Using Mobile Technologies in French Immersion Classrooms: Enriching Second Language Acquisition

by Gerry Gaudet

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Abstract

École Edwards Elementary School is a dual-track, kindergarten to grade four school located in Airdrie, Alberta in the Rocky View School Division. The school received a grant to enable 19 primary French Immersion teachers to participate in a collaborative action research project that investigated the use of mobile technologies, specifically iPods and iPads, and their impact on second language acquisition. These mobile devices were embedded directly into each teacher's classroom, resulting in ubiquitous access to four or five iPods as well as an iPad for these young language learners. In conjunction with the placement of tools in the classrooms, release time for professional learning was provided that allowed for collaboration, trouble-shooting, and most importantly, reflection on improving teacher practice. Teachers met in small, cross-graded groups that included five teachers and a school administrator. Teacher conversations were captured digitally in a Google Group discussion board, and teachers were able to read, reflect, and respond to their colleagues' questions and learnings in a flexible format. Project findings were categorized into four major themes: French language acquisition, assessment practices, mobile devices as tools to accelerate student learning, and action research as a method of enhancing personal professional teacher practice. This paper identifies key learning points and recommendations, as well as areas of consideration for future research.

Introduction

The French Immersion program at École Edwards has grown in enrollment and diversity, resulting in students with increasingly complex learner profiles moving through the program. This has necessitated fundamental changes in teaching practice to best meet student needs. It is challenging to differentiate instruction and create learning environments that are universally accessible; this is primarily due to a limited access to mobile technologies, as well as an emerging level of effective instructional application of these tools. Accordingly, this project was informed by *Differentiated Instruction* (Tomlinson and McTighe, 2006) and *Universal Design for Learning* (Rose and Meyer, 2002) to guide primary level French Immersion teachers in integrating iPad and iPod technology. To support their experiences, participating teachers were engaged in action research that focused on professional reflection; to accommodate this, they were provided embedded collaborative time to share, plan, reflect and evaluate best practices through release time.

Placing mobile devices directly in the hands of learners shifts focus from the teacher as sole model of language learning in the French Immersion classroom. Language is modeled with the help of the devices, as many applications found on iPads and iPods provide for language practice. Similarly, many apps are emerging that facilitate student creation of content, regardless of language. Recording apps provide feedback about spoken language, as well as allow self and peer assessment. In addition, videotaping on a mobile device is a powerful way to capture language learning in action. Each of these uses encourages learners to co - construct language in a social environment.

Method

To measure the success of the project, a Google Group was established to capture ongoing teacher reflection. Nineteen French Immersion classroom teachers were provided four one-half days of release time for collaboration and discussion. They met in cross-graded groups of four to five teachers. Rich conversations ensued that challenged teachers beliefs surrounding second language acquisition, the possibilities of using mobile devices to support language learning, as well as sharing of best practices and troubleshooting. The conversation was documented via a written reflection period during each meeting, during which teachers were asked to reflect and post question responses about the action research process. To document increased student learning, artifacts such as videos, photos, and student podcasts and stories were collected from students as a way to meaningfully and repeatedly involve them in this data collection (Pellerin, 2011).

Discussion

Teacher and student reactions to the ease of access to devices were overwhelmingly positive. The ubiquitous nature of the devices in the classroom meant they were no longer seen as a novelty by students; rather, one more powerful tool for learning. Students became more self-directed in their learning and were seen repeatedly accessing and choosing the devices if they were the “right tool for the activity,” no different than a pencil and paper, a dictionary, or a personal whiteboard (Pellerin, 2012).

Based on the conversations and reflections shared by the participants, findings of this study were categorized into four themes: (1) French language acquisition, (2) assessment practices (3) accelerating learning, and (4) teachers as meaningful collaborators and action researchers.

French Language Acquisition

The philosophy of primary French Immersion programming, particularly in the earliest years, focuses predominantly on oral language acquisition (Cummins, 1998). Accordingly, findings in this category reflect students’ improved ability to speak, listen to, and understand French. Written and representative language applications were used more often by teachers in the upper elementary grades.

As part of the baseline data collected during the project, participating teachers were asked to reflect on their beliefs of second language acquisition. Themes prevalent in these reflections included the importance of a safe environment to foster risk-taking; opportunities for continued practice and repetition; and learning activities requiring authentic conversations. One participating teacher describes this process:

> In my experience as a learner and as an educator, children need modeling and collaboration time to negotiate their understanding of the language. When new language is introduced, I like to present the vocabulary orally and in written form. The word is not only introduced but we have a discussion of the meaning of the word, how we write it, how we read it and how we can negotiate it in a sentence….having lessons that are interactive, engaging and authentic are important aspects to acquiring a second language. When students feel that what they are learning is relevant, real and important, they become more engaged, curious and more open to learning the concepts. I feel that it needs to be authentic not only to the French culture, but also authentic in terms of the students' reality. To retain information, lessons need to be multi-sensory so that there are more complex cognitive pathways are paved for each student and so that information learned can be associated to past, present and future experiences.

The infusion of the mobile devices into the classrooms enriched these practices. Using iPods, students were able to easily record themselves speaking, and to re-record themselves until they were satisfied with their articulation. Many teachers referred to the active listening their students engaged in when hearing themselves recorded, and their desire to correct imperfections in their spoken language: a type of formative elf-assessment. The ability to record multiple times increased risk taking. Collaborative learning was evident when small groups of students listened to their recordings and gave constructive peer feedback, even amongst the youngest learners in Grade One. Similarly, some of the applications such as *Show Me* or *SpeakEasy*, allowed for enhanced opportunities for students to co-construct knowledge, use new vocabulary in context, and verbalize their learning strategies in a format that could be captured and shared at a later time with the teacher, classmates, and parents.

A more in-depth examination of the nature of this collaboration is warranted. A shift occurred in which students were able to access French-speaking content from apps found on the devices in addition to the teacher’s voice. Students were thus exposed to varying accents and vocabulary that may not have been modeled by the teacher. Conversely, the rate of speech and accent was sometimes difficult for students to understand. The presence of iPods and iPads afforded students the opportunity to become models of language. Peer modeling of language became much more prevalent. The mobile devices gave students easier access to other French language learners, particularly collaborative apps that focused on knowledge-creation such as *ShowMe, iMovie, Puppet Pals*, or *Garage Band*. Teachers observed elevated levels of collaboration among students as evidenced through the peer sharing of student work.

These findings prompted among participating teachers a healthy debate concerning the pedagogy of emerging models. One group of teachers believed that, since they were no longer the sole language model, they were not as effective in noting oral language errors, thus leading to a ‘fossilization’ of the error in students’ oral language. This group contended that correcting errors in the future would prove more difficult. Another group of teachers proposed that language acquisition was accelerated when students could hear themselves, and their peers, by using the audio and video capabilities of the technology. Both groups agreed that further research and investigation into this facet of second language acquisition is necessary.

All teachers reported that the introduction of the mobile devices to the classrooms significantly aided the reluctant or struggling second language learner. The devices seemed to afford shy or struggling students a vehicle for risk-taking, since learners were able to execute multiple recordings of their language and correct mistakes. Teachers shared anecdotes of their quietest students thriving with the devices as they interacted with the language at their own pace without judgment from peers. For many learners, their confidence level in speaking French was markedly improved. Furthermore, students previously had difficulty organizing and processing their ideas on paper used the devices to craft a story with a beginning, middle, and end; this to a much greater degree than they had previously without the tools. In other cases when writing remained a difficult task, students were able to express stories orally through story creation apps. This finding supported one of the project's goals to differentiate instruction for individual learners while structuring learning activities with multiple entry points though Universal Design for Learning.

Another finding that emerged from the project was minimal, if any, increase in students' writing abilities. This suggests that further investigation is necessary regarding how writing-specific apps for young learners can improve writing skills, particularly in a second language. As reported by one teacher:

> Having the devices has allowed our students to speak more often (in group settings and individually) and to listen to one another. In a classroom where iPods and iPads aren't available, it would take far longer to collaborate and reflect upon one's learning in this manner. Being able to share ideas using the devices (written and spoken) has helped students to apply new language and structures immediately and to also self-assess, modify, and internalize their learning. With certain activities, knowing that there will be a greater audience has increased students' accountability and engagement with their learning. One other thing that I have noticed is the confidence level of the students when they are reading. After having the experience of reading with each of them individually and then having them record their readings on iPods, I have found that students are a lot more animated.

Assessment Practices

Teachers reported several important findings specific to assessment practices. Many remarked that the mobile devices helped transform their assessment practices towards those that were more child-centered and authentic. Since the devices housed evidence of children's oral language development, teachers could access a wealth of data, in the form of audio or video recordings, rather than just the final product or learning task. The amount of evidence that could be collected by having an easily accessible audio and video recording device was significant; in fact, challenge reported by teachers early on in the project was that they felt overwhelmed by the quantity of evidence they could collect. Teachers collaborated and discussed strategies for sorting through student samples, agreeing that they could pick and choose particular pieces of evidence from students that would confirm their suspicions of a student's level of learning, or give them reason to examine the other evidence available more closely.

In addition, teachers agreed that the recording features of the mobile devices allowed for students to receive immediate feedback on their oral language skills by giving students the opportunity to reflect, re-record, or refine their work. The immediate feedback provided by the mobile devices created the conditions to accelerate language development. Teachers also reported a greater sense of student accountability in the learning process as a result of using

the mobile devices; that is, students were more attendant to learning tasks and demonstrated greater pride in their work knowing that, when appropriate, their efforts could be viewed later by their teacher, their peers, and their families.

Furthermore, students demonstrated an increased willingness to share their work with peers. Teachers remarked how class discussions would ensue after examining student work together, and how students were more easily integrated into the feedback loop by commenting on their peer's work, identifying areas of strength and growth, and engaging in deeper conversations about their own learning.

Teachers spoke positively of using the devices to document the emerging reading process with primary learners. Some teachers employed video apps to ascertain evidence of visual tracking (Pellerin, 2012). Others commented that using the devices allowed greater understanding of where their students were as readers and what strategies they could employ to promote reading growth. The mobile technologies also allowed for easier sharing of this growth with parents through apps such as *Dropbox.* Teachers could easily send to parents a video or audio file of a student reading, for example. Parents, in turn, could discuss and celebrate learning at home in an immediate way.

Collecting evidence of student learning was also asynchronous, that is, teachers could listen to and view student work after school hours since the oral language was preserved digitally. One teacher observed that:

It [the app] allows students to review and reflect on their own learning. Once the process is modeled and practiced students are more independent and are able to continue their reflection process without needing the teacher to be right there. Students are able to play with the language and develop a deeper understanding and negotiation of the language. I have digital evidence of videos and recordings as well as written productions. This evidence is not only of the final product but the entire process. I find students are engaged and truly making an effort to use the new vocabulary they are learning and this is appearing in their oral and written language.

Accelerating Student Learning

The use of the iPods and iPads in this project necessitated discussion about the role of mobile devices in accelerating student learning. Findings were overwhelmingly positive, as reported through teachers' reflections and students' exit interviews.

Teachers unilaterally reported that student engagement was heightened when the mobile devices were embedded into instructional practice. Students were excited to use the devices and showed increased pride in their accomplishments when using the tools. Even after the novelty of having the devices in the classroom, students demonstrated higher levels of engagement when using the tools. As the school progressed with its' school-wide adoption of the Daily 5 Literacy framework (Boushey and Moser, 2006), increased levels of engagement were observed in primary learners challenged with instruction in a second language. Teachers noted particular benefits for these reluctant second language speakers. These students, in particular, were noted as being with the tools. It was perceived that these students experienced less anxiety and less stress due to their increased levels of risk-taking using the iPods and iPads and the tools' ability to facilitate multiple attempts at oral language tasks.

Teachers also reported increased levels of focus on reading tasks as well as general increased levels of independence. Indeed, many learners became adept at using the tools to the extent that they were able to troubleshoot for classmates. Several use the apps in ways their teachers' had not considered. Evidently, the tools served to empower these young learners!

In addition, teachers perceived levels of collaboration to be accelerated as students engaged with the devices. Apps that were not language specific, such as *ShowMe, iMovie, Puppet Pals,* or *Garage Band*, encouraged increased opportunities to co-create content. Students used the devices to employ and expand the language skills they were developing in a meaningful and authentic way. As one example, grade four students worked in small teams to achieve the learning outcome of using oral vocabulary to link a progression of ideas. Students used video capabilities to explain the steps to eating an Oreo cookie. The sharing of this type of student-generated work was further facilitated by accessories that allowed for the projection of the work from the devices to the classroom SMARTBoard.

From a pedagogical standpoint, the open-ended nature of many of the content-creation apps allowed for increased differentiation. Students became more self-directed and began to view the mobile devices as one more tool to support their learning. Students were often given choice in activities, and in many cases, chose to work with the iPods and iPads because it made sense for them to use these tools given their assigned learning task. However, teachers reflected that students became skilled at self-determining if the tool would aid in their activity. The ubiquitous access enjoyed by the learner due to the tools being directly embedded into each classroom greatly aided each student in choosing whether it suited their individual learning style.

The most significant challenge in this area was to build teacher comfort and proficiency with the mobile devices. Although iPods and iPads had been available in the school on a sign-out basis for several years, this was the first time that devices were embedded directly into classrooms. Teachers' comfort level with the mobile devices at the onset of the project fell along a continuum from very comfortable to never having used one. In this way, building teacher capacity around best practices for using the devices was a priority. Much of the rich conversation during teacher meetings focused on pedagogy and technology ("padagogy"), coupled with the jurisdictional goal of promoting the acquisition of 21st century skills and competencies. Teachers were found to be extremely supportive of their colleagues, and a particular highlight of the project was the sense that teachers worked collaboratively to troubleshoot problems, share expertise, and raise their collective level of capacity around technology and its' potential for language learning. The conversations shifted from building a learning task around an app to constructing the learning task and exploring the apps that would best support those learner outcomes. One teacher explains:

What I have found by using this with the students is that they are more engaged when they are reading. Most students will choose to record more than one book while they are reading and they are consistently staying on task. I noticed that students will also re- record what they have read in order to master and correct what is being read. It is obvious that they are reflecting on what they are reading and making corrections using reading strategies. I have seen a dramatic increase in student engagement when students are reading to self. It was not a favourite activity of most during Daily 5 but when they were given the opportunity to record themselves, it was very motivating for the children. This gave me invaluable information about what my students can do. It is such a different way of assessing reading when they aren't being observed. I could see who was self-correcting, who was substituting English words and who is improving when it comes to sounding out words.

The Professional: Teachers as Collaborators and Action Researchers

This project highlighted several practices that contribute to the professional growth of teachers. First, teachers were provided opportunities for meaningful collaboration with peers. One participant commented that:

> This has been my first experience completing an action research project and I have enjoyed the opportunity to collaborate and share resources and ideas with a cross section of teachers from different grade levels. I have been able to add many new activities into my classroom that I may not have otherwise had the opportunity to learn. It was been a very valuable professional learning experience. I have learned many new ways to implement technology and assessment practices into my teaching practices.

Structuring teacher release time meetings in a way that was cross-graded allowed teachers to interact with a group of colleagues they would not otherwise had. This structure encouraged sharing of expertise across levels, while recognizing the individual talents and skills of a diverse teaching staff. Conversations about pedagogy allowed opportunities challenge pedagogical beliefs. This peer support was reported to be a positive outcome of the process. Teachers also noted that cross-graded groupings enabled them to see the ‘big picture’ of learning in a kindergarten to grade four school. They expressed increased appreciation for the progression of skills from grade to grade and enjoyed hearing the successes and challenges their colleagues were experiencing.

Secondly, teachers reflected how the embedded mobile devices changed their planning process. They reported feeling more open to incorporating technology into the classroom. The multi-functional capabilities of the devices led to a greater emphasis on planning for differentiated instruction. Teachers felt that they were better prepared to meet the needs of all of their language learners. Several teachers remarked that they had to make a shift in some of their core beliefs as educators, that they were no longer necessarily the ‘experts’ concerning technology in their classrooms, but that their students were capable of being leaders in this area and helped to improve the learning in the classroom.

Lastly, teachers reported benefitting from involvement in an action research process. By engaging in four one-month abbreviated action research cycles, teachers appreciated the impact of action research on student learning. The process of regular collaboration to formulate individual questions, devise a plan, reflect on the implementation of the plan and adjust to set a new direction highlighted the value of action research to teachers. One participant found that:

> This year I think that my professional learning was more valuable to my teaching practice. Instead of simply doing Professional Learning that is imposed on us, this has been more practical for my professional learning. In using the action research model I was able to adapt my professional learning to my classroom needs and have something tangible and effective to use on a daily basis. It has been extremely beneficially to work with other teachers in the school. It is great to be able to work with people that I may not necessarily get to work with on a daily basis.

Key Learnings

As a result of this action research project, teacher learning was acquired in four thematic areas, including:

Language Acquisition

- Children acquire a second language through modeling, risk-taking, playing with the language and learning from mistakes, supporting previous research (Cummins, 1998).
- iPods and iPads have great potential to aid the second language learner.
- Open-ended, content-creation apps that function regardless of language (e.g. ShowMe, Puppet Pals, iMovie, Garage Band) can greatly support second language learning.
- Reluctant speakers and students struggling with any facet of language learning are afforded more accessible learning by utilizing the mobile devices.

Mobile Technology Deployment

- Embedding tools directly into the classroom, as opposed to a sign-out/cart system, made access more ubiquitous for learners.
- Having access to the devices at all times led to changes in teachers' planning and facilitated multiple entry points for students.
- When able to access iPods and iPads seamlessly, student engagement increases, particularly in oral language and reading activities.

Feedback and Collaboration

- The ability to record audio and/or video served as an important source of immediate feedback to learners, teachers, and parents.
- iPods and iPads are capable of capturing rich data and evidence around language acquisition (Pellerin, 2012).
- iPods and iPads foster collaborative learning among students during content co-creation tasks.

Teachers as Action Researchers

- Structuring teacher release time through cross-graded collaboration is beneficial in capacity building, as well as in providing teachers a broader understanding of learning within the school.
- Teachers participating in the project have begun to shift their pedagogy concerning technology and learning.
- Teachers viewed the action research process as valuable professional growth and beneficial to student learning.

Several challenges were identified as a result of the project, including:

- The limited number of mobile devices (5) embedded in each classroom resulted in a higher than desired student-to-tool ratio.
- Some teachers were overwhelmed with the quantity of oral language evidence produced by their students.
- The impact on students' writing skills was not as profound as anticipated.
- Building teacher capacity and expertise around a newly emerging and constantly changing field.

The project has presented several avenues for future research, including exploration of the following questions:

- Would a higher device-to-student ratio lead to greater second language learning?
- Does eliminating the teacher as the sole model of the second language, by involving student peer models, lead to the “fossilization” of language errors?
- What apps and mobile device practices better facilitate improvements in writing skills for second language learners?
- To what extent will this action research project positively influence this cohort of second language learners as they progress through their immersion program? Will long term student attrition rates in French Immersion be impacted?
- Will teacher attitudes around inclusion in French Immersion programs shift due to the potential to remove learning barriers with tools such as mobile devices?

Conclusion

It is apparent that use of mobile technologies to enhance second language acquisition is an emergent area of research that will become increasingly relevant as access to these technologies improves. As more opportunities arise to embed these tools into primary classrooms, careful consideration toward best practices, as well as careful and intentional planning around increasing staff capacity for employing sound pedagogy using the tools is necessary. Teachers’ participation in reflective professional practice, through embedded action research, can be a catalyst for increasing staff capacity around using mobile devices in the primary French Immersion classroom.

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