Using the Right Technology and Pedagogy to Enhance Language Acquisition, Dialogue, and Metacognitive Thinking

By Stacy-Ann Pothier and Heather Hill

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Abstract

This article discusses experiences of teachers and students in the Excellence in Learning project at École Elbow Valley Elementary School. Ten staff members from French Immersion and English tracks participated in a collaborative action research process to explore the use of alternate technology pedagogies in language acquisition, dialogue, and metacognitive thinking. The voluntary teacher participants used digital documentation to record interactions and activities that guided the direction of their learning cycle.

Project Development

During the 2011 - 2012 school year, ten staff members from Elbow Valley Elementary School took part in a collaborative action research project, a novel experience for many participants in building professional knowledge and experience. Throughout the project, participants met three times as a large group and twice in smaller groups to share and plan. Participants chose project work and learning that integrated easily into the school educational plan, AISI learning, and previously established communities of practice at the division and school levels. Dr. Martine Pellerin of the Campus Saint Jean of the University of Alberta facilitated the collaborative professional development meetings and led the group through discussion and dialogue, focusing the sharing in a productive and collegial manner. This cross grade, cross language, and cross-curricular endeavor was supported by Google technologies through which participating teachers shared their reflections and recorded the learning and research that was occurring.

École Elbow Valley Elementary School is a kindergarten to grade four school located in Rocky View School Division. The nearly 600 students come from a variety of demographics, most from educated families with above average socio-economics. This dual-track public school offers French Immersion and English programs. Technology and technological tools have long been a priority for the school, but increased availability of personal devices and accessibility to many educational applications, fostered an exploration of nonconventional avenues to meet learner needs. Each participating teacher participant adapted their integration of the technologies to different grades and learning situations, thereby enhancing engagement of teachers and students.

Participants initially met as a large group to begin the first step n a systematic and cyclical process of action research (Pellerin, 2011; Riel, 2010). The phase, referred to as *study and plan*, occurred over six months during three collaborative professional development meetings (CPDM). Participating teachers were released from their regular teaching assignments in order to participate in these meetings. During the CPDM, teachers would share documentation of the use of technologies in their classrooms. The group discussed ideas about using various digital technological tools and applications, then participants used these ideas to plan new ways for students to demonstrate their learning.

The project goal was to enquire into the extent to which iPod applications could encourage dialogue, metacognitive thinking, and language acquisition.

Implementation

Since participating teachers comprised a range of confidence and competence levels in English and French, ideas for implementing technology were wide ranging. Teachers implemented projects that were specific to the grade level they taught, their preferred teaching style, curricular area, language of instruction, and students' learning styles.

For example, French Immersion kindergarten students and volunteers used the iPod video camera in a number of ways. In one instance, they created videos of number sequences in which there was a missing mystery number. The videos required students to watch and listen to find the missing number. As another example, grade two French Immersion students used the application *Speak Easy Voice Recorder Lite* to tell stories. Children sequenced their winter story writing pictures, orally narrated and recorded their stories and then discussed changes they would make. A partner would listen to their story, as well, to suggest ideas that would make the story more interesting.

Both English and French Immersion students in grade three used *Puppet Pals* and *Toontastic* applications to develop story characters and settings using descriptive language.

Grade two students in the English program used iPod photography in a variety of ways. They shared work in progress, illustrated 3D shapes, and used manipulatives in addition and subtraction. Next, they recorded their reflections using *Speak Easy Voice Recorder Lite.* Students recorded and listened in small groups, often adding to previous recordings and sharing with other groups.

In a grade four French Immersion novel study examining setting, the teacher projected Google maps on the Smartboard to facilitate a discussion about its use in locating students' homes. The teacher showed her house and the neighborhood around it to initiate an analysis of what could be seen. A number of students' homes were also viewed, at which point the teacher put Google maps into split screen mode to illustrate the difference between a bird's eye and a human point of view. Next, the class looked at streets and neighborhoods in Montreal and, working in pairs or groups, used their iPods to predict the neighborhood in Montreal that might be the one in the book. The learners engaged in rich conversation about cities, streets, houses, parks, playground equipment and also used mapping vocabulary such as légende and rose de vents. Perhaps the richest benefit for these French Immersion students was the opportunity to collaborate and share in a unique way.

Voices of Learning

After the first cycle of the collaborative action research, teachers' reflections were shared through the use of Google groups. This demonstrated individualized learning, as each teacher was at a different place in the use of digital tools and applications and was teaching in different contexts. Group meetings were then used as a sounding board to provide encouragement for participants. Ideas, once implemented, were shared and discussed. These large group meetings were essential in providing the opportunity to dialogue about the learning of teachers and students; indeed, it was often during these meetings that teachers heard new ideas that would inspire them to try something new. Furthermore, they felt supported to try something that would impact learners.

Participants offered a variety of comments on their learning. A grade three English teacher observed that:

> This project has forced me to try different ways of having my students reflect on their own learning. Not every student enjoys using [iPods] or finds them helpful when writing, so having them available if students feel they can help has been a great change in my classroom.

Another noted that:

> Technology will not replace existing pedagogical practices, but is another tool that we can add to our repertoire of ways to help students succeed. In using technology, I believe that clear objectives and purpose need to be kept in mind, so that technology is not being used for the sake of using technology, because we can. This is something I am still figuring out.

A grade four French Immersion teacher admitted that:

> I had concerns about how I would keep track of where my students were in their learning. I felt a loss of control in how they were accessing and using knowledge, how they were staying on track to completing projects and whether or not they were actually acquiring the skills and concepts required in the curriculum. It was rather scary to wait for a finished product that would show me what they had learned. I needed to change how learning takes place in my classroom.

One teacher observed incidents of metacognition in students. She explained that

> The discussions were excellent and the students really began thinking about how they learned or how "my brain works." Some began bringing their iPods to school. The iPods became second nature to many of the students. They began to notice how their editing skills improved, how easy it was to do research since it was so portable and at their fingertips. The students looked forward to finding information, improving their work and later on, creating projects since the technology seemed so seamless.

Lastly, one grade two teacher reflected on her learning throughout the project.

> I have found it has been a journey with both ups and downs. The ups have been watching how engaged the students are - especially giving students a voice to share their ideas/reflections without the roadblock (for some) of written work. I am feeling more comfortable not 'saving' or 'listening' to all recordings all the time. I initially felt concerned with missing out on important data - but now I am realizing once again to value the importance of the process and provide the students with a variety of audiences - themselves, other groups, other classes, our class as a whole and myself. The 'downs' have been when I have attempted to use DropVox or another App/Program and had difficulty trouble shooting on my own. This is when I feel frustrated that I do not have the skills and it halts the work in progress.

Conclusion

Has using the right technology influenced pedagogy and enhanced language acquisition, dialogue and metacognitive thinking for the learners in this project? By all accounts, it has. The opportunity to collaborate and discuss learning was the most beneficial process in the collaborative action research model. Dialogue with other professionals served to consolidate thinking or set new directions. A sense of collegiality was the driving force for individual mobilization of knowledge. All participants reported growth in their understanding and use of digital technology in their classrooms. This led to enhanced learning for their students and differentiated delivery. In some cases, a new direction in how teaching and learning takes place was reported, marking significant change for those individuals. This renewed sense of inquiry is continuing as teacher participants were excited by their learning, and have a number of questions that they intend to delve into in the near future, including:

- How do young learners respond to using technology during/for assessments?
- How does conversation/dialogue facilitate metacognitive learning?
- How can the adult learning be shared throughout the school division?
- How does collaborative action research impact school improvement?

Resources

Beauchamp, L., & Parsons, J. (2012). *The impact of AISI on teacher professional learning*. AISI Journal, 2(1). Retrieved from http://www.uleth.ca/education/research/research-centers/aisi/aisi-journal/new-issue/vol2-no1-2012.

Breck, J. (2002). *How will we learn in the 21st century*? Lanham: Scarecrow Press.

Crocket, L., Jukes, I., & McCain, T. (2010). *Understanding the digital generation*. Kelowna, BC: Corwin.

Howland, J., Jonassen, D., Marra, R. (2012). *Meaningful learning with technology*. Toronto: Pearson.

Pellerin, M. (2011). *University–school collaborative action research as an alternative model for professional development through AISI.* AISI Journal, 1(1). Retrieved from http://www.uleth.ca/education/research/research-centers/aisi/aisi-journal/new-issue/vol1-no1-2011

Riel, M. (2010). *Understanding action research*. Pepperdine University: Center For Collaborative Action Research. Retrieved from http://cadres.pepperdine.edu/ccar/define.html.

Rose, D. H., & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning.* Alexandria, VA.: ASCD.

Rosen, L. (2010). *Rewired*. New York: Palgrave Macmillan.