Transliteracy and the teacher-librarian

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After four short years as a public secondary school teacher-librarian, I see an urgency to the changing of my role. Much of the shift has occurred with the advent of Web 2.0, but as corporations rush to fill market gaps, and school budgets shrink, public education risks dismantling its democratic core. There is a race happening to keep up with the latest trends in educational technology. A choice to spend limited resources on the same device or software reinforces the message that all students learn the same. This doesn't reflect a teacher or student's individuality in choosing the right tool for the right job. This choice doesn't put pedagogy or learning first. There are pitfalls in this urgent approach to integration including only exposing our students to a surface level of technology which won't allow them to fully understand the social, economic and environmental implications of our impulses. The role of teacher-librarian is critical in protecting the vision of democracy by advocating for the minimization of the digital divide and the emphasis of pedagogy.

 In my move from the classroom to the library, I was surprised to find that the library culture was territorial and competitive.   Access to resources was controlled, availability of technology and librarian support were limited and equity was a constant struggle. One day I noticed a student using my old-fashioned lab, facing a wall and elbow-to-elbow with strangers on either side, waiting for his group members to begin collaborative work on his computer. He pulled out his iPad to read from his notes, and his phone to text his classmates asking them when they would arrive. To be doubly sure they were on their way, he opened up Facebook on his screen and messaged all of them inside their group space. His teacher came over and told him to stop playing around and to get to work. The teacher believed that the student was being unproductive.

It has taken me 5 years to get the library space and culture to a place where there is no need for 'shushing'. We still experience the feelings of scarcity, but generally the new learning commons is a place where learning happens and we celebrate student success. In many ways this paper on transliteracy is about my journey in understanding the complexities of technology integration in schools and my battles to keep these ideas foremost apparent in my learning commons: access, availability, and equity.

Finding the right term

I have struggled to feel comfortable with the nomenclature of this elusive skill set for students and I have moved from calling them 21st century learning skills to digital fluency and am finally resting on transliteracy. It seems that even now in the year 2014 that we rely on traditional models of teaching and management which ask students to fit the same mold. I believe that this model of standardized teaching continues to benefit the same students who have always done well. Teachers are having a hard time wrestling with the new complexities of user/reader, software/hardware (King, 2012) and have too long been under the impression that students now are inherently more capable

on computers since these students were born in the age of the internet. It seems that teachers are struggling to change their teaching and be comfortable with ongoing change. Meanwhile students appear to be challenged to engage deeply with material and persist when faced with problems they can't quickly solve. The education system itself seems uncertain with how to proceed. Using the term transliteracy sets the goal in education to aim towards having literacy skills transfer across modes and mediums, and that these skills will adapt with every new change in software or hardware, mode and medium.

A contemporary vision of *transliteracy*, originally defined by Thomas, Joseph, Laccetti, Mason, Mills, Perril and Pullinger (2007) as: "the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and film, to digital social networks," (para. 2) demands individualization. Technology allows every teacher to provide students with equal opportunities to learn. In my experience, the best way to support transliteracy is to provide equal opportunities for learning and to level the playing field so that we can progress together.

The term transliteracy has evolved from recognizing that the same offline skill set does not necessarily apply to online communication and from multiple attempts by researchers to consolidate the skill set that learners require to work fully in multiple modes. Transliteracy encompasses the skills of information literacy but also involves the idea of self-curation. Transliteracy then becomes a skill set that utilizes metacognitive understanding of one's own learning patterns, allowing the user/reader to adapt to changing texts and platforms.

Supporting pedagogy in educational technology

The education system could do more to support professional development during this renaissance. In my own experience, the best professional development offered to me outside of my school district continues to be self-driven. I am receiving increasingly enticing offers to become a Google Certified Teacher or to become a Mac Educator. At the same time there are hidden pitfalls to allowing Google and Apple to fill holes in professional development that aren't being offered elsewhere. Allowing professional development to be steered by corporations, ensures that a business model emphasizing the product will be implemented rather than a pedagogical approach which benefits learning.

As in The Ontario School Library Association (OSLA) Together for Learning document (Ontario School Library Association, 2010), I want to emphasize the pedagogy of educational technology and the necessity of Learning Commons spaces to be staffed by professional teacher-librarians who can best support the redefinition of curriculum to encompass transliteracy. I want to develop a clear model of pedagogy to support the development of transliteracy in staff and students. Ideally, this model would be sustainable, like a pyramid, with one level learning from the next and continually paying forward their learning. As an agent of change in my position, I have seen the pyramid have a lasting effect on our school's adoption of technology integration. The desire to integrate technology equitably and sustainably pushes me to ask: *How can teacher-librarians support students and staff in developing essential transliteracy skills?*

Transliteracy endeavours for the future of all students

As platforms and devices come and go, transliteracy skills will allow users to adapt to new modes and mediums of communication. In public education it is essential that we give each student the same exposure and opportunity to interact with new modes of learning. Livingstone (2012) warns while exposure to online texts generally improves school achievement, that the "already high-achieving children get more from gaining internet access than do low-achieving children" (p. 15). In order to bridge this gap caused by detrimental factors external to a teacher's influence, Dobler (2007) suggests "Teaching students how to learn, rather than what to learn, gives them the flexibility to adapt to changes in both text and technology" (p. 95.) Focusing on transliteracy should allow students to meet future challenges with confidence, no matter the mode or medium of delivery.

Many researchers allude to the necessity of teaching attitudes and skills in information literacy and lifelong learning to our students as they become leaders in the global community (Bruce et al, 2012; Crockett, Jukes & Churches, 2011). Crockett, Jukes and Churches (2011) agree that "we need to shift our instructional approach to a 21st-century learning environment that will provide our students with the most in-demand skills: those that can't be easily outsourced, automated or turned into software" (p. 11). Specifically, researchers group these skills into improving capacity for transdisciplinary communication, collaboration, and knowledge and information practices (Bruce et al, 2012; Crockett, Jukes & Churches, 2011).

Citizenship

As with the redefinition of texts and reading with the advance of digital formats, so too is the redefinition of the idea of community. Community has not devalued with the integration of technology, but it is changing as communities are built online. Bruce et al. (2012) argue that citizenship now encompasses online communities built on the user's interaction with education, fantasy, information, relationships and transactions (p. 532). In being a good citizen, many of these online communities have offline impact on art, heritage, archives, and education (pp. 533-544). As libraries shift their definition of information literacy to include digital citizenship, they play a key role in developing communities online as well as offline.

Researchers have been asking this same question about best practice in technology integration for some time. Bruce et al. (2012) wonders what does transliteracy "look like across contexts, national borders, complex organizations and community subcultures, including the innovative cultures emerging in digital landscapes" (p. 524). Indeed the task of trying to isolate the transliteracy skills and concepts that have such universal application is challenging. Michael Fullan (2013), professor of education at the University of Toronto, insists that there are "four criteria for integrating technology and pedagogy to produce exciting, innovative learning experiences for all students...these new developments must be i) irresistibly engaging (for students and teachers); ii) elegantly efficient and easy to use; iii) technologically ubiquitous 24/7; and iv) steeped in real-life problem solving" (p. 4).

Teaching with digital technology can be much more complex than teaching with traditional technologies. In order to allow the technology to be integrated with pedagogy,

it helps to incorporate the broadest scope of technology's reach into learning structures that a) individualize learning and b) emphasize the process of learning. It seems that inquiry-based learning structures do this as students work through recognizing a problem or question for further exploration, visualizing a solution, researching the best strategies, and then presenting solutions. Reflection is also a stage that is essential to many different phases of this process. These goals are high and yet we know in order for transliteracy to take hold that we must have grounded suggestions for success in schools.

Models of educational technology integration

One entry point into easing technology into more traditional classroom structures would be to incorporate the TPACK framework. The term TPACK was outlined by Thompson and Mishra (as cited in Brantley-Dias & Ertmer, 2013) (2006) who argue that "a conceptually based theoretical framework about the relationship between technology and teaching can transform the conceptualization and the practice of teacher education, teacher training, and teachers' professional development" (p. 1019). The TPACK model is illustrated here in Figure 1:
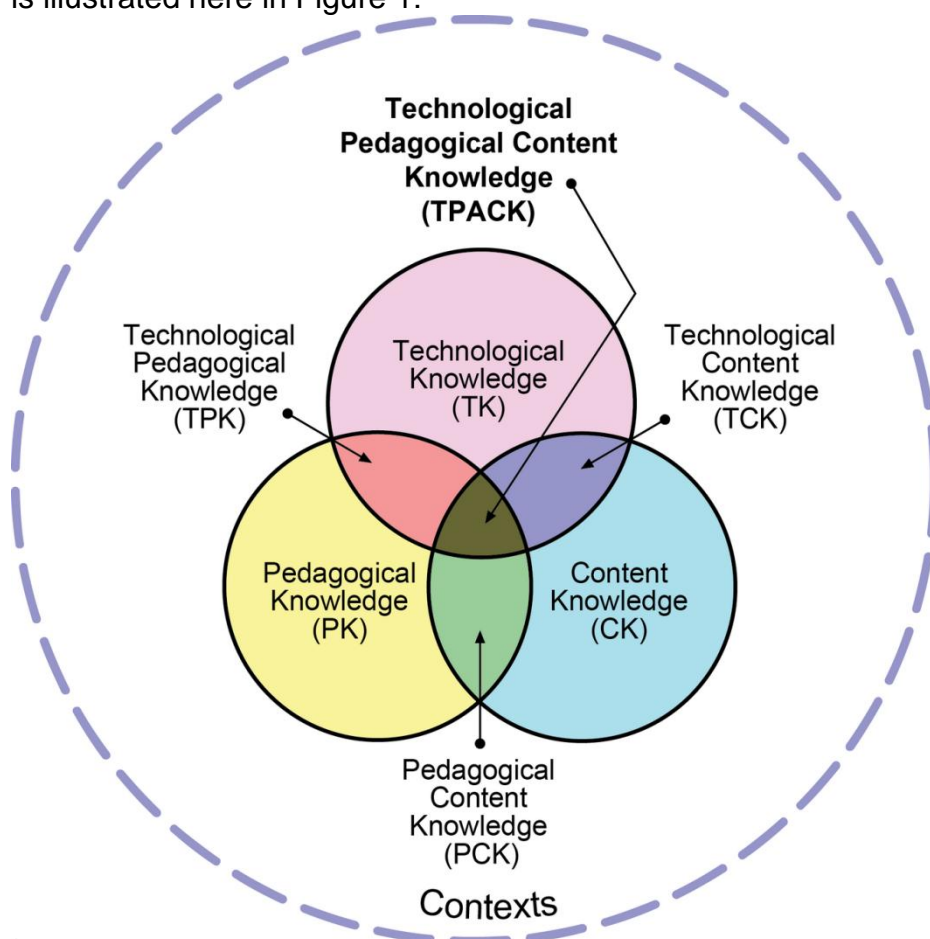

Figure 1: The TPACK model of technology integration (Reproduced by permission of the publisher, © 2012 by tpack.org)

The sweet spot of teaching would be the centre where Technology, Pedagogy, Content and Knowledge align as Brantley, Dias and Ertmer (2013) suggest here:

> TP[A]CK is the basis of good teaching with technology and requires an understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students' prior knowledge and theories of epistemology; and knowledge of how technologies can be used to build on existing knowledge and to develop new epistemologies or strengthen old ones. (pp. 1028-1029)

As Thompson and Mishra have outlined here, incorporating a model of pedagogy like TPACK, would lead to a deeper understanding of transliteracy skills and concepts.

At the very least, TPACK seems to allow all the stakeholders in education to have a common vocabulary as they aim to achieve high standards both in technology integration and pedagogy (Brantley-Dias & Ertmer, 2013). One of the model's strengths is that it is not specific to a particular discipline, so it allows whole systems of education to develop goals (Brantley-Dias & Ertmer, 2013, p. 119). However, TPACK has been criticized for its simplicity and lack of best practice strategies for implementation. It may describe the 'why' we need a continuum, but it doesn't suggest the 'how'.

The SAMR model of technology integration (Figure 2), developed by Dr. Ruben Puentedura (2006), may offer more pedagogical strategies. The SAMR model asks teachers to move from using technology to enhance teaching, to using technology to transform teaching.

Redefinition
Tech allows for the creation of new tasks, previously inconceivable

Modification
Tech allows for significant task redesign

Transformation

Augmentation
Tech acts as a direct tool substitute, with functional improvement

Substitution
Tech acts as a direct tool substitute, with no functional change
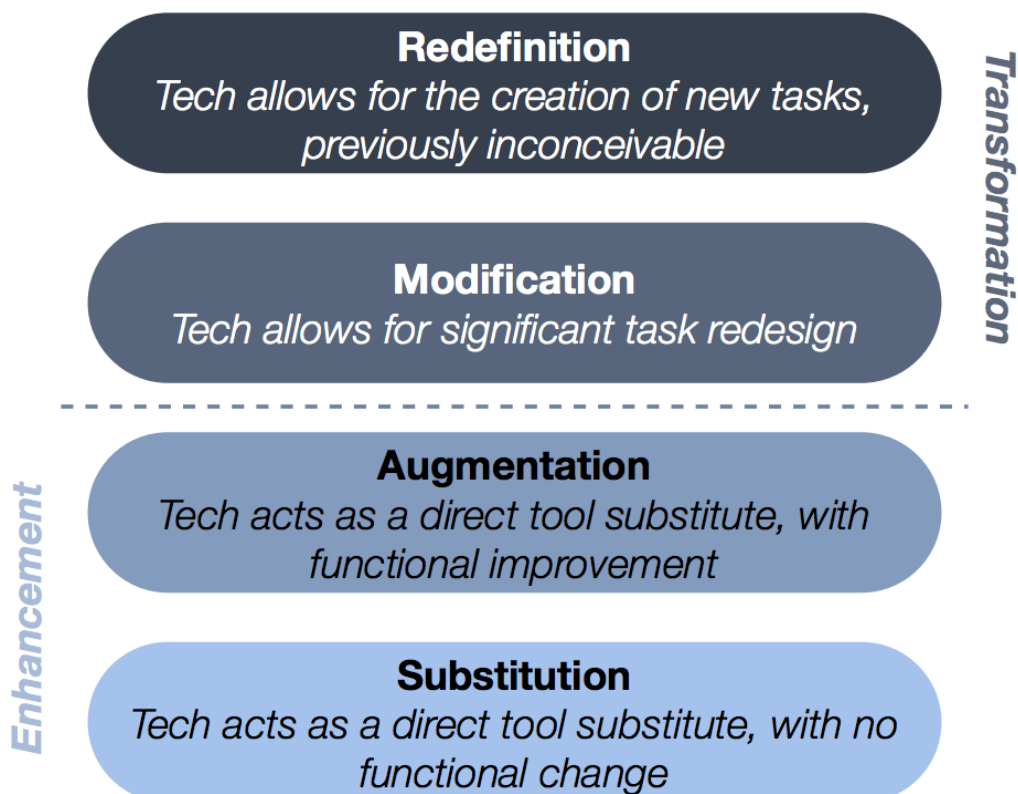
Enhancement

Figure 2: The SAMR model of technology integration (Adapted from R. Puentedura, Hippasus.com, 2014.)

In developing a series of concepts and skills that each learner should become familiar with, and explicitly teaching towards their mastery, teacher-librarians can begin to see progress in transliteracy. Bruce et al. (2012) have developed some of these concepts in information literacy that would fit nicely into a continuum of transliteracy. Their "experiences of informed learning" (p. 527) include: information awareness, sources, process, control, knowledge construction, knowledge extension and wisdom. These activities also align well with the SAMR model. With the right support, it may be possible to reach every student and to maximize their learning potential in every classroom activity. This will allow every student to have exposure and potential mastery of transliteracy skills and concepts.

Depending on the context of the learning, adding additional support may mean changing the physical or virtual spaces; increasing access and availability to learning; and increasing opportunities for teachers to build their own transliteracy skills. Fullan (2013) states that "Innovative teaching practices were more likely to be seen in schools where teachers collaborate in a focused way on the particular instructional practices linked explicitly to 21st century learning skills" (p. 43). Furthermore, Fullan argues that the best kind of professional development is one where teachers are actively engaged in research of their own creation and management (p. 43). In order for teachers to raise the stakes on the significance of transliteracy, they must be allowed to engage with assessing and improving their own teaching of transliteracy.

Recognizing barriers to sustainability

As transliteracy becomes a vital expectation of schools, so too will the role of teacher-librarian as a community link to providing resources, facilities and programming to support transliteracy. A teacher-librarian must prioritize recognizing and overcoming any barriers to the sustainability of the library's mandates which often prevent transliteracy from being mastered. Fullan's research in Ontario (2013) describes the problem as "The organizational support for the use of technology in schools is badly underdeveloped (availability of digital media, shared vision, school culture, technical support, leadership and the school, district and state levels, assessment systems, and so on)" (p. 37). In addition, one of the common programs of school-libraries has been information literacy instruction "while not always extending attention to helping students engage with content through their information use processes; and insufficient attention has been given to understanding and supporting the experience of engaging with information in workplace or community contexts" (Bruce et al., 2012, p. 523). The teacher-librarian's role in supporting transliteracy includes recognizing barriers to support, engagement and consistency and pressing for greater access and availability of resources.

Above all, teacher-librarians in public schools struggle with the equity issues of their diverse students in two major areas: the support they receive outside of school and the reliability of the technology in their home environments (Livingstone, 2012, p. 15). Fullan (2013) reminds teachers:

> The unsustainable environment we are creating is socio-economic as much as environmental. The trend is not purposeful. It is a function of the better off helping themselves: of taking advantage of opportunities because they can, because they have greater access to the combined power of education and technology than the rest of the population. (p.74)

Although the learner community may be extremely diverse, the teacher-librarian needs to develop resources and programs to support the context of the school community. Once these needs are identified, programs and resources to support the development of transliteracy can be obtained with the knowledge that the teacher-librarian is best serving the community.

In some circumstances, the teacher-librarian may discover that the school community's resources are scarce and undersupported to the detriment of transliteracy development. In such cases, the teacher-librarian needs to remediate the adults of the community that are lacking transliteracy skills including teachers and administration. Coiro (2012) has much to say on the topic of beginning remediation "of meeting teachers where they are" (p. 553). As many teachers are new users of transliteracy themselves, in order to be able to teach these skills they will require the scope of support available to meet teachers where they are comfortable. "Classroom teachers bring a range of abilities, assumption, and comfort zones with them into any professional development situation, and they need time to express their ideas and concerns in a way that explicitly shapes the direction and pace of their learning" (Coiro, 2012, p. 553). Coiro suggests that short sessions of technology exploration that are job-embedded and risk-free are a great place to encourage developing professional networks (p. 553). Embracing some transliteracy first as learners allows teachers to confidently tackle teaching transliteracy skills themselves and moving forward with their

students.

Reflection

When I was first introduced to using technology in my classroom, I quickly learned that my students needed to be explicitly taught technology strategies through my class content in order for the students to find it meaningful. Likewise, transliteracy models challenge every learning experience to be authentic and to be a true measure of deep understanding of concepts. For too long, the education system has underthought the pedagogy of implementing technology in education. Dynamic developments in technology should be revolutionizing teaching, but have instead only maintained our factory model standards of achievement. As a result, we have serious deficits in transliteracy that need to be addressed.

Integrating transliteracy into our education system is not so much a complete redesign as a need to appeal to students' passions as a vehicle for experimentation in other modes and mediums. Teacher-librarians are in ideal positions to be the agents of change in schools in full integration of transliteracy models. They can use their unique perspectives to see opportunities for building cross-curricular collaboration for problem-solving. Teacher-librarians can model teamwork and risk-taking to the entire school community as they facilitate experimentation that suits the passions of individual student needs. As such, teacher-librarians become the top of the transliteracy integration pyramid (Figure 3). Through their work and example, integration will flow downwards to impact the entire school community. Likewise, the entire school community will flow upwards to drive the purpose of the teacher-librarian position.
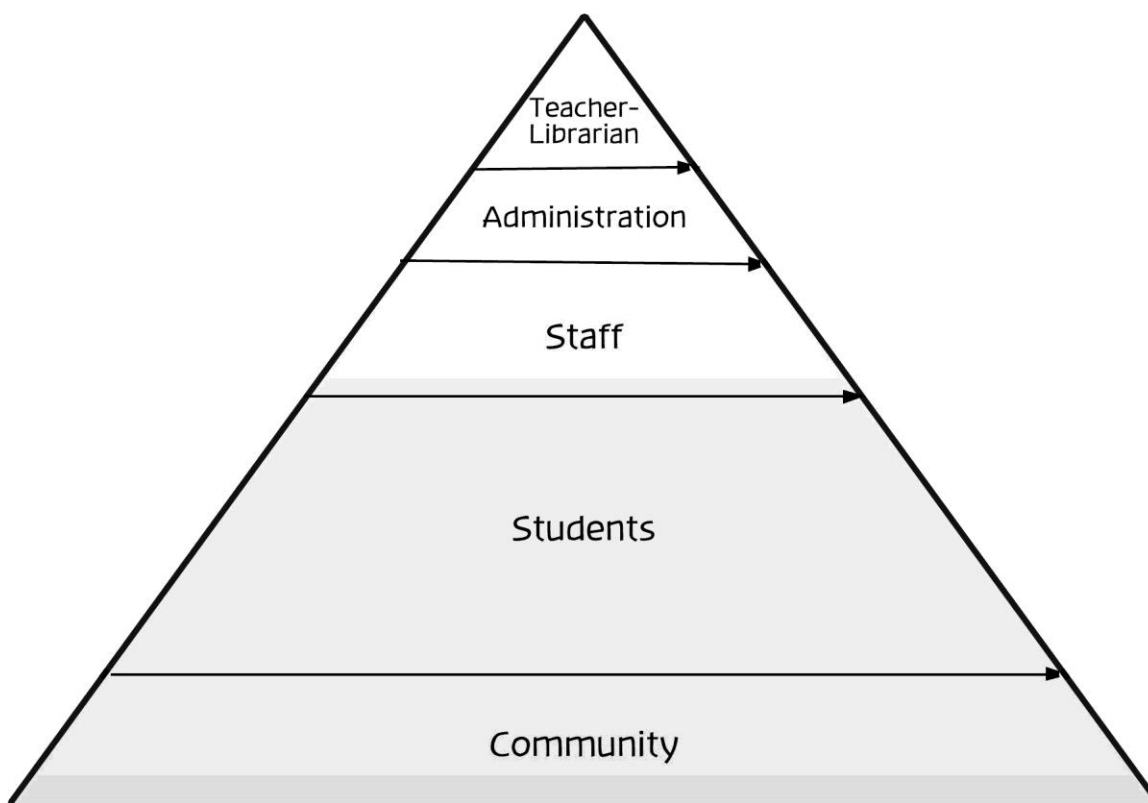
Figure 3: The role of the teacher-librarian in transliteracy integration (Created by A. King, 2014.)

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