

# Deconstructing the Metanarrative of the 21<sup>st</sup> Century Skills Movement

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## Abstract

*If Neil Postman, the author of *Technopoly: The Surrender of Culture to Technology* (1993), were alive today, what would he say to Marc Prensky (2010), the originator of the term, “digital native,” about the ways in which teachers should approach the wonders and perils of e-learning in their classrooms? As the Dean of a faculty of education which is devoted to both creating and critiquing a variety of digital teaching and learning strategies in K-12 and adult education contexts, I have kept a close eye on the developing metanarrative of the 21<sup>st</sup> century skills movement (Trilling and Fadel, 2009). Arguments and anecdotes from the movement’s proponents concerning teachers’ technological accountability and competencies are attractive and compelling to some educators at the same time as they are oppressive and disturbing to others. In order to deconstruct the technophilic discourses of Prensky, Trilling, and Fadel, I juxtapose their work with Postman’s cautionary tales about totalitarian technocracy in schools. Postman wants educators to question their taken-for-granted assumptions about the ways in which they and their students should interact with technology. Prensky and his followers wish to provide educators with effective ways to involve their students in experiential learning partnerships through the use of serious gaming, e-books, crowdsourcing, and Facebook. As the views of Prensky and Postman are contrasted, a number of interesting issues emerge. What, for instance, is the nature of moral development and cultural identity formation when collective intelligence, hypertexts, and virtual relationships displace traditional textbook and face-to-face modes of learning? In this paper, therefore, I attempt to synthesize the opposing perspectives of Prensky and Postman in order to establish a balanced and yet critical theory of the nature of e-learning.*

## Introduction

The 21<sup>st</sup> century skills movement has become big business in recent years. Or perhaps it would be more accurate to say that big business has spawned the 21<sup>st</sup> century skills movement. It goes without saying that it is in the economic interest of corporations such as Microsoft, Google, and Apple to encourage educators to make as much use as possible of digital technologies in their schools, colleges, and universities. In the Organization for Economic Cooperation and Development’s (OECD) education working paper on “21st Century Skills and Competencies for New Millennium Learners in OECD Countries,” Ananiadou & Magdalean (2009) argue that “the rhetoric of 21<sup>st</sup> century competencies is seen as yet another facet of an economist approach to education according to which its main goal is to prepare workers for knowledge-intensive economies or even in some cases for particular firms. Instead of putting the emphasis on a harmonious development of all human abilities, the discourse on competencies overstates the relevance of work-related competencies” (p. 6). The OECD report goes on to say that the discourse on 21st century competencies is “hardly relevant in all contexts and there is a risk of enlarging socio-economic disparities when promoting such competencies among the world’s elite” (p. 6). In contrast to the 21<sup>st</sup> century skills apologists, Neil Postman states that: “those who have control over the workings of a particular technology accumulate power and inevitably form a kind of conspiracy against those who have no access to the specialized knowledge made available by the technology” (1993, p. 9). The argument in this paper is that, while the 21<sup>st</sup> century skills movement possesses many pragmatically worthwhile features, its metanarrative of salvation through technology is not balanced in its view of what should count as worthwhile knowledge and pedagogy in schools. To put it concisely, the grand story of the 21<sup>st</sup> century skills movement places too much emphasis upon the accumulation and manipulation of information while it does not sufficiently value the attainment of wisdom.

## Who are the Proponents of the 21<sup>st</sup> Century Skills Movement?

The three proponents of the movement whose work I discuss in the following pages all have strong connections to the computer business community. Bernie Trilling, for instance, currently works for Oracle and was an employee of Hewlett Packard in the past. Charles Fadel is employed by Cisco Systems (Trilling and Fadel, 2009, pp. xvi - xvii), and Marc Prensky has a master's degree from Harvard's Business School (Prensky, 2010, p. xx). Having such credentials and affiliations does not, and should not, disqualify these three writers from sharing with the education community their views about how to develop new pedagogies, but knowing that they are representatives of information technology special interest groups does help, for the purposes of the following argument, to situate their perspectives and to account for the underlying assumptions of their theories of teaching and learning with technology. Two of those assumptions are that: 1) "knowledge work – the kind of work that most people will need in the coming decades – can be done anywhere by anyone who has the expertise, a cell phone, a laptop, and an Internet connection. But, to have expert knowledge workers, every country needs an education system that produces them; therefore, *education becomes the key to economic survival in the 21<sup>st</sup> century*" (Trilling and Fadel, 2009, p. 6); and 2) teachers should encourage "or even require, students to make use of as many different technologies as possible over the course of a semester or school year" (Prensky, 2010, p. 102).

Many organizations around the world share these assumptions and have formed a Partnership for 21<sup>st</sup> Century Skills (or "P21" as it is termed by its members). For those who would argue that P21 is inconsequential or a passing fad, it should be noted that, "although it is focused primarily on the American education system, P21's message is being echoed across the world" (Trilling and Fadel, 2009, pp. 169-170). The Asia-Pacific Economic Cooperative, which includes Canada, Australia, China, and Japan among its member countries, has "enlisted P21's help in formulating strategic plans for the future of education" (p. 169). The United Kingdom's 21<sup>st</sup> Century Learning Alliance and New Zealand's key competencies movement are other examples of the general trend to infuse technological skills into curricula in developed countries around the globe.

In order to justify the expenditure of large amounts of money on computer hardware, software, and infrastructure in schools, the advocates of 21<sup>st</sup> century skills have identified a number of contrasts between traditional and digital pedagogies. These contrasting approaches are listed here as binary oppositions in which the first term represents the traditional, teacher-directed approach and the second term stands for the 21<sup>st</sup> century, learner-centered approach: Direct instruction/Interactive exchange; Knowledge/Skills; Content/Process; Basic skills/Applied skills; Facts and principles/Questions and problems; Theory/Practice; Curriculum/Projects; Time-slotted/On demand; One-size-fits-all/Personalized; Competitive/Collaborative; Classroom/Global Community; Text-based/Web-based; Summative tests/Formative evaluations; Learning for school/Learning for life (Trilling and Fadel, p. 38). In this paper, I deconstruct the metanarrative of the 21<sup>st</sup> century skills movement by questioning the privileging of the second term in a selection of the above oppositions, and I enlist the help of Neil Postman's counter-narrative in which he calls into question the excessive worship of technological solutions for the education system. As Postman sees it, "Embedded in every tool is an ideological bias, a predisposition to construct the world as one thing rather than another, to value one thing over another, to amplify one sense or skill or attitude more loudly than another" (Postman, p. 13).

### Direct Instruction versus Interactive Exchange

Marc Prensky's theory of teaching and learning involves interactive exchanges among students, and between students and the teacher, rather than direct instruction by the teacher. In Prensky's digital pedagogy paradigm, students and teachers share responsibility for the knowledge production that takes place in a classroom. As part of his "partnering" approach to digital pedagogy he has developed a principle which he terms the "Prensky Apostasy" in which "it is the students' job – not the teacher's – to use whatever technology is available" (Prensky, 2010, p. 100). He describes the teacher's role as one of showing "students all technologies that are available," watching "as students use the technologies," and identifying

“(through well-constructed questions rather than telling) potential pitfalls and mistakes that are often made by students when using technology” (p. 102). Teachers are to be guides and facilitators who enable their students to construct their own knowledge with the help of the many technological tools that Prensky lists in his book, such as serious gaming, e-books, crowdsourcing, and Facebook. He believes that “many, if not most, kids can learn on their own if good feedback is provided” (Prensky, 2010, p. 101).

While most current educational theorists, myself included (Greenlaw, 2007), would probably agree that interactive exchange is a valuable strategy for enabling students to construct their own knowledge through problem-based and project-based learning approaches that include guiding questions from the teacher, Postman, were he alive today, might wish to mention that a few guiding questions will not suffice to help students to navigate the vast oceans of information that are now at their disposal through the Internet. “The milieu in which Technopoly flourishes is one in which the tie between information and human purpose has been severed, i.e. information appears indiscriminately, directed at no one in particular, in enormous volume and at high speeds, and disconnected from theory, meaning, or purpose” (p. 70).

The metanarrative of 21<sup>st</sup> century skills undervalues the role of the teacher as an experienced expert who can frame students learning by contextualizing and theorizing along with the students. Teaching is not simply a matter of turning on a computer or an iPad and setting students loose to solve a problem or to do a project. Because of the increasing challenges created by information overload, teachers still need to provide direct instruction about the patterns students may need to consider, the historical background of a problem, or the theoretical perspectives that might help the students to make sense of the information they are gathering and interpreting. The 21<sup>st</sup> century skills movement places considerable emphasis upon the importance of developing students’ critical, creative, collaborative, and communicative skills through interactive exchange, and, to be fair, most proponents recognize the value of traditional direct instruction approaches used in moderation. Postman’s concern is still, nevertheless, warranted. Direct instruction is essential if teachers are to help students to find patterns of meaning amid the vast amounts of information that are currently at their disposal online. Despite their lip service to the value of direct instruction, Prensky, Trilling and Fadel’s descriptions of interactive exchange leave their readers with the impression that students could do quite nicely if teachers would simply get out of the way and let them get on with using computers to teach themselves and each other. This is the same notion that was popular in the 1960s when students were going to learn from televisions and teachers were predicted to become obsolete.

### **Content versus Process**

In Pierre Levy’s notion of collective intelligence, “events, decisions, actions, and individuals [are] situated along dynamic maps of shared context and continuously transform the virtual universe in which they assume meaning. In this sense cyberspace [has become] the shifting space of interaction among knowledge and knowers in deterritorialized intelligent communities” (1997, pp. 14-15). George Siemens’ idea of “connectivism,” agrees with Levy’s notion when Siemens makes the claim that “informal learning is a significant aspect of our learning experience. Formal education no longer comprises the majority of our learning. Learning now occurs in a variety of ways – through communities of practice, personal networks, and through completion of work-related tasks” (2004, p. 1). Both of these authors make the valid point that today’s students learn collaboratively online and that this process is often informal, organic, and complex. The very nature of the content that is created and the ways in which knowledge is now understood are therefore significantly different from the content and learning skills that existed 20 or even 10 years ago.

In the field of humanities studies, George Landow (2006) describes the new ways in which students think laterally across disciplines via the Internet as hypertextual thinking. In the past, if university students were studying a novel by the Nigerian writer, Chinua Achebe, for example, they would read the book, attend a lecture, take part in a class discussion, perhaps read a few articles about the book, and then write an essay which would be read only by their professors. In many current university literature courses, this is still the process that students follow in order to learn the content of their courses. However, through Landow’s Postcolonial Literature website, students and professors from around the globe can now share their views

about the religious, historical, political, and artistic features of Achebe's writing in a rich interplay of theoretical perspectives and lively debates. Landow sees the field of postcolonial literary theory, with its notions of intertextuality and multivocality, converging with ideas such as connectivism and collective intelligence, as university students of literature, for instance, are able to share their theories with other students at a distance, online, and are able to view a wide variety of resources about an author's work. As Landow points out, "The combinations of the reader's control and the virtual presence of a large number of authors makes an efficient means of supporting interdisciplinary learning at a distance. The very qualities that make hypertext an efficient means of supporting interdisciplinary learning also permit students to work without having to be in residence at a geographical or spatial site" (p. 281).

While it is clear that teaching and learning processes are evolving because of the affordances that technology offers, the idea that traditional approaches to teaching are content-driven and that only the 21<sup>st</sup> century approach is process-oriented is too simplistic. When students interact with classmates in a face-to-face learning environment, their discussions may enable them to collectively construct their knowledge of the content they are studying. The meaning of the content shifts according to the individual and group perceptions in its significance. Thus, the meaning of course content has always been shifting and multifaceted according to the learning processes that are applied by the teacher and students. Conversely, it is conceivable that students working together online using the latest 21<sup>st</sup> century skills approaches could nevertheless still share a very static notion of the content which they are attempting to interpret together. A balanced perspective of the relationship between content and process should recognize that it is not simply the particular learning strategy or environment that will give life and fluidity to students' understandings of their course materials, but it is the way the facts and theories in the content are interpreted that will enliven students minds. Again, as Postman would argue, "Information is dangerous when it has no place to go, when there is no theory to which it applies, no pattern in which it fits, when there is no higher purpose that it serves" (p. 63). Teachers using traditional and current approaches to guiding their students' interpretations of content will enable them to find the higher purposes to which their educational quest should aspire. 21<sup>st</sup> century skills advocates who divorce content knowledge acquisition from traditional teaching processes run the risk of leaving their students adrift on a sea of information with no compass to guide them. I am arguing here not for the indispensability of teachers, but for a better balance between teacher driven activities and student centered online learning activities than is recommended by the partnership for 21<sup>st</sup> century skills.

### **One-size-fits-all versus Personalized**

According to Trilling and Fadel, "The net gen expectations present new sets of demands on our education systems – demands that are coming from education's clients and customers – the growing ranks of net generation students.... A one-size-fits-all factory model and one-way broadcast approach to learning does not work well for these students" (p. 30). Instead, net generation students require in their lives "freedom to choose what's right for them and to express their personal views and individual identity... customization and personalization, the ability to change things to better suit their own needs... entertainment and play to be integrated into their work, learning, and social life... speed in communications, getting information, and getting responses to questions and messages...[and] innovation in products, services, employers, and schools, and in their own lives" (pp.29-30). In other words, net generation students, according to Trilling and Fadel, possess short attention spans, need to be entertained, and expect to be catered to instantly by their teachers. To a certain extent, Postman agrees with this assessment of young people who have been raised on a constant diet of digital media. He is concerned that children come to school having been conditioned by their exposure to non-print media. "There, they encounter the world of the printed word. A sort of psychic battle takes place, and there are many casualties - children who can't learn to read or won't, children who cannot organize their thought into logical structure even in a simple paragraph, children who cannot attend to lectures or oral explanations for more than a few minutes at a time" (pp. 16-17). But Postman disagrees with the fundamental notion that, because students like to learn from a variety of media, teachers should avoid challenging them to learn in more traditional ways.

Notice that Trilling and Fadel refer to students as “clients and customers.” If the purpose of the education system was to sell hardware and software, iPads and videogames, to students, then perhaps this metaphor would make sense. But educators are not in the business of providing edutainment for their students. Instead, hopefully, they are involved in the higher calling of growing minds. While wikis and e-books can stimulate young minds, so can reading a lengthy novel or learning to play a musical instrument through years of practice. Teachers do not need to cater to every whim of their students as if schools were shopping malls. Students should, by all means, be introduced to all kinds of digital media as they learn about history, math, or biology, but they should also be given the opportunity to develop disciplined minds that can learn through traditional media as well.

The idea that schools should personalize their students’ learning is not new. Recognizing students’ diverse learning needs has been a staple of teacher education for several decades. Reader response approaches in literacy education, differentiated instruction to meet the special needs of students with different learning styles, and independent research projects across the curriculum were all advocated by teacher educators long before computers were a commonplace in schools. So rather than setting up a false dichotomy between the one-size-fits-all and the personalized approaches to pedagogy, 21<sup>st</sup> century skills advocates should perhaps consider ways in which whole class instruction, collaborative work, and independent study can be blended together to provide the students with a variety of learning opportunities. As Postman would advise them, “every culture must negotiate with technology, whether it does so intelligently or not. A bargain is struck in which technology giveth and technology taketh away. The wise know this well, and are rarely impressed by dramatic technological changes, and never overjoyed” (p. 5). The fact that students have computers or iPhones at their disposal does not mean that they need to employ them to network socially online all of the time to the exclusion of having a traditional, whole class, face-to-face discussion. Students also still need to develop the ability to listen occasionally to their teacher lecture on a topic for 15 or 20 minutes because, when they graduate from school and find themselves attending meetings where reports are presented, they will need to be able to concentrate and take notes in order to follow an extended argument.

### **Classroom versus Global Community**

One very attractive feature of the 21<sup>st</sup> century skills movement is the claim that teachers can enhance their students’ intercultural communication skills and global awareness by connecting them to students in other classrooms around the world. I have written extensively myself on this topic (Greenlaw, Desjardins, and Robertson, 2009; Greenlaw 2005a, 2005b, 2001, 2000, 1997), and am in full agreement that the Internet can provide excellent opportunities to connect students in this way. The idea that the walls of the classroom can disappear and that students can communicate across cultures and continents to learn directly from each other is wonderful. But, the fact remains that such initiatives are currently the prerogative primarily of teachers and students in developed nations. Enhancing the 21<sup>st</sup> century skills of students in Canada or Australia does little to lessen the digital divide for school children in Ghana or Afghanistan. A large percentage of children in developing nations still lack access to basic schooling of any kind, let alone digitally enhanced learning environments. Yet Trilling and Fadel tell the story of a student in Ghana who uses an Internet café to take part in a ThinkQuest competition with partners in the United States and Australia. “Harry grew up in a village on the outskirts of Kumasi, a city north of Ghana’s coastal capital, Accra. His local high school was just introducing computers into the curriculum when he entered. Harry was not sure about these machines at first, but eventually he understood just what a computer could do and suddenly he saw his future before him” (Trilling and Fadel, 2009, p. 144). Harry eventually won a computer and a free trip to the United States because of his heightened 21<sup>st</sup> century skills. The real issue around 21<sup>st</sup> century skills is that students in developed nations are encouraged to enhance their technological competence in order to become competitive in the global knowledge economy. The fact that students in developed nations are continuing to gain a competitive edge through 21<sup>st</sup> century skills does nothing to enhance the life chances of Harry’s many friends in Ghana who have no access to the Internet. It is important for those who preach the gospel of salvation

through technology to acknowledge that the problems of the third world will not be solved through programs such as ThinkQuest.

### **Learning for School versus Learning for Life**

My final point of contention with the 21<sup>st</sup> century skills movement concerns the question: What is the nature of moral development and cultural identity formation when collective intelligence, hypertexts, and virtual relationships displace traditional textbook and face-to-face modes of learning? The 21<sup>st</sup> century skills advocates believe that traditional teachers have been preparing students to survive in school rather than to become life-long learners. Their vision of life-long learning, however, seems to involve preparing people to be effective workers in the constantly evolving knowledge economy. As Postman observes, "technology imperiously commandeers our most important terminology. It redefines 'freedom,' 'truth,' 'intelligence,' 'fact,' 'wisdom,' memory, 'history,' - all the words we live by" (pp. 8-9). When "traditional" history teachers involve their classes in a discussion about the causes and effects of World War II, they do not simply require their students to memorize dates of battles. They prepare their students for a life in which they can examine any new war in terms of its relation to past conflicts. Whether the content that they introduce their students to is in textbook form or is gleaned from Holocaust websites is not the issue. Students who are to become good citizens and critical thinkers can benefit from a well-taught history lesson from an expert. It is the structure of the lesson and the feedback from the teacher and the students' peers that will determine the depth of understanding that is attained, not whether the student accessed the information from five websites with an iPhone or shared their assignment with fellow students in another country online.

In all subject areas there are excellent opportunities provided by digital pedagogies to shape students into morally responsible citizens and life-long learners. But there are also some potential traps for young people who are developing their moral identity online. In Stephen Matthews work on "Identity and Information Technology," he states that "The human body is the central 'site' marking the boundaries for the human self. It is the vehicle within which we present ourselves as moral beings. The embodied self is recognized by others as the central place for determining who we are, for it is the central means of self-expression and the locus of human agency. Thus, processes that alter the quality, shape, or extent of bodily identity are implicated in changes to ourselves as moral and social beings" (pp. 143-144). While it is true that students can learn much from the friends that they make online both in formal educational settings and in their recreational Internet activities, Matthews raises an important issue about the way students develop their identities within face-to-face and virtual environments. In an era when many students in developed nations spend a great deal of time in the virtual world, it is important to help them to move between the virtual and real worlds as critical thinkers. Some 21<sup>st</sup> century skills that we are inadvertently teaching students such as cyber bullying and plagiarizing are developing in part because students are losing their embodied sense of who they are as moral agents in the real world. Good old fashioned 20<sup>th</sup> century skills in face to face conflict resolution and service learning must continue to be essential features of a balanced 21<sup>st</sup> century learning experience in schools if we wish to continue to shape caring and morally responsible citizens into the future.

### **Conclusion**

According to Trilling and Fadel, "The need for knowledge workers to create and innovate new products and services that solve real problems and meet the needs of real customers is a major driving force for economic growth and work in the 21<sup>st</sup> century" (2009, p. 24). Be that as it may, "new technologies change what we mean by 'knowing' and 'truth'; they alter those deeply imbedded habits of thought which give to a culture it's sense of what the world is like - a sense of what is the natural order of things, of what is reasonable, of what is real" (Postman, p. 12). In this article, I have argued that there is nothing wrong with engaging students in experiential learning via digital pedagogies. In fact, I encourage the instructors in my faculty of education to take every opportunity to introduce their student teachers to the amazing array of websites and software that are at their disposal as teachers. Nevertheless, while we collectively step into the brave new world of 21<sup>st</sup> century skills that is described by theorists such as Marc Prensky, let us move cautiously, so that we can

manage to retain those features of good teaching and learning that have been established by great educators from Socrates to Chomsky. Instead of simply paying lip service to collaboration, critical thinking, and creativity, I recommend that teachers and teacher educators be careful to continue to give students the kinds of challenging learning assignments that will combine known, powerful, traditional pedagogies with the best of 21<sup>st</sup> century learning opportunities. Students' future identities as moral agents, responsible citizens, and life-long-learners depend upon their teachers striking a wise balance between traditional and contemporary approaches to guiding their learning.

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