bounding of the results (Merriam, 2009). While having multiple cases is not intended to promote generalizations or to focus on making comparisons across the cases, some will inevitably be made in order to better understand the quintain (Stake, 2006). Having several instances of phenomena across the cases can provide more compelling evidence (Heck, 2006), while contradictions of themes will also provide insight (Stake, 2006).

In seeking to understand the social realities of teachers, as they perceive it, the study of teacher beliefs is rooted in the interpretivist tradition (Given, 2008). Further, as teachers' beliefs, perceptions, and experiences are not directly observable phenomena, the teachers must be engaged in data collection methods which elicit these insights (Borg, 2006). In this study, a self-report instrument (an online questionnaire) and verbal commentaries (semi-structured interviews and stimulated recall) were used. The questionnaire served as both a recruitment and data collection tool. The questionnaire was distributed to teachers in elementary schools in a southern Alberta school division by email. The survey prompted the teachers to indicate interest in the study, supply their demographic information, as well as provided initial insights into their beliefs and knowledge of technology-enhanced practices through Likert scales and open-ended, short-answer questions (Mertens, 2015). The questions were based on the beliefs of the teachers, relating to their affective (preferences), cognitive (knowledge), and action-based (practices) cognitions (Borg, 2006). From the ten responses to their survey, four teachers were selected for interviews based on their responses seemingly "having strategic importance" to the research questions (Flyvbjerg, 2006, p. 307).

The semi-structured individual interviews and stimulated recall exercise expanded the depth of the data, posing questions and eliciting further responses from the participants. These interviews were intended to highlight the teacher's beliefs, practices, experiences, and factors that influenced these individuals in greater depth and detail. The interview questions were selected from a pool, to allow for a certain amount of shaping to occur within each interview, unique to the conversation with the participant (Wilkinson & Birmingham, 2003). The interview questions explored the benefits and challenges of technology use in the FSL classroom, as well as discussing the factors that influence technology use in their schools generally. The responses provided insights into the how the teachers view FSL programs, the use of technology, and the value of technology in teaching and learning FSL.

Each of the four participants voluntarily displayed examples of lesson plans, completed student work, and other teaching materials related to technology use during the interviews. These materials prompted the teachers to reflect further, and to provide specific examples in addition to those discussed during the interview (Borg, 2006). These documents also provided new insights into the daily practices of these teachers, which may have supported or contradicted their verbal statements. These instances uncovered when the teachers' beliefs and their practices were aligned, and when they diverged. While the majority of the data are drawn from the interviews, critical moments in the analysis of the documents and teacher recall associated with artifacts provided depth to the analysis.

The study's participants (pseudonyms: Alexandria, Anna, Laura, and Mackenzie) included four, female-identifying FSL teachers at various stages of their career. Mackenzie, a recent Bachelor of Education graduate, described herself as confident with technology, having grown up using it. Anna, an Assistant Principal, has promoted technology integration in her school through professional learning and leading by example. Laura, an experienced teacher, has taught FSL to adolescent students, using technology to connect them with French language and culture globally. Alexandria, a current FSL supply teacher, was more hesitant in using technology, though she takes an active interest in learning and trying new strategies.

Results

The participants commonly referenced the optional status of FSL programs in Alberta as a challenge in their professional life. Each teacher noted various issues that were either brought on by, attributed to, or exacerbated by the non-compulsory nature of the programs. These issues include varying program availability, inconsistent prior linguistic knowledge among students, the challenge of motivating students enrolled in varying optional programs, program consistency and instruction time within the program, as well as the perception of the program and support given to FSL teachers as a non-compulsory subject.

The teachers expressed that the optional status of the program affects how FSL was perceived and valued within their schools and the board. This includes the perception of students, parents, other teachers, and administrators. Mackenzie and Laura consistently reported frustrations with the treatment of the program. Laura commented generally that in the board, "not all schools promote it as they should. Some do and some don't. It's hit or miss, even in schools with FSL." When discussing her work in the school, Mackenzie described being an FSL teacher as though "you're an island off by yourself." She elaborated that she felt isolated from her fellow teachers, unsupported by administrators, and generally undervalued in the school. Laura noted that in the upper grades her program cannot contend with core subjects:

> Over the years, I've changed my attitude. I've learned I can't compete with core courses. I can't send a kid home with a lot of French homework when they've got homework from the other subjects. They'll be out of your class so quickly.

Mackenzie noted that this diminished status influenced her approach to integrating technology. She said, "I'm just an option. I'll give the technology up if an English teacher needs the [tablet] cart, because, you know, I think I can just get away without it and they need it more."

The teachers repeatedly emphasized that an understanding of using technology, and comfort in using it, were essential elements of technology integration. The participants often spoke of technology integration as a professional obligation, as seen in Anna's statement:

> You have to do it. You have to know, as a teacher, especially with technology. It doesn't take very long to figure something out, but you still need to learn it, and take the time to do it. You don't want to be that teacher who's sitting in their classroom and having no idea what's happening out there.

This perceived obligation poses added challenges for these teachers, as they must keep pace with technology integration without receiving the same level of support as their colleagues.

FSL and Technology

Participants' discussions of FSL and technology often included comments on pedagogy, and the changes in instructional style and method used by the teachers. Both technology and the influence of the technology-enhanced pedagogy were commonly referenced as significant factors in this change.

The participants frequently contrasted their current practice with the traditional styles of their own schooling, and even their own prior teaching. Laura shared her experiences, explaining that "when I went to school, it was textbooks, it was rote, and it was not useable. We memorized a lot of vocabulary that was absolutely useless. We did worksheets upon worksheets." She contrasted this with her changing approach to FSL:

> The main thing that I've seen change is going from that traditional, rote learning, to trying to develop kids who are comfortable speaking the language. I know that sounds really simple, but it should never have been any other way. I mean, I was guilty of that 25 years ago. That was how we'd always done it. But the technology is really helping change that.

Similarly, Alexandria added that, as her teaching changed, she has realized new possibilities for student engagement. "Students can be very creative and surprise you with their ideas, and they can show their love from French in many ways that are not the traditional methods" she stated, "they can't do that when reading from the textbook or doing a worksheet." She continued,

> Kids who were not very outspoken, but who listen to French music or shows, showed me that they were trying and understanding. I would ask them questions and it shows they were developing on the topic. I think the spark is there, but you just have to get them to be more confident to use their French and connect with it.

The use of some technology was inevitable, according to the participants, as Anna noted:

> It's nicer for the kids because technology is all around them; you can't really go the traditional route anymore, it's just part of the changing times. There is a time for the

> traditional, when it's pen and pencil, but technology makes teaching a lot easier and it helps get the kids more engaged, and wanting them to learn.

Like Anna, appealing to her students' interests was a significant factor in Alexandria's technology integration. "Students have different expectations today," Alexandria commented, "they want French to be more up-to-date, more modern, more related to their everyday life." In her teaching, technology served an important role incorporating more oral communication and interactive lessons. In her current practice, having her students "experience it. Getting them to speak more French" was a key tenet. She added, "maybe their pronunciation or grammar isn't perfect, but they need to give it a try and be persistent."

Importantly, each teacher noted that her teaching is far from entirely digital. A result of both necessity (e.g., a lack of devices) and their own beliefs about language learning, they still regularly include non-digital tasks and activities. As previously mentioned, the participants commented that technology does not inherently improve student work, or the quality of teaching. The teachers unanimously maintained that their teaching would preserve these technology-free lessons, at least for the foreseeable future. The teachers reasoned that balancing digital with non-digital tasks was the reality of schools today, and that students do not need devices all the time, simply for the sake of using them. Laura commented, "it's a language - it's about the artifacts, what you've read and taking part. You can do that without technology, but there has to be a balance."

Though their practices were varied, the teachers reported two predominant changes to their pedagogy–access to visual aids, and the use of games. The teachers noted that, with technology, it is easier to enhance lessons with graphics and multimedia. The ability for students to create and consume media and multimodal options for combining the strands (reading, speaking, writing, listening) is important. Electronic access to videos, movies, and audio clips are thought to enhance presentations. As well, books and other non-digital media were more easily retrieved and either distributed or displayed to the class. Anna commented:

> For kids, they're more engaged because of it. They'll see the information, they'll see the picture, they'll see a video. For them, it's more useful than just the teacher going in front of the class and just talking or writing on the board.

The participants also frequently discussed the use of games, both digital and non-digital, as a new addition, though now a staple of their teaching. For Mackenzie, these games were intended to engage students in using vocabulary and ideas from the unit. She commented:

> I've found some success with bringing in games after we've introduced a topic, to have [students] reflect on what it is. Mostly something I've found online. Before having that final formative assessment, I'll use them to see if they've understood.

These changes are promising, as they suggest that even teachers who face obstacles with technology integration may still be open to opportunities that they have the skills, resources, and support to access.

Discussion

Understanding the beliefs and experiences of teachers is a critical component of analyzing their current practices (Kim, 2008). This is particularly true of second language teachers, whose study in the field of teacher beliefs is relatively recent and still emerging (Turnbull & Lawrence,

2003). Teacher beliefs and prior experiences play a critical role in shaping the use of technology in a teacher's practice, and research indicates that FSL teachers' beliefs and practices may not be keeping pace with those of their colleagues (Deyrich & Dyson, 2006).

In discussing the transition to their current technology-enhanced teaching practice, the teachers compared their new approach with their own experiences as students. The notable differences between their past and present mindsets and pedagogies highlight the potential for beliefs to change over time, while the ongoing similarities speak to the enduring legacy of certain beliefs (Ertmer, 2005).

For Mackenzie and Laura, and to some extent for Alexandria, being introduced to a new pedagogy style in their professional development caused a shift in their teaching, away from the experiences they had in FSL classrooms as students. These participants discussed making a conscious effort to move away from traditional approaches to FSL, which was supported by digital technology tools and resources (Lawrence, 2014). As a result, their beliefs now reflect the influence of later experiences, more so than their own schooling. This progression was particularly explicit for Laura, who admitted using more traditional pedagogies at the beginning of her teaching career. Laura noted that as new information and professional development opportunities became available her teaching practices began to shift. The rationale underlying the new pedagogy was essential to shifting each of these teachers' beliefs, providing a necessary impetus for change (Ertmer, 2005). Laura, Mackenzie, and Alexandra described growing recognitions that longstanding approaches to FSL instruction seemed too focused on grammar, vocabulary, and drilling exercises (Peters, Weinberg & Sarma, 2009). As accessing technology in the classroom became more common, their practices shifted mediums, allowing them to better integrate their new beliefs into their daily work.

Participants' use of digital technologies also suggests a limited influence of prior school experience. Most of the participants had little to no experience with digital tools and devices in their classrooms as students or as beginning teachers. Indeed, only Mackenzie, the youngest participant, spoke about how she "grew up" with technology. Thus, participants' experiences and beliefs about teaching contrast with their non-digital past. In speaking to their gradual incorporation of more and more technology, the teachers reveal how the influence of their prior experience was replaced by experiences of success with newer pedagogies. This perspective was reinforced over time, and as Richards, Gallo, and Renandya (2001) suggested, became the participants' dominant approach. As Mackenzie's current teaching content is more compatible with her schooling experience, she offers an interesting contrast to the limited influence of school on other participants' teaching. Mackenzie's experience with technology from an early age may have promoted her own technological competence, and predisposed her to use it in her teaching.

Professional Development

Professional development builds essential knowledge for teachers, at both the pre- and in-service levels (Hubbard & Levy, 2006). These experiences present opportunities for teachers to reflect on their current knowledge, and to build upon it with new strategies and resources (Richards et al., 2001).

Similar to the general lack of technology use in their schooling experiences, none of the teachers reported seeing technology used widely or effectively in their own teacher education programs. Even Mackenzie, a recent graduate, expressed misgivings about her experiences with technology during her teacher education program. This is significant, as a lack of practical technology integration in pre-service education may influence a teacher's later beliefs (Deyrich

& Dyson, 2006; Kagan, 1992). The participating teachers have, however, developed more robust beliefs about the use of technology, though it is unclear whether they were already motivated to learn about and use technology, or if they developed this interest as their careers progressed (see Kessler, 2006).

The teachers repeatedly emphasized the importance of in-service professional development opportunities. Most of the participants contended that targeted and engaging sessions supported their success with technology integration, presented them with opportunities to connect with other teachers, and helped to expand their knowledge. However, the teachers noted numerous challenges associated with in-service professional development, particularly related to technology and the second language classroom.

The participants also commented on the difficulties they experienced in finding and accessing these sessions, especially given their recognized benefits. This is consistent with Murphy's (2002) observations that while teachers may wish to engage in professional development (PD) on technology use, access concerns may hinder their ability to take part. Mackenzie reported a general lack of technology-related PD, while Alexandria and Laura shared experiences of struggling to find sessions that would connect to FSL. Compounding this issue, as Laura notes, is that while French-related PD is available in the board, much of it focuses on French Immersion, not FSL. Thus, these teachers may leave PD sessions without knowing how to integrate ideas into their own context (Robb, 2006). The teachers also spoke to challenges associated with the uniqueness of the FSL classroom, particularly when available PD is unlikely to cover the expectations of their language classroom, their stream of French learning, or the age group of their students. This lack of direction was a common source of frustration for these teachers.

Contextual Factors

The context in which each teacher conducts their practice plays an important role in influencing their approach (Levy, 2009). Physical, social, and systemic settings, whether temporary or permanent, shape a teacher's cognitions and practices; thus, understanding these contextual factors is essential to studying the beliefs and behaviours of teachers (Borg, 2006). One of the most common subjective norms that participants discussed was an expectation to use technology in their teaching. Indeed, the common use of technology in Alberta classrooms was part of each teacher's motivation to use technology, connected to the Learning and Technology Policy Framework (Alberta Education, 2013). Alexandria, for example, noted that her students asked for technology to be used, while Anna observed that district administrators regularly include technology as part of board initiatives. Mackenzie, meanwhile, believed that teachers' technology skills were an asset during hiring, further influencing her own views of technology use (see MacDonald, 2003; Stockwell, 2009). In this way, participants' subjective norms framed technology use in a positive light, contributing to their desire to integrate technology in their teaching. Mackenzie also noted that using technology encouraged further use. That is, teachers who already work to integrate technology into their practice may be motivated to continue doing so, particularly if their beliefs align with *Bring Your Own Device* policies or digital citizenship (Ertmer, 2005).

Participants contrasted the expectation to use technology with a lack of parental and administrative support for FSL. Mackenzie, for example, believed that her school board did not provide sufficient support for the FSL program. Laura specifically contended that the program's optional status reduced her enrollment numbers, while Alexandria suggested that French language learning in general should be better supported since it also serves as one of Canada's

official languages. Yet, the participants' recognition of the treatment of the subject in schools and in school districts, often as a low priority as Anna suggests, are also consistent with Lapkin and colleagues' (2006) report. The teachers in this study discussed a lack of meaningful consultation and guidance, as well as a lack of available funding and in-school support.

Conclusion

Fundamentally, in order to support technology integration, teacher development programming must recognize the importance of beliefs in order to better prepare teachers to use technology. Developing positive attitudes towards technology is essential (Lawrence, 2014). This positive attitude must extend beyond using technology themselves as teachers, but also in designing lessons for their students to use technology effectively (Peters, 2006). Assisting teachers in receiving repeated exposure to technological practices, and implementing technology themselves, is reported to improve the attitude and confidence of teachers (Turnbull & Lawrence, 2003).

In terms of the participants' beliefs, these teachers seem to agree with new technological developments, and the growing influence of technology seems largely compatible with their beliefs. This is essential to changing practice in the classroom (Johnson, 2006; Kennedy & Kennedy, 1996; Lawrence, 2014). These teachers, with varied prior experiences with technology in their own schooling, have found the benefits of technology integration to be impetus enough to adapt their beliefs. These teachers state that they are willing to learn and to try to integrate new technologies, even in recognizing the associated challenges.

The experiences of these teachers seem to support statements which claim that technology integration in second language classrooms is behind that of other subjects (Lawrence, 2014; Robinson, 2005). The participants identified numerous challenges when attempting to integrate technology into their practice, including both primary (e.g. scheduling, access, number of devices) and secondary (e.g. knowledge, resistance) barriers. The most concerning primary barriers for these teachers seem to centre on issues of access and availability of the technology, specific PD, and the challenges associated with adapting these resources to the context of the FSL classroom. The teachers' reports suggest that, in their view, efforts to support technology integration in FSL seem disconnected and haphazard and lack a unified and effective response (Deyrich & Dyson, 2006). This is likely a contributing factor to frustrations and ongoing challenges in their practice.

There is still a need for research in the area of FSL teacher beliefs (Bayliss & Vignola, 2007; Lawrence, 2014). Generally, while the influence of belief systems on teachers' practice is well-researched, much less has been conducted with teachers in the FSL classroom (Turnbull & Lawrence, 2003). The same applies to the use of educational technology, where the FSL context has been overlooked by research studies (Lapkin et al., 2009). This article serves a call to action for the continued study of FSL teachers' experiences, and the ways in which they can be supported in integrating educational technology into their practice.

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