The Digital Principal

*How to encourage a technology-rich learning environment
that meets the needs of teachers and students*

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Embracing Technology Through Transformational Leadership

As you know, we live in an information society in which many of us use digital technologies, such as the Internet, mobile devices, and video, every day. We search for and obtain information for reasons such as shopping, holiday research, and personal interest, and we socialize with one another. Reigeluth and Karnopp (2013) argue that key characteristics of the Information Age are contributing to fundamental shifts in society. These characteristics include "customization, diversity, collaboration, team-based organizational structures, shared leadership, empowerment with accountability, initiative or self-direction, self-service, and holism or systems thinking" (p. 21). Given the time we spend using digital technologies in our personal lives, we as educators must address our students' need to learn how to use — and benefit from — these tools — specifically, the computer and the Internet. Indeed, becoming digitally literate can be seen as a key life skill for success.

So, if we accept the premise that digital technologies have already changed the ways we live and interact with one another, it follows that we should embrace the use of technology in schools, while ensuring that students use it critically and strategically. The importance of this endeavor cannot be overstated. Michael Fullan (1993), educational leadership and change expert, argues, "Technology has dramatically affected virtually every sector in society that you can think of *except* education" (p. 72). In other words, technological change is driving society in innovative ways, but schools have been less inclined to explore the use of technology as a pedagogical tool.

Why Our Students Need to Learn with Technology

We are at a crossroads — a critical moment in which we can choose to help students deal with the potential, promise, and challenges of digital technologies, or not. The invention of Gutenberg's printing press in 1450 had a huge impact on the oral tradition, and the commercialization of television in the 1950s changed our relationship with media. So, too, the emergence of digital technologies profoundly affects how we engage with information and how we express ourselves. We live in a participatory culture — a few short years ago, the Internet was primarily a source of information delivered to the user in one direction. Now anyone can contribute to the content found online. Access to the Internet and to mobile devices is becoming cheaper and easier, and every year, more of our students become anytime-anywhere users of digital tools of all kinds. We need to attend to this shift in our schools, and the time to take action is now.

As educators, we need to establish learning environments that engage students in a variety of modalities for learning that are relevant to their experiences outside school. A 2009 report of the Canadian Council on Learning, *Post-secondary Education in Canada: Meeting Our Needs?*, observes, "Rapid technological change, global competitive pressures and new patterns of work are demanding a more sophisticated set of transferable skills, such as problem-solving, communication, decision-making, teamwork, leadership, entrepreneurship and adaptability" (p. 58). If we do not engage our students in learning with technology, we risk not preparing them to meet the numerous challenges of the future.

What research says about technology integration

Beyond that, research is establishing that learning with technology brings benefits. Anyone who has witnessed first-hand the power of technology to engage and motivate students knows that technology integration can have a positive impact on student learning. As educational researchers, we have been working with students of all ages in schools, and we have found that students are more engaged and motivated when using new technologies, but also that they make gains in terms of developing the digital literacies skills they need to succeed academically (Burke, Hughes, Hardware, & Thompson, 2013; Hughes, Thompson, & Burke, 2013).

Our research investigates how teachers and students use digital tools of all kinds to explore issues of self and community identities, and develop digital literacies skills while doing so. We have found that students, when given opportunities to use digital tools to explore curriculum content, not only become proficient users of a variety of the tools, but also develop collaborative and communication skills while engaging in small-group problem solving and decision making. They are required to synthesize multiple streams of simultaneous modes and information while reading and producing digital texts. They also learn to critique, analyze, and evaluate multimedia texts, such as websites, videos, photo essays, and graphic texts, including comic strips and graphic novels. The students learn about the responsibilities of digital citizenship that go hand in hand with using technology, but more important, they learn about the power of digital media to convey important messages related to social justice issues and how they can effect change by creating awareness and taking action within their communities. This inquiry-based approach integrates technology with discipline-specific content and interdisciplinary skills, such as critical thinking, research skills, and information literacy skills.

In their 2000 report for the Software & Information Industry Association, Sivin-Kachala and Bialo confirm this. They note that, when students use computers for learning, they feel successful and motivated, and they show increased self-confidence and self-esteem; they also make academic gains. Further, the report indicates that students involved in small-group collaborative learning while using a computer achieved more than students using the computer alone or independently. This report was based on 311 research reviews and reports that focused on original research.

The International Society for Technology in Education (ISTE) and the Center for Applied Research in Educational Technology (CARET) conducted a review of research, as well. The authors (Cradler, McNabb, Freeman, and Burchett) of the 2002 report "How Does Technology Influence Student Learning?" identify the following benefits of technology integration:

"In the end, the students themselves demonstrate whether technology use is effectively embedded in their learning. Effective use of technology can improve student engagement. Student engagement increases when students are interested in the task at hand and have the tools they need to accomplish it. Engaged students focus on the task rather than the tool. The result is improved student achievement. That is the most important and final marker."
— Principal Jill Foster

At the heart of our endeavor is this question: "How can we best use digital media to enhance student learning?"

To read the Executive Summary, go to http://www.siia.net/estore/REF-00-summary.pdf.

- improved student achievement in reading, writing, and mathematics, according to standardized tests in the United States
- improved attendance, decreased dropout rates, and increased graduation rates
- increased parental involvement
- improved learning skills, particularly thinking skills, problem-solving skills, information and communication skills
- improved workforce skills

So, whether to help better prepare students to deal with a dauntingly digital world or to exploit the potential of digital technologies for learning, schools have a responsibility to address digital technologies and their role in education. Doing that begins with the principal.

The call for a digital principal

This book will not teach you everything you need to know about current technologies and how to use them — digital tools are emerging too rapidly for us to keep up with the latest trendy tool. In any event, that is not the kind of information your students need from school. Instead, we offer an *approach* or *orientation* to technology not dependent on your experience with or knowledge of specific digital tools. With this approach, you will be well able to create and promote a climate of innovation, to support your teachers as they use digital tools to enhance teaching and learning, to stay abreast of current research related to technology in education, and to manage digital innovation in the school as new technologies emerge and have an impact on how students learn.

As an educational leader, you may be called on to encourage a culture of technological innovation in your school or to create an effective school technology plan. These require an attitude or approach more than any level of technological knowledge. As a digital principal, you can apply your existing leadership skills to the challenge of creating and supporting a learning environment rich in technology. By *digital principal*, we mean an educational leader who is intent on maximizing student learning through the effective infusion of digital technologies. You do not need to know the intricate details of how the technology works; however, we do encourage you to position yourself as a learner alongside the teachers, staff, and students in your school.

In this resource, we promote and encourage a *transformational leadership* style that, we believe, is critical to facilitating successful implementation of technology in schools. This approach emphasizes that all stakeholders must have input into decisions, including the development of a shared vision for technology initiatives. Involving all stakeholders — teachers, students, families, and administrative staff — will help ensure the most accurate and authoritative understanding of how to meet students' technology-related needs. The standards of the International Society for Technology in Education (ISTE), which we strongly support, set a standard of excellence and best practices in learning, teaching, and leading with technology in schools and point to the value of an educational administrator having a transformational leadership style. The digital principal is a transformational school leader.

Leading and Learning Together — Transformational Leadership

Kenneth Leithwood, author of more than 10 books on educational leadership, has led research on transformational leadership since the early 1990s. In his seminal article, "The Move Toward Transformational Leadership," he argued that transformational school leaders are in continuous pursuit of three fundamental goals:

> 1) helping staff members develop and maintain a collaborative, professional school culture;
> 2) fostering teacher development; and
> 3) helping them solve problems together more effectively.
> (Leithwood, 1992, 9–10)

In his subsequent research and the research of others, such as Bass and Avolio, four elements of transformational leadership were identified: (1) idealized influence, (2) inspirational motivation, (3) intellectual stimulation, and (4) individualized consideration (Bass & Avolio, 1994). These are outlined below.

1. *Idealized influence* refers to how well the leader acts as a role model for others. Transformational leaders "walk the talk" and embody the values that they espouse so that followers will learn the same behaviors and, in turn, model for others, who may adopt those behaviors, too. A foundational principle of transformational leadership is the promotion of a consistent vision, something that provides followers with meaningful purpose. Transformational leaders work persistently, enthusiastically, and optimistically to foster a collaborative environment of teamwork and commitment.
2. *Inspirational motivation* refers to how well the leader articulates a vision that inspires others and compels them to follow. Transformational leaders paint a picture for followers to show them where they are going; they thereby provide them with motivation to act. They challenge followers to take risks. Leaders with inspirational motivation can communicate goals in ways that make the vision clear, powerful, and engaging. As a result, followers feel encouraged and positive about the future — more willing to buy-in to any innovation or change.
3. *Intellectual stimulation* refers to how well the leader stirs the imaginations of followers through encouragement and support of innovation and creativity. Transformational leaders encourage their followers to think creatively, and they do not penalize them or criticize them for mistakes. They focus on resolving problems productively and are more likely to try something new and untested than to rely on traditional, accepted practices that seem not to be working.
4. *Individualized consideration* refers to how well the leader attends to each follower's needs, acts as a mentor or coach to the follower, and listens to the concerns and needs of the follower. Transformational leaders provide support, stand alongside followers, treat people as individuals, and respect their contributions to the team. This approach, in turn, develops intrinsic motivation in followers.

Each of these elements is founded on the respect, integrity, encouragement, and influence that are part of transformational leadership. The transformational

leader must be genuine and transparent in order to create the kind of trust necessary for change and innovation to occur. Transformational leaders are change-savvy, but also seek to have followers become leaders exercising autonomy.

Transformational leadership focuses on empowering stakeholders — particularly teachers — to participate in decision making, problem solving, and innovation. It relies on a community approach: one that emphasizes the bringing together of collective intelligence, collaboration, and the overall knowledge of the community. The community learns and leads together, under the guidance and support of the principal.

Although not obliged to be a tech expert to meet the demands of the digital school, you *do* need a collaborative approach to leadership. You will be required to mentor, motivate, inspire, encourage, facilitate, and support the people in your school community. In your leadership toolbox, you will already have the ability to communicate effectively, and you will need to draw on this to ensure that everyone is striving to meet your school's common goals. So, far from meaning that a school is leaderless, transformational leadership supports a team approach and a sharing of leadership roles with others.

The need to share ideas and expertise

New technologies are constantly emerging, so making appropriate decisions for your school may feel like trying to hit a moving target. For example, only a few years ago, many school districts were aiming to put three or four networked computers in every classroom; now, with the growing popularity of tablets and other mobile devices, school districts are rethinking their strategies. Some are even moving to a Bring Your Own Device (BYOD) model. The digital classroom cannot be mediated by one person reflecting the traditional notion of leadership.

To deal with the rapidity of technological advancements, educational leadership must be increasingly decentralized, as in transformational leadership. Decentralization of educational leadership is defined through shared expertise: classroom teachers may have to defer to their students for best practices in using new technologies, and the most digitally fluent staff are, of course, better suited to lead digital instruction, such as that pertaining to sharing of resources, differentiation, and co-teaching initiatives.

When it comes to technology, we cannot tell with certainty what will emerge next and how it will have an impact on education; however, what seems certain is that engaging more voices in the discussion will improve how we integrate technology with education.

Leadership that draws on Web 2.0 affordances

One significant difference between Web 2.0 and the traditional World Wide Web — or Web 1.0, as it has been retroactively called — is greater collaboration among Internet users and other users, content providers, and enterprises. Formerly, it was most common to post data on websites and have users view or download the content. Increasingly, users have far more input into the nature and scope of Web content — in some cases, they exert real-time control over it. Notions of authority and expertise shift in a Web 2.0 paradigm where anyone who is knowledgeable about a subject (and even someone who is not!) can post information on a blog or website. This shift facilitates an approach that values distributed, or shared, leadership; greater interactivity among users permits and

encourages the development of transformational leadership — it also raises the matter of affordances versus constraints.

The term *affordances* has been applied by researchers in the area of information and communication technologies (ICTs) and digital literacies to the evaluation of digital tools (see, for example, Kennewell, 2001). Jones and Hafner (2012) use the term in association with Marshall McLuhan's assertion that, while new technologies "extend certain parts of us, they amputate other parts" (p. 3). In our book, the term *affordances* refers to the actions, attributes, or characteristics of a digital tool that allow a user to create and participate; the term *constraints* is used to describe the limitations placed on the user as a result of choosing a particular digital tool. For example, social networking sites enable, or afford, the user to communicate with a global audience; at the same time, they may put a student at risk of exposing too many personal details in a public forum. Some affordances of digital tools that we highlight are accessibility, communication, collaboration, immediacy, and multimodality.

Roles of the transformational leader

As noted above, transformational leaders in education act as positive role models who motivate other community members to act for common purpose; they also encourage risk taking. In a sense, the digital principal is a leader among leaders: a kind of coordinator, facilitator, and cheerleader.

When it comes to coordinating, a transformational leader fulfills three key roles: (1) motivator, (2) communicator, and (3) facilitator of communication. As *motivator*, the leader inspires school community members to work together towards meeting the school's goals. In order to succeed in this role, the digital principal must understand the goals and the situated context of the community — student population, history, location, size, and so on. As *communicator*, the transformational leader periodically reminds community members of the school's goals and overall vision. The third role — that of *facilitator* of communication — is also important. Franciosi (2012) notes that in an environment where risk taking and experimenting are valued, the ability to learn from mistakes is "the key to efficiency." Since no one can learn from the experiences of another if unaware of what someone has done, "it falls to the leader to ensure that adequate and productive communication takes place" (n.p.).

Getting Past Words to Action

As in all areas of education, the terminology surrounding technology and education shifts and evolves. We could talk about information and communication technologies (ICTs), educational technology, or technology in education, or we could use the term *technology integration* or maybe *technology infusion*.

There will always be someone who argues that one term is better than another. For some people, the term *technology integration* implies that technology is an add-on or frill incorporated into the existing or traditional educational context when notions of teaching and learning should be radicalized. Similarly, for others, the term *technology infusion* suggests that the existing system or environment needs some kind of injection to prevent it from ailing. As for us, we prefer the term *digital literacies* (which is defined in the next section).

Ultimately, the terms matter less than what we do with technology in our schools.