

Planning to Effectively Motivate Digital-Age Learners by Addressing Their “High-Tech” Interests and Their “High-Touch” Needs

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ABSTRACT

The authors of this thematic article present contemporary information about the “high-tech” usage and interests of digital-age students at all levels of the instructional spectrum as well as information about their “high-touch” learning needs in various cultural contexts. The purpose of this article is to guide educators in planning and implementing programs, projects, and learning assignments that captivate contemporary student interests and address their historical learning needs so as to improve motivation and academic achievement. Contemporary technological usage information including: hardware, software, personal communication devices, and instructional applications collected from various sources is identified to provide insight about the exponential growth of technology as well as its educational potential to capture the interests and motivate digital-age learners. This information will be synthesized with social psychology and education change research of the past half century that has demonstrated the significance of the organizational, social, professional, and personal needs of individuals associated with the successful acquisition of knowledge and skills as well as the implementation innovations. Thus, the focus of this article is to facilitate comprehension of the contemporary “high-tech” interests and usage rates of digital-age students as well as to encourage professional reflections about educational planning that combines those interests with their respective “high-touch” learning needs. Thus, the intended outcome of this article is to provide useful information in order to promote effective curriculum and instruction planning to increase student achievement in both developed and developing countries in the second decade of the Twenty-first Century.

INTRODUCTION

Educators have historically, but often reticently, employed “high-touch” approaches with their respective contemporary “high-tech” tools to effectively motivate learners. However, educators have also historically questioned the applications of innovative technologies in learning settings. Some have even found it very difficult to use new learning tools and replace their previously successful approaches. Consider the following historical commentaries identified by Rinaldo (2013) from educators concerned about their students’ use of “innovative” technologies in their respective learning settings (as cited by Williams, 2008, p.213):

- “...Students can no longer prepare bark to calculate problems. They depend instead on expensive slates. What will they do when the slate is dropped and

breaks?” as questioned by an educator in the American colonies in 1703.

- “...Students depend on paper too much. They no longer know how to write on a slate without getting dust all over themselves. What will happen when they run out of paper?” queried an educational leader at a professional meeting in 1805.
- “...Students depend too much upon ink. They no longer know how to use a knife or sharpen a pencil...”, as exclaimed by a teacher at a National Association of Teachers conference in 1907.

The above educators’ commentaries about technological usage by students amplify that technological changes in the educational process are often feared and misunderstood. However, our contemporary world is “flat” and is getting “flatter” every day due to the technological revolution that has occurred since World War II (Friedman, 2008; Friedman & Mandelbaum, 2011). Technology has become pervasive in our everyday life and most people are using more technology at an earlier age in order to complete several of their daily living functions (Healy, 1999; Jukes, McCain, & Crockette, 2010). Figure 1 illustrates the pervasiveness of technology in our contemporary world.

Figure 1. Technological uses in our contemporary world

The top 10 in demand jobs in 2010 did not exist in 2004.
We are currently preparing students for jobs that do not yet exist and for using technologies that have not been invented.
The United States Department of Labor estimates that today’s learner will have 10-14 jobs by the age of 38.
The amount of new technical information is doubling every two years. For students starting a four-year degree that means that half of what they learn in their first year of study will be outdated by their third year of study.
There are 845 million of active users of Facebook.
There are 31 billion searches on Google every month. In 2006, this number was 2.7 billion.
The first commercial text message was sent in December 1992. Today the number of text messages sent and received everyday exceeds the total population of the planet
The number of internet devices in 1984 was 1000. In 1992 it was one million and in 2008 it exceeded one billion.
There are 540 thousand words in English language which is about 5 times as many as during Shakespeare’s time.
One out of eight couples married in the U.S. last year met online.
Revenue from the iPhone and iPad now account for 72% of Apple’s total revenue. Neither item could be purchased five years ago.

Note. Information retrieved and modified from Youtube, 2012.

Individuals are now classified in our contemporary society as belonging to one of the following three technology-oriented groups of people based on their technological usage: a) digital natives; b) digital immigrants; or c) digital visitors (Jukes et al., 2010). Accordingly, digital natives are those people (especially Generation X and later) who have grown up using technology from their earliest communicative experiences and, thus, technology is something they readily do and gravitate towards naturally without really thinking about it. Whereas, digital immigrants are those people (especially employed ‘baby

boomers’) who have recognized the need to utilize technology; such as cell phones, iPads, Facebook, Twitter, and blogs, in their work, leisure, and home life experiences in order to maximize both their productivity and communications abilities, as well as to improve their marketing proficiencies. Digital visitors are those people (especially retired senior citizens) who occasionally use technology to assist in their daily life experiences and to communicate with family and friends.

Thus, technology surrounds and abounds daily and frequently but each of us employs it differently to accomplish our various life goals, communicative needs, occupational orientations, and learning requirements. Reflecting about the current and future usage of technology and its veritable preponderance in our contemporary existence is a valid approach to understanding our current real world but to specifically and proactively think about using technology in teaching and learning situations is an absolute necessity for educational planners in this second decade of the Twenty-First Century.

The organizational needs of all learners include: cooperation or teamwork, sense of continuousness or connectivity, comprehensive perspectives or gestalt visions, and concrete or “hands-on/thumbs-down” applications (Freire, 1973; Fullan, 1999; Harnack, 1968; Miller, 1981; Yuhasz, 1974). The social needs for behavior changes such as cognitive learning include: communication, empowerment, assistance, leadership, opportunity for personal growth, and time for schema development, reflection, and practice (Brandt, 2000; Hall & Hord, 2006). The personal needs of all learners include: personal commitment, sense of challenge, feeling of control, propensity for creativity, and a experiencing a caring attitude (Collins, 2001; Csikszentmihalyi, 1990; DePree, 1989; Glasser, 1990; Kobasa, Maddi & Kahn, 1982). These learning needs have been referenced as “high-touch” needs and collectively have been articulated as “effective change zone” components that facilitate individual and group cognitive learning, reinforce resiliency, and promote change coping strategies (Polka, 2007).

When educators employ modern technologies that appeal to the “high-tech” interests of their contemporary “digital native” students and, also, address those “high-touch” learning needs then the educational outcomes are more successful due to the personally motivating and rewarding nature of the resultant programs, projects, and activities (Polka, 2010b).

CONTEMPORARY “HIGH-TECH” INTERESTS OF STUDENTS

The tables included in this section provide illustrations of the rapid growth, expansion, and usage of technology especially in the last decade of the twentieth century and the first decade of the twenty-first century.

Table 1
Evolution and usage of selected “high-tech” hardware systems in the United States

Hardware Type	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
Home Computer	8.2 million	15 million	22.9 million	51 million	62 million	*	
Cell Phones	340 thousands	5.2 million	33.7 million	109 million	208 million	300 million	337 million
iPod	N/A	N/A	N/A	N/A	30 million	275 million	350 million
X-Box	N/A	N/A	N/A	N/A	6 million	17 million	70 million

Note. *Since 2007, no data was collected on home computer usage

The data identified in Table 1 were collected from the following sources: About.com (n.d.), Askville (n.d.), FreshlyMobile (2013), Infoplease.com (n.d.), Yin-Poole (2012), Wikia (n.d.) and Wikipedia (2013). Table 1 specifically identifies the rapid growth in the usage of home computers, cell phones, iPods and X-Boxes. Obviously, these technological tools were much more common-place and readily visible and available to students born during the last twenty-five years. These are communication and information devices that they have grown-up using and for which they have developed unique interaction styles. The home computer, cell phone, iPods and X-Boxes are as familiar to them and as useful to them in their world as the transistor radio, cassette player, and portable television was to their parents and grandparents. The question is...do educators employ these contemporary tools effectively in their teaching and learning situations or do they attempt to have them checked at the classroom door? Educational leaders need to remember that the tools of your culture that you “grow-up with”...you take for granted, and you expect that they will be used in your daily life experiences whether at home, at leisure, at work, or at school. But, education has always “lagged behind” contemporary culture and that may be one of the key reasons that it has often been termed by students as being either “irrelevant”, “boring”, or “out of touch” with reality (Jukes et al., 2010).

And, this rapid exponential growth in the availability and use of technology is not limited to the contemporary world’s most advanced countries as evidenced by a recent United Nations report (Stanley, 2013) that provided the following global statistics regarding technology and quality of living:

- Out of seven billion people, six billion have a mobile phone.
- Out of seven billion people, 4.5 billion have a modern toilet.
- In India, there are 900 million cell phone users, however only 70% of the population has access to proper sanitation.
- Globally, people living in abject poverty have cell phones.

Table 2
Evolution and usage of common “high-tech” software systems

Software Type	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
Internet Usage %	N/A	N/A	N/A	18%	41%	69%	79%
Google #s	N/A	N/A	N/A	N/A	22 billion searches	953 billion searches	1.2 trillion searches

Note. Internet usage is measured per US household
Information retrieved from Malik, 2009; OwenGreaves.com, 2012 and Statistic Brain, n.d.

Table 2 illustrates the rapid increase in usage of common “high-tech” software systems such as the Internet and specifically one well-known online server, Google. Both of these systems did not “exist” for public consumption 20 years ago but note that almost 80% of U.S. homes have internet access at present time and, also note, the incredible usage of the Internet, specifically the Google server as a source of information for people who want to learn! The meteoric increase in usage of Google alone in the past ten years emphasizes its value as a ready resource for all kinds of learners and their various interests.

Table 3
“High-tech” Social media usage by age group

Ages (in years)	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
18-29	N/A	N/A	N/A	N/A	8%	86%	92%
30-49	N/A	N/A	N/A	N/A	7%	68%	77%
50-64	N/A	N/A	N/A	N/A	6%	47%	57%
65+	N/A	N/A	N/A	N/A	0%	26%	38%

Information retrieved from Pew Internet, 2013.

Table 3 identifies the social media (i.e.: wikis, Twitter, Facebook, blogs) usage by age group during the past dozen years. It should be noted that these contemporary forms of interpersonal communications didn’t exist prior to 2000 so the usage data certainly is skewed in favor of those who were born during its existence. But, the discrepancies between the age groups and their usage reinforce the “familiarity” of growing up with these “high-tech” tools and the previously identified concept that when individuals grow-up with technology they take it for granted and it becomes part of their real world as “digital natives.” Whereas, older generations continue as either “digital immigrants” trying to assimilate these new tools as fast and as best as they can or as “digital visitors” observing the phenomena and occasionally using it.

Table 4
Evolution of “High-Tech” social media usage by device and software

Methods of Social Media Usage	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2012
Wi-Fi Devices	N/A	N/A	N/A	N/A		55 million	135 million
Facebook	N/A	N/A	N/A	N/A	5.5 million	608 million	1.01 billion
Twitter	N/A	N/A	N/A	N/A	N/A	26 million	500 million

Information retrieved from About.com, 2011; Associated Press, 2012 and Lunden, 2012.

Table 4 provides additional data related to the incredible expansion in usage of social media in our contemporary world. It should be noted that, as the data illustrates, if “Facebook” were a nation it would be the third largest in population in the world behind only China and India! But, that probably will also change rapidly to the point where “Facebook” will have more users than any nation has people! Again, the key questions to be raised to educational planners are; in what manner and how frequently are we employing these tools in our contemporary instructional activities given the attractiveness of these “high-tech” tools to our students?

However, there are numerous educators who have recognized the instructional value in using the students’ “high-tech” interests to improve their academic achievement levels. A contemporary trend that has blended this student “high-tech” interest with learning is known as “Flipping the Classroom.” Accordingly, experts who are experimenting with this approach have stated, “...it works because the students love using the technology for learning at their own pace and in their own place” (Maynard, 2013). The flipped classroom

concept is where the teacher’s lessons, lectures, and discussions about a topic are provided to the students via social media and the time in the classroom is spent reviewing the material and practicing the applications; in other words, the lessons are delivered to the students via social media during non-traditional times such as at home or after school, actually whenever, the student has the time and the urge to learn the key material of the subject. Subsequently, classroom time is spent with the teacher working individually or with groups of students assisting them with what may have been the “homework” of the past or the applications of the content to reinforce the learning but under the guidance of the teacher.

Table 5
Frequency of Flipped Classroom lesson delivery statistics

Web site	Date Created	Total # of Lessons Delivered
Bozeman	2010	8 million
Khan Academy	2006	244 million
TED Ed	2012	126,000

Information retrieved from TED Ed, n.d.

Table 5 provides evidence of the popularity of flipped classroom lessons that are available online for teachers in all subject areas and at all grade levels. So, there are some indicators that educators are using the “high-tech” interests of their students to facilitate their academic achievement. Of course, this is a relatively new approach to learning so that data is limited but, the technological tools to assist in this approach have been used by most students most of their lives!

HIGH-TOUCH ORGANIZATIONAL NEEDS OF STUDENTS

In order to improve teaching and learning, educators have applied various planning principles, instructional strategies, and organizational schemas (Brandt, 2000; Brooks & Brooks, 1993; Cook, 1995; Darling-Hammond, 1997; Dewey, 1938/1996; Doll, 1972; Eisner & Vallance, 1974; Freire, 1973; Fullan, 1999; Hyman, 1973; Kaufman, Herman & Watters, 2002; Lieberman, 1986; Norton, 2005; Ornstein & Hunkins, 1988). Accordingly, several useful planning approaches and paradigms have emerged, however, common denominators of most of those paradigms incorporate four key organizational change needs as initially enumerated by Krug (1957). These four “high-touch” organizational needs of students at any age are necessary to facilitate the maximization of their learning and have been cogently enumerated as: cooperativeness, comprehensiveness, continuous, and concreteness. These four organizational needs are consistent with those initially expressed by Maslow (1968) and recently investigated by Prentice, Halusic, & Sheldon (2014) in their “needs-as-requirement approach” that stresses the significance of fulfilling the personal sense of belonging, competence, and autonomy for individual growth that leads to positive outcomes (p. 74). Tay and Diener (2011) also found that mastery, support and love, direction, and autonomy each contributed to individual and organizational well-being in 123 different countries which attests to the universality of these needs. Table 6 provides

operational definitions each of these “high-touch” organizational needs as articulated by Polka (2010b).

Table 6
The Four High-Touch Organizational Needs of Learners

Organizational Needs	Operational Definition
Cooperativeness	The human need for gregariousness and collegiality in learning as evidenced by the attractiveness achievement success of group work and learning teams in various educational experiences.
Comprehensive	The individual need to consider a variety of real and potential intervening variables (people, things, and ideas) that impact an individual’s learning.
Continuousness	The need to constantly monitor and adjust the applications of new knowledge by either adapting or adopting that knowledge into existing mental images or schemas.
Concreteness	The human need for specific instructional examples and/or artifacts related to applying and further reinforcing the acquisition of new knowledge and skills.

High-touch Social Needs of Students

The six specialized “high-touch” social needs or key collaborative expectations of individuals engaged in learning new knowledge and skills were specifically articulated in educational research as: communication, empowerment, assistance in decision-making, leadership, opportunity for personal growth and time (Harnack, 1968). These six specialized “high-touch” social needs were further reinforced as keys in effectively planning meaningful and successful educational activities in subsequent research studies (Beane, Toepfer & Alessi, 1986; Brandt, 2000; Hall & Hord, 2006; Miller, 1981; Polka, 1977; Yuhasz, 1974). These six specialized social needs have also been identified as critical to successful short-term behavioral changes as well as to the long-term sustainability of those personal changes (Fullan, 2005; Hall & Hord, 2006; Kotter & Cohen, 2002).

In addition, Deci and Ryan (2002) reinforced the importance of these social needs as they postulated that ‘relatedness’ is characterized by feelings of a meaningful connection or belonging with important. Ozad and Uygurer (2014) found that social networks play an important role in meeting the attachment or relatedness needs of individuals engaged in learning new skills and knowledge. Deci and Ryan (2011) also hypothesized that psychological need satisfaction predicts behavioral engagement because individual satisfaction provides energy and direction to continue engaging in specific learning behaviors others (as cited in Gunnell, Crocker, Mack, Wilson & Zumbo, 2014). Truscott et al. (2012) presented additional evidence from various contexts that an individual’s involvement in social situations that promote proactive commitment enhances their respective psychological development, motivation, and subjective well-being. Table 7 provides operational definitions of each of these “high-touch” specialized social needs as articulated by various contemporary researchers concerned with this dimension (Griesmer, Lonneville, Scully, Haseley, & Polka, 2013; Lewis & Polka, 2014; Polka, 2010b; Polka & Kardash, 2012):

Table 7

The Six Specialized High-Touch Social Needs of Learners

Specialized Social Needs	Operational Definition
Communication	The need to interact with others about diverse thinking and feelings relating to learning new knowledge and skills.
Empowerment	The need to have significant input relating to the learning and applications of new knowledge and skills.
Assistance	The need to know that various resource personnel, in addition to the teacher, are available to help scaffold the learner as they acquire new knowledge and skills.
Leadership	The learner is acutely aware that others will provide guidance and lead him or her to successfully acquire new knowledge and/or skills.
Opportunity	The learner is acutely aware of both the short-term and long-term benefits associated with gaining new knowledge and skills.
Time	The learner is given ample time to practice and apply their new knowledge and skills in a variety of diverse ways for reinforcement and enhancement.

High-touch Personal Needs of Students

The five personal “high-touch” needs or learning dispositions: challenge, commitment, control, creativity, and caring have been identified as key factors contributing to individual and organizational successes in coping with cognitive and emotional changes (Csikszentmihalyi, 1990; DePree, 1989; Glasser, 1990; Kobasa et al., 1982; Polka, 2007; Polka, 2009; Polka, Mattai, & Perry, 2000; Stossel, 1992). These five personal “high-touch” needs have also been identified as critical to the successful short-term acquisition of knowledge and skills as well as to the long-term sustainability of those newly-learned knowledge, skills, and or behavioral changes (Fullan, 2005; Kotter & Cohen, 2002; Hall & Hord, 2006). Citing Masten and Cicchetti, Vansteenkiste and Ryan (2013) stated that when these personal needs are met there is a feeling of wellness, appreciation, sense of identify and enhanced mental functioning. As a result of their research they concluded that,

when individuals experience supports for autonomy, relatedness, and competence, they are prone to fuller internalization and, thus, greater autonomy in acting because personal need satisfaction not only serves as the necessary fuel for the internalization of behavioral change, but also greater internalization in turn contributes to elevated need satisfaction. (Vansteenkiste & Ryan, 2013, p. 267)

Thus, addressing these personal needs contributes to implementation successes as documented in the behavior change literature and research (Polka, 2010b). The five personal “high-touch” needs are concisely explained in Table 8.

Table 8

Personal Needs

Personal Needs	Operational Definitions
Challenge	The need to see the value in learning new knowledge and skills as an opportunity not a laborious task or crisis.
Commitment	The need to personally experience and “see and feel” in others associated with the specific teaching and learning process a strong belief in the value of knowledge and skill acquisition and improvement.
Control	The learner’s need to influence their learning of new knowledge and skills according to their interests, aptitudes, and dispositions
Creativity	The learner’s need to envision diverse applications of concepts and strategies associated with the newly acquired knowledge and skills.
Caring	The learner’s human need to experience a nurturing family atmosphere and attitude in their learning places.

High-Touch Summary

Educational leaders who address these personal needs are congruent with the concepts articulated by behavior change researchers and cognitive learning specialists who identify that, “Both thinking and feeling are essential, and both are found in successful organizations, but the heart of change is in the emotions. The flow of see-feel-change is more powerful than that of the analysis-think-change.” (Kotter & Cohen, 2002, p. 2).

The significance of addressing the above organizational, social, and personal needs in facilitating knowledge acquisition and promoting behavioral changes associated with learning has been researched for more than twenty years (Polka, 2010a). A New York sample of 279 educators, specifically identified the significance of a needs-based approach for changing the cognitive perceptions and skill usage associated with technological changes in education (Polka, 1994). Additional studies replicated that research including a study of 312 educators from two different samples at the end of the 20th century that reconfirmed the significance of these “high-touch” needs as key factors to be addressed when promoting individual and collective group or organization educational changes (Polka et al., 2000). Those research findings were corroborated by the study of more than 1200 K-12 teachers that identified the importance of the “high-touch” interpersonal relationships displayed by educational leaders who facilitated effective school innovations (Blasé & Kirby, 2000). In addition, a study of 229 Georgia educators in 2007 reconfirmed the significance of these needs to educators implementing major curriculum changes such as the large scale Georgia Performance Standards (Polka, 2009). Also, a qualitative case study related to the implementation of a “1 to 1 computer laptop” project identified the significance of these “high-touch” needs for educational planners and policy-makers (Polka & Kardash, 2012). In addition, a retrospective case study analysis of a successful implementation of a student behavior modification program illustrated the significance of addressing the “high-touch” needs of teachers in order to implement educational innovations to change student behaviors (Lewis & Polka, 2014).

The results of those studies also reinforce the importance of addressing the above needs in a customized manner based on the realities of the people, things, and ideas within the specific educational contexts. Consequently, education planners must not only recognize the imperativeness of focusing on these organizational, social, and personal needs but, also, must acknowledge that there may be diverse hierarchies of these “high-touch” needs

based the dispositions of their students as well the specifics of their respective educational settings. Educators must be prepared to address these needs but must also provide for them in appropriate ways given the uniqueness of the respective context where their students learn. And, educators must constantly be aware that these needs change over time as the people, things, and ideas of education are in a state of constant flux within specific contexts (Polka & Guy, 2001).

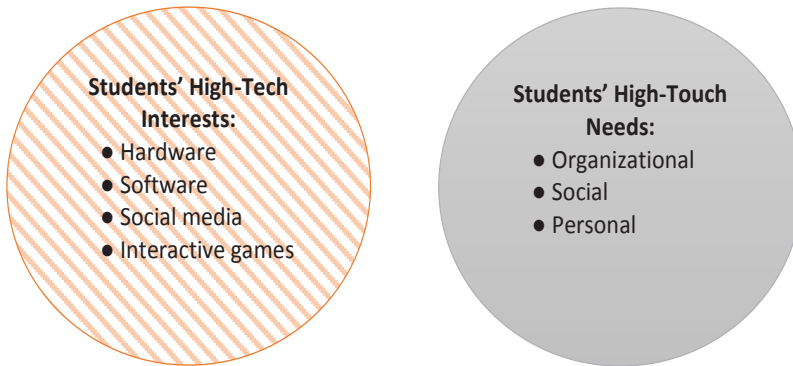
EFFECTIVE CHANGE ZONE AND EFFECTIVE PLANNING ZONE

Focusing on the nexus of those “high-touch” needs of contemporary learners with their previously identified “high-tech” interests has been comprehensively investigated by the authors of this manuscript and subsequently resulted in the development of the “Effective Planning Zone” paradigm. This “Effective Planning Zone” is based on the theoretical framework associated with the “Effective Change Zone” initially developed by Polka (2007) and subsequently researched in various contexts (Griesmer et al., 2013; Polka, 2009; Lewis & Polka, 2014; Polka & Kardash, 2012) associated with implementing innovations. Accordingly, effective leaders engage and support others in their learning and behavioral change process by using both their unique interpersonal teaching artistry and their comprehensive knowledge about behavior science (Norton, 2005; Polka, 2010b; Senge, 1990; Von Bertalanffy, 1950). They focus on the organizational, social or professional, and personal needs of individuals involved in learning as they interact with people, things, and ideas in the “Effective Change Zone” (ECZ) to make and sustain significant personal and group cognitive and skill changes (Polka, 2007; Polka, 2009; Polka, 2010b). This change zone is associated with effective practical applications of the Vygotsky concept known as the “Zone of Proximal Development” (ZPD). This is the critical behavior and/or cognitive change area for individuals where learning and behavioral change is optimum: “...the point of readiness for a given concept” (Slavin, 2006, p.44).

The “Effective Planning Zone” is a viable educational planning model predicated on the implementation principles, cognitive and emotional change behaviors, and outcomes associated with operating in the “Effective Change Zone” to promote innovations. The “Effective Planning Zone” emerged as this research team reviewed and analyzed the “actions” related to “Effective Change Zone” experiences in various settings and reviewed education references related to employing student interests and needs for effective teaching and learning (Beane et al., 1986; Brooks & Brooks, 1993; Danielson, 1996; Darling-Hammond, 1997; Dewey, 1938/1996; Doll, 1972; Harnack, 1968; Jukes et al., 2010; Marzano, 2003; Voltz, Sims, & Nelson, 2010). They considered the value of developing a planning paradigm and stages for educational planners to consider in designing programs that capture the “high-tech” interests of students as well as providing for their “high-touch” learning needs. The imperativeness for educators to address both the “high-tech” interests as well as the organizational, social, and personal “high-touch” needs of contemporary learners has been previously identified in this article. But, the Figure 2 “Effective Planning Zone Stages” provides a representation of the planning process stages that educational planners may use as references to assess the current status of their planning with the goal of incorporating both student high-tech interests with their high-touch needs in educational programs, curriculum objectives, and instructional techniques.

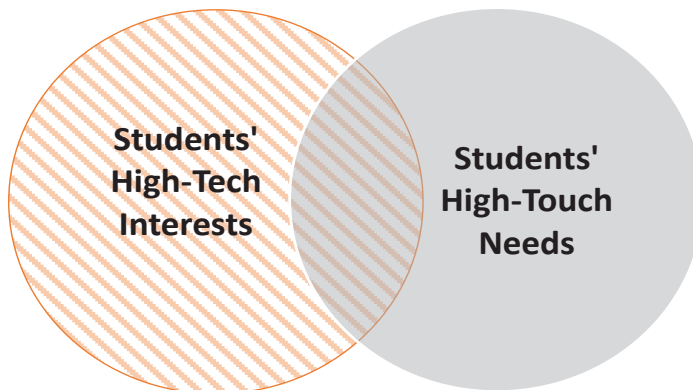
Figure 2. Effective Planning Zone Stages

Stage 1. Ineffective Planning Approach for Digital Age Students



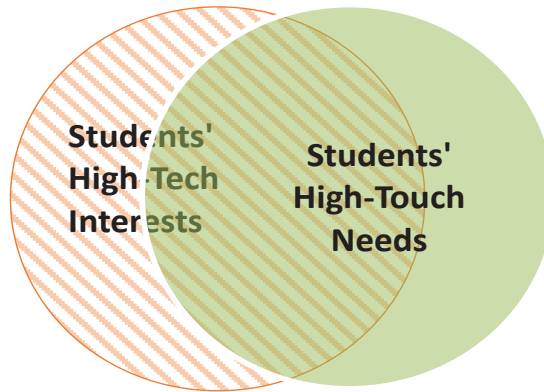
In the above Stage 1, student high-tech interests and high-touch learning needs are separated or generally isolated from each other by educational planning perspectives and/or policies that specifically prohibit student engagement with contemporary technology in learning. This is similar to the previous references in this paper regarding how some educators in the past felt about the use of slate boards, pencils, ink pens, and other “innovative” technological tools. Some school administrators prohibit students from bringing their technologies with them to school. They must be “checked at the door” or locked in a storage cabinet. This is not a technology for learning user-friendly environment.

Stage 2. Moderately Effective Planning Approach for Digital Age Students



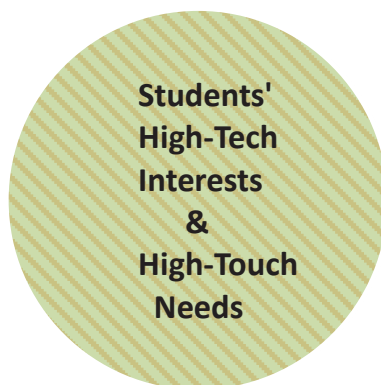
In the above Stage 2, student high-tech interests and high-touch learning needs are integrated to some extent. Educational planning perspectives and/or policies restrict but do not prohibit student engagement with contemporary technology in learning. Student access to technology for learning is encouraged but limited to prescribed programs and activities designed for them by their teachers and administrators. Students may bring their technologies into their learning environments but the usage is restricted in time, place, and subject matter. This is a more technology for learning user-friendly environment.

Stage 3. More Effective Planning Approach for Digital Age Students



In the above Stage 3, student high-tech interests and high-touch learning needs are more generally integrated into the teaching and learning process. Educational planning perspectives and/or policies are more technology user-friendly as most of the teachers and administrators view technology as a valuable tool for learning and teaching as well as view student high-tech interests as a key asset to academic achievement. Student access to technology for learning is widely encouraged including online experiences, but usage is still somewhat limited to assure fidelity with school technology usage policies. Students may bring their technologies into their learning environments and use them with little restrictions in terms of time, place, and subject matter. There is expanded regular use of high tech software to augment lessons and “Flipped Classrooms” are appearing more frequently as the role of the teacher is definitely transitioned from the “Sage on the Stage” to the “Guide on the Side.”

Stage 4. Most Effective Planning Approach for Digital Age Students



In the above Stage 4, student high-tech interests and high-touch learning needs are congruent and fully integrated into the teaching and learning process. Educational planning perspectives and/or policies are technology user-friendly as teachers and

administrators view technology as a key tool for learning and teaching effectively in the digital age. Student access to technology for learning is promoted and encouraged with numerous online learning experiences and opportunities for students to “Bring Their Own Devices” (BYOD) including “Digital Backpacks” loaded with multiple and varied digital communication devices into their learning environments that are not limited in terms of time, place, and subject matter but there are still subject to policy considerations to guard against abuses.

SUMMARY

Effective learning zone focused educational planners are definitely proactive, raise the awareness levels of learners about collective interests, and help learners achieve unusually high performance outcomes (Hoy & Miskel, 2005). They plan and manage instruction in a systematic manner scaffolding complex cognitive and behavioral changes using simple, but sound constructivist teaching principles and strategies associated with individual student interests that can be appreciated, articulated, and internalized by all involved (Hall & Hord, 2006). They address the various personal components included in each of the above three key “high-touch” need areas in order to make and sustain learning growth and development for all students. They appropriately blend the “high-tech” interests and the “high-touch” needs of students to effectively motivate them to succeed in learning new knowledge and skills.

However, educators need to keep in mind that every generation views contemporary students in a somewhat pejorative sense; often identifying that they are not as focused as previous generations in their learning and interpersonal relations or their “high-touch” dispositions. The following reference emphasizes this perspective and provides a reminder to educators to keep an open mind towards contemporary students and their enthusiasm to be different and use novel approaches in living and learning in their world:

The children now love luxury; they have bad manners, contempt for authority; they show disrespect for elders and love chatter in place of exercise. Children are now tyrants, not the servants of their households. They no longer rise when elders enter the room. They contradict their parents, chatter before company, gobble up dainties at the table, cross their legs, and tyrannize their teachers. (Attributed to Socrates, 469–399 B.C. by Plato, as cited in Patty & Johnson, 1953, p.277)

Therefore, the more several things change in our “high-tech” world and we are attracted to them to make our lives more robust in a variety of ways; the more some “high-touch” attitudes remain the same as they did in ancient times when technology was limited but human interactions between generations were still as challenging as they are today! However, civilization has advanced continuously as human beings learned to adapt and adjust to the ever-changing developments in technology and learned to apply them in daily living experiences including at home, at school, at work and at leisure.

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