Moving Teaching and Learning into the Digital Era

Ramlee Mustapha
Jabatan Teknologi Kejuruteraan, Fakulti Pendidikan Teknikal dan Vokasional
Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, **Malaysia**

Sara Kashefian-Naeeini
(Corresponding author)
Department of English, Faculty of Paramedical Sciences,
Shiraz University of Medical Sciences, Shiraz, **Iran**

ABSTRACT

Digital learners, who are now entering schools and universities, have learning expectations, styles, and needs different from past students. Today's Gen-Z communicates in a language that older generation may not fully understand; the aforementioned learners have a vernacular of their own. It's an ever-evolving language of interpretation and expression, an interactive approach to learning, creating and responding to information through a complex montage of images, sound, and communication. Students are pushing learning into a new dimension. It's a mistake to continue to try to teach these learners in time-worn ways. Their choices of communication need to be diversified to encompass visual interpretations of texts and historical figures. Vast challenges have arisen and the impact of technology on the socio-economic landscape is becoming more significant. Gen-Z takes advantage of the enormous resources of the Web, transforming what they find there by using digital technologies to create something new and expressive. More advanced and specialized courses could also be converted, although some level of face-to-face contact is necessary to master such material. Unless teachers are trained to expect and accept content gathered through social networks with emphasis on teaching students how to check validity and reliability of the web, the full power of the digital natives cannot be released or expanded. Educators have to adjust their teaching styles to accommodate a new generation of Gen-Z. This paper, which is a predominantly theoretical one, maintains that creative thinking and a firm commitment are needed to move teaching and learning into the digital age.

1. Introduction

Gen-Z is said to be born between 1995 to 2012 and includes those children and youth who grew up with sophisticate media and digital gadgets and would be more cyber savvy than their previous cohorts. To the knowledge of the authors of the present study, most of the generation Z kids are familiar with i-pad and internet apps and use them frequently in their daily lives. Jackson and Crawford (2008, p. 1) assert that:

Young learners today are not growing up at the foot of the family radio or spend a good portion of their childhood glued to the television while Sesame Street and Mr. Rogers disseminated information in a constant stream as did previous generations. Rather, this generation of young learners continues to spend many out-of-school hours in a digital world composed of cell phones, MP3 players, computers and video gaming. This very simple beginning is changing the horizon of learning.

We are living in a changing world and educators are faced with the challenge of adapting their teaching styles to accommodate a new generation of digital learners. These digital learners, known as Gen-Z, who grow up with a highly sophisticated media and computer environment and will be more internet savvy, have learning expectations, styles, and needs different from past students. The question is: how do teachers adapt their teaching strategies to accommodate the digital learners, in light of their preferences for digital literacy, experiential learning,

interactivity, and immediacy? (Skiba & Barton, 2006). Today's digital kids think of information and communication technology (ICT) as something akin to oxygen: they expect it, it's what they breathe, and it's how they live (Brown, 2000). They use ICT to meet, play, date and learn. It's an integral part of their social life; it's how they acknowledge each other and form their personal identities. Furthermore, ICT to some degree has been supporting their learning activities since their first Web search and surf years ago (Brown, 2000).

Some conspicuous dimensional shifts have occurred in educational settings and Brown (2000) attempts to describe the dimensional shifts of the digital learners. The first dimensional shift encompasses the evolving nature of literacy, which today involves not only text but also image and screen literacy. The ability to comprehend multimedia text and to feel comfortable with new, multimedia genres is decidedly nontrivial. Digital students have developed their own vernacular, a screen language for their digital culture. The ability to communicate and express oneself with image (still and moving), sound and other media is a crucial aspect of the new literacy. Beyond this, information navigation is perhaps the key component of literacy in the digital age. Web-smart kids hone their judgment skills through experience and triangulation as they surf the sheer scope and variety of resources the web presents, the magnitude of which largely befuddles the adult unfamiliar with digital technology. The next dimension shift learning from an authority-based learning. Young learners are constantly discovering new things as they browse through emergent digital libraries and other web resources. Indeed, web surfing fuses learning and entertainment, creating infotainment. The third shift, pertaining to reasoning, connects to discovery-based learning in an extremely important way. Classically, reasoning is linked with digital media seem to focus more on the concrete, suggesting a form of bricolage − a concept having to do with one's abilities to find something (perhaps a tool, some open source code, image, music, text) that can be used or transformed to build something new. Enormously popular "mass-ups," where music from various internet sites is mixed together to create digital hybrids, is a prime example of this phenomenon. The final dimensional shift has to do with a bias to action to try new things without reading the manual or taking a course. This tendency shifts the focus to learning *in situ* with and from each other. Learning becomes situated in action; it becomes as much social as cognitive. It's concrete rather than abstract, and it becomes intertwined with judgment and explanation.

2. Challenges

The number of mobile phone subscriber expanded in the 21st century. Moreover, with the advent of personalized and always on communications, the impact of technology on the socio-economic landscape is becoming more and more significant. It is clear that the widespread use of mobile phones has affected the way in which humans learn, interact and socialize. Yet, we are only witnessing the early beginnings of this social transformation. Based on initial findings from a study of uses and ownership of mobile phones among learners at Open University Malaysia (OUM), about 90% of the students owned mobile phones (OUM 2004). The use of SMS messaging has grown at a phenomenal rate. In 2003, 6.16 billion text message transactions were made by mobile phone subscribers in Malaysia. In 2003, 11 millions of the population owned mobile phones. The authors of the present study believe that mobile phone has become a gadget that teens use to define their personal space in relationship to friends and parents. Teens struggling between independence and dependence on parents may not always appreciate parents' attempts to be part of their social space. Young people have acted as developers and pioneers of SMS culture. Text messaging may be one of the strategies for teenagers to present their more courageous selves.

Al-Hunaiyyan, Al-Sharhan, and Alhajri (2017a) claimed that students and instructors have positive views of mobile learning, and assume that this learning approach augments the teaching and the learning process. Mobile technologies offer learning experiences which can effectively engage and educate contemporary learners and which are often markedly different from those afforded by conventional desktop computers. Well suited to engaging learners in individualized learning experiences and to giving them increased ownership over their own work. In another pertinent study, Al-Hunaiyyan, Al-Sharhan, and Alhajri (2017b) asserted that Mobile learning is a novel learning landscape which provides chances for collaborative, personal, informal, and students' centered learning milieus.

Despite the significant potential of mobile technologies to be used as powerful learning tools in higher education, their current use appears to be predominantly within a didactic, teacher-centered paradigm, rather than a more constructivist environment. It can be argued that the current use of mobile devices in higher education is pedagogically regressive. Their adoption is following a typical pattern where educators revert to old pedagogies as they come to terms with the capabilities of new technologies, referred to by Mioduser, Nachmias, Oren and Lahav (1999, p. 233) as "...one step forward for the technology, two steps backward for the pedagogy." Patten, Arnedillo, Sanchez and Tangney (2006) argued that the benefits of mobile learning can be gained through collaborative, contextual, constructionist and constructivist learning environments. Authentic learning environments in higher education typically involve these characteristics (Herrington & Herrington, 2006).

3. Theoretical Framework

According to theoretical framework of cultural studies of technology, technologies emerge out of processes of choice and flexibility, or the different meanings that various relevant social groups hold (Carlson, 2005). Rather than mere physical objects, technologies can be seen as a socially construed part of human action and information production (Oblinger, 2005). Technology and its effects are construed and defined culturally; technologies do not speak for themselves or have impact outside of people's interpretations. The perception of technology as a social construction refers here to the interpretations and meanings produced in social interaction between people: the ways in which mobile technology is seen and observed subjectively and the meaning that is given to these observations.

The Internet and other technologies honor multiple forms of intelligence – abstract, textual, visual, musical, social, or kinesthetic. They present tremendous opportunities to design new learning environments that enhance the natural ways that an individual learns. Literacy in the 21st century has expanded from an emphasis on comprehending page text and listening to lectures to include a wider, more encompassing tool set, requiring more activity-based competencies. Though previously didactic learning was the mainstay in the classroom, it has since been recognized that other learning styles maybe more suited to the online learning experiences and that the expansion of learning may begin early on.

Brown (2000) skillfully puts that beyond comprehending text and early computer skills, learners must be competent in image and screen navigation in order to perform as fully literate. In a corresponding way, Looney (2005) affirms that 21st century literacy demands the ability to use technology, including visuals and audio segments to enhance personal learning and to communicate more effectively with others.

Computers, DVD players, cell phones, game consoles, iPods and iPads are now the norm in students' pre-and post-school day activities video game world. According to Huffaker and Calvert (2003), the United States National Research Council found in a two-year study that youths require a level of control over their learning in order to make needed transfers of information. Similar to researching on the Web, students would prefer to follow multi-topics in multi-logical directions much like brainstorming techniques and lateral thinking introduced by Edward De Bono (1997) rather than being fed a constant unidirectional message.

The new science of learning recognizes the importance of allowing children to take control of their own learning experiences. The term "active learning" describes the learner taking an active role in the learning process, "metacognition" is defined as the student monitors and regulates their own learning, and "transfer of knowledge" as learners apply information learned to multiple settings and tasks, are now a part of the educational nomenclature. Digital gaming may bring all of these elements into play (Gee, 2005). Calvert et al. (2005) suggest that when young children spent time with the computer, it most often involved game play.

To the knowledge of the researchers, studies into areas such as internal locus of control, problem solving strategies, visual and divided attention, and spatial abilities demonstrates the impact of action video gaming on cognitive abilities. Blumberg and Sokol (2004) found that older children and children who described themselves as frequent video game players tended to rely more heavily in on internal strategies such as reading instructions or trial and error than external strategies such as asking for help or watching someone else

play when learning a new game than did younger children and those that did not play video games. The most frequently used internal strategy was trial and error, thereby driving a strong need for logical and intuitive interface designs for good programs. Greenfield et al. (1994) indicate that strategies employed by video game players may transfer to other areas that require split attention. After conducting some lines of research, Green and Bavelier (2003) provide evidence that action–game training led to greater performance improvement in visual attention to multiple fields which switch rapidly, leading to detectable effects on new tasks within a short time period. When students are assessed for both static and dynamic spatial ability, gaming led to significant improvement in dynamic spatial skills in specific subjects. To cap off these findings, Crawford (2006) notes that there is a tendency for positive multitasking ability differences in those that do not; suggesting that those who complete online courses have a higher level ability. Dickey (2005) found that in the evolution of video game development, programs have moved from a player outside the game to a player inside the game format. Though online gaming communities have broadened access to this engaging, construct, the educational community has yet to embrace it on a wide scale.

Online reading comprehension, according to the North Central Regional Educational Laboratory (NCREL), is utilizing a different skill set compared to a traditional print comprehension. Though traditional comprehension encompasses the ability to locate and filter materials, and shares the findings, online reading comprehension has added to these skill sets the ability to navigate through systems, to evaluate, to synthesize information and then to communicate findings in new formats (Leu et al., 2005). Added to online comprehension ability, recent cognitive research notes a new understanding of the way memory functions. Multiple studies, such as Mayer and Moreno's (1998) investigation on split-attention, shows that memory has both a visual and an auditory component. In this particular study, findings indicated that multimedia presentations with both visual and auditory components can improve retention.

A new type of literacy relying less on text, but requiring integration of images in the form of both graphics and video would be necessary for students to communicate effectively. Literacy no longer encompasses only what is taken in from presented material, but also concludes the production of materials, such as the products yielded through Bloom's Synthesis Level (http://www.center.k12.mo.us/edtech/blooms/synthesis.htm). Written English language has evolved into two completely competing genres, the formal language of business and school, and the abbreviated and initialized version utilized in text messaging and other digital formats. Educators have acknowledged the optimal time for learning content maybe an internal process tied to individual development. Giving students a choice in how and when they learn content should also be considered within their curriculum. Information synthesis from multiple sources is required with long been valued at the graduate study level, the sheer volume of new information produced daily requires acquisition at a very early age (http://lps.k12.co.us/schools/araphoe/fisch/didi yoknow/didyouknow.ppt#260).

4. Gen-Z Learners

The Gen-Z learners have unique characteristics that differentiate these students from other generations. As far as we know, these unique characteristics are challenging the traditional classroom teaching structure, and faculty are realizing that traditional classroom teaching is no longer effective with these students. As Prensky (2001) stated, "Our students have changed radically. Today's students are no longer the people our educational system was designed to teach" (p.1). Several authors (Brown, 2000; Frand, 2000; Howe & Strauss, 2000; Merritt, 2002; Oblinger, 2003; Tapscott, 1998) have written on the characteristics of the digital learners. Tapscott (1998) described the digital learners as an assertive, self-reliant, curious person who is enmeshed in an interactive culture that centers around 10 board themes. These themes include:

Fierce independence: Their sense of autonomy derived from their experiences of being an active information seeker and creator of information and knowledge.

Emotional and intellectual openness: The Z-Geners value the openness of the online environment, like anonymity, and communicate through numerous tools.

Inclusion: They view the world in a global context and move toward greater inclusion of diversity.

Free expression and strong views: With access to knowledge resources at their

fingertips, the Z-Geners are assertive and confident.

Innovation: This group is constantly trying to push the technology to its next level and figure out how to create a better world.

Preoccupation with maturity: Armed with knowledge, they strive to be more mature than their predecessors.

Investigations: Curiosity, discovery, and exploration are key for this Gen-Z.

Immediacy: This generation views the world as 24 –7 and demands real time and fast processing.

Sensitivity to corporate interest: Consumer savvy, these customers like customization and want to have options and to try before they buy.

Authentication and trust: Net savvy individuals, they know the need to verify and check resources and authenticate people.

The aforementioned learners have some other characteristics and Howe and Strauss (2000) described additional characteristics such as their fascination with new technologies, their need for group activity, their emphasis on extracurricular activities, and their focus on grades. The digital learners think being smart is cool. They are one of the most ethnically and racially diverse group of students in academia. Given these characteristics, it is obvious that this generation demands a new learning paradigm. The traditional teaching paradigm, prevalent in higher education for many years, focused on the role of instructor as the "sage on the stage" who disseminated knowledge through lectures and PowerPoint slides. Brown (2000) refers to it as the authoritarian, lecture-based model of education. This traditional teaching emphasized the acquisition of facts or, as Oblinger (2005) noted, content-focused learning. Faculty from previous generations were text-based; focused on logical sequencing of knowledge; emphasized memorization, repetition, and recall; believed "one-size fit all"; and saw the teacher as master and commander (Brown, 2005). In contrary, the Gen-Z requires a learner-centered model of education with a shift from the traditional teaching paradigm to a constructivist learning paradigm (Brown, 2005). Digital learners focus on understanding, constructing knowledge using discovery methods, and active engagement; want tailored and option rich learning; and view the teacher as expert and mentor (Brown, 2005).

5. Gen-Z Characteristics and Teaching Adaptation Examples

Gen-Z characteristics include digital literacy, experiential and engaging learning, interactivity and collaboration, and immediacy and connectivity. To illustrate the implications of the paradigm shift described previously to these new ways of knowing, the following section highlights major characteristics of the digital learners related to these characteristics and describes how lecturers might adapt their teaching to accommodate the learning needs of the digital learners.

5.1 Digital Literacy

The Gen-Z are comfortable in a digital world. Action and what the technology enables them to do is more important than the particular technology (Oblinger & Oblinger, 2005). As a part of this digital literacy, digital learners are both information and multimedia literate (Brown, 2000). They have the ability to read visual images and have visual spatial skills (Howe & Strauss, 2000). As Oblinger and Oblinger (2005) stated the digital learners are more comfortable in image-rich environment than with texts. This is best illustrated in the situation described by Oblinger (2005) in which a student in a lecture realizes that he does not understand the teacher's lecture, and even the PowerPoint slides provide no new insights. This student, using his wireless laptop, canvasses other students in the class via text messaging and IM (instant messaging) and discovers they too do not understand the lecture. To solve this problem, the student googles the concept, finds a URL with simulations that better explain the concept, and immediately transits this URL to others in the class. It is important to remember that the digital learners seek immediate information and knowledge not by finding it in a textbook, but by connecting to the Internet.

To meet the needs of students, think about developing a web page for each course. The web component can contain class materials, notes, slides, a webliography, and other pertinent multimedia. This is not only important to the Z-geners but also to nontraditional learners who appreciate the flexibility of finding class materials while perhaps living off campus. One may also want to consider having a blended course with some face-to-face time and some web-based interactions; this is particularly relevant for the nontraditional student. What is important is

that the web-based component needs to be interactive and engaging not just a static web page dispensing content. The digital learners lives in a mobile world which facilitates their multitasking nature. Think about podcasting some important lectures so that students can listen to these lectures on their iPods or other MP3 devices.

5.2 Experiential and Engaging

Gen-Z learners want to construct their knowledge. They have a bias toward action (Brown, 2000) or as Oblinger and Oblinger (2005) maintained it − they are first person learners. They want to immediately engage in the process. Discovery learning (Brown, 2000) builds upon their characteristics of fierce independence and investigative nature (Tapscott, 1998). Digital learners like to express their views and incorporate their experiences into their learning (Tapscott, 1998). Learning is not done in isolation and they learn by doing. According to Frand (2000), this is the Nintendo Generation and "the key to winning Nintendo is the persistent trial and error to discover the hidden doors" (p.17). Brown referred to the learners as digital bricoleurs. He noted that this generation collects bits of information, objects, or tools to create something new. Visualizations, simulations, case analyses, and other methods of participatory learning such as fieldwork are all part of the learning repertoire.

5.2.1 Experiential and Engaging Examples

The use of simulation technologies will help engage learners in a process that provides the interaction they desire with the feedback they need in real-time situations. Through the design of pertinent scenarios, faculty can direct learning in a way that facilitates student understanding of subtle changes that occur in patient care. This may help prepare digital learners for the transition to the work force as new nurses by nature "tend not to focus on individual client needs" and "may be unaware of relevant cues in changing client situations" (Ferguson & Day, 2004, p. 490). Blogging is another method that allows students to interact and become engaged in the course. In short, a blog is a web-log which allows students to contribute to and comment on the blog entries. Learners can research their information and provide their reflections on their learning through the blog (Skiba, 2005).   Another example is that of an interactive, engaging web environment that allows learners to interact with the teacher, other learners, or with the content. One example of having learners interacting with content is the use of a dynamic web page, such as the National League for Nursing chapters in a 'Living Book.' As learners work their way through the chapters of this electronic book, they are directed to web sites to find information and respond to questions. In one of our classes, we assign learners a chapter in this book to learn about the digital learners.

5.3 Interactivity and Collaboration

Learning is not fulfilled in isolation and as Tapscott has also underlined, it is a social activity (Tapscott, 1998), and as such should be engaging and interactive. Interactivity can occur with students, faculty, other professionals such as experts in the field, and with the content itself. Digital learners gravitate toward group work (Howe & Strauss, 2000). Net learners do best when they construct their knowledge (Brown, 2000; Oblinger & Oblinger, 2005; Tapscott, 1998). The TTT (talk, text, test) approach (Oblinger & Oblinger, 2005) is not valued by the digital learners. TTT represents the traditional teaching paradigm of lecturing, asking students to read text, and giving a test to insure they have recall and acquisition of facts. Rather the digital learners prefer to work in teams and participate in peer interactions. According to Crittenden (2002), the wired generation is more social and inclined to participate in learning activities that promote social interactions. Social interactions reinforce their use of IM, blogging, gaming, and their large global network. As Oblinger and Oblinger (2005) point out, interaction is a key element of learning. If classroom or online teaching does not provide opportunities for interactions, the digital learners would not come to class.

5.3.1 Interactivity and Collaboration Examples

It is evident that interactive and collaborative desires of the digital learners allow for the implementation of creative teaching strategies in the area of collaborative learning. While previous generations have consistently rallied against the concept of "group work," Net geners embrace collaborative learning in both face-to-face and virtual venues. Think about the incorporation of chat rooms and web-based collaborative learning centers that allow students to share a common workspace with group members by using white boards and document sharing. For example, at the University of Colorado at Denver and Health Sciences Center, informatics specialty students interact with

each other in a web environment (I-Collaboratory) that allows collaborative workspace. Learners can co-edit documents and interact using chat rooms, audio, or video conferencing (Skiba, Barton, Howard, Fields, & McCullar, 2004). In the I-Collaboratory, students can designate space to work with each other. They can store documents and schedule synchronous meetings over the Internet. The collaboratory concept facilitates collaboration and sharing while requiring learners to be active participants in the learning process.

5.4   Immediacy,   Connectivity   and Communications

Digital learners have little tolerance of delays and according to Frand (2000), they live in a 24 x 7 x 365 world. They expect instant access and instant responses. Email is "so yesterday" when you can IM (instant message) or text message someone immediately. Net geners are multitaskers (Brown, 2000) and used to being bombarded by multiple processes at twitch speed (Prensky, 2001). They are mobile nomads who are always connected (Rheingold, 2003). Their connectivity via cell phones, wireless PDAs, or laptops fosters fast and quick communication. They use short hand communications that seem like hieroglyphics to the digital immigrant population. As a part of their networked society, they have an emotional and intellectual openness as well as a respect for diversity and free expression (Tapscott, 1998).

5.4.1 Immediacy, Connectivity and Communications Examples

The immediacy expectations of the digital learners are a challenge to digital immigrant faculty. While email is used regularly for communication, responses don't fit within "instant messaging (IM)" time frames. It is important for faculty members to communicate with students up front so they know when they can expect to receive feedback. Basically there are three different forms of communication that a faculty member and learners could use:

One-on-one (email, IM), One-to-many (news groups, message boards), Many-to-many (chat rooms, wikis, and webcasts)

6. Teaching Strategies

Gen-Z portfolios are of growing importance in higher education as the sector seeks new teaching–learning–assessment methods which promote students, autonomy as managers of their own virtual learning environment (Lopez-Fernnadez &

Rodriguez-Illera, 2008). Blomeyer (2002) explains a vast and dynamic networked model for learning and teaching that already exists - computer games, particularly online multiplayer role-playing games (RPGs), whose world persist whether or not an individual player is logged on at any given time. Participants not only compete in these games, but also form clans to collaborate and creative new content. RPGs present a valuable model for higher education both as a means to build a networked learning environment and to leverage the technological skills of the 21st-century students. Their key characteristic is that they facilitate peripheral, or "edge" activities such as the interaction that occurs through and around games as players swap discoveries and techniques among themselves, train and extend their avatars, add new constructs to the game, and more generally learn from each other.

The authors' suggestion for evaluating these games is to carefully separate the content of the games from the social context that emerges learning to be an expert player. The context can become a learning ecology with substantial richness. In other words, we must be careful to separate the center, the game itself, from the activities materializing around the edge, where players not only learn from each other but often make their own extensions and modifications to the game, an activity typical of open source communities. Similarly, universities could shape online activities into socially contextualized learning environment in which students actively contextualized learning experience and immediately use their course content. An open, persistent system not bound by semesters or strict discipline borders could allow students to develop over time and track that the development along several paths. This system could form the basis of a liberal education grounded in practice. Blomeyer's vision expands learning from the classroom to the ongoing 24 x 7 world of the next generation of students and takes advantage of their digital culture through a learning environment based on a creative, interactive screen language rather than lectures and textbooks. MOOC is a good example of this approach.

7. Suggestions

7.1 Curricular Suggestions

A review of scope and sequence for various subjects at various educational levels would reveal an emphasis on subject areas to be delivered to students within a particular time frame. A

response that would be more appropriate is to take into account the curricular analysis that focuses on process skills, incorporating a kind of "twitch speed" for learning. A scope and sequence that would determine information management, evaluation and synthesis skills to be taught in a developmentally appropriate sequence would be a first step in changing traditional practice.

Game players are encouraged to place themselves within the action, to be producers rather than consumers to take risks and to solve problems. They ought to think systemically and laterally to reach digital competency (Gee, 2005). Most importantly, multiple studies have demonstrated that the influence of video games has altered the way individuals learn. Subject area content sholud be outlined in overarching themes that allow for intergration across disciplines and flexible time frame for discovery. We recommend that students be challenged to pose appropriate questions that motivate them to inquire and research for the answers and then communicate what they have found with others. The ability to quickly identify relevant sources of information and to synthesize this information into appropriate solutions is a critical skill for students to master if they are to succeed in an information rich environment.

It is suggested that teachers' professional development focus on their ability to manage and evaluate both information and the students' learning. Since most teachers are still considered themselves as the digital immigrant generation, they use digital media mainly for information gathering rather than production. Many are not comfortable with the skills of online researching and most are extremely lacking in the ability to evaluate the validity of the information gathered. Thus, students must be taught how to filter what they see online or hear through other media channels for reliability and validity. Teachers must also be taught on how to evaluate digital products. However, Gen-Z are more adept at multimedia tools than their instructors. Gen-Z often could create phenomenal productions largely devoid of any depth of purpose. Instructors must be trained to get beyond the glitz of the package to the content and push students to achieve both.

7.2 Instructional Suggestions

Traditional instruction where content is delivered by any means then reiterated to the instructor for evaluation provides a linear flow from teacher to student and back. A model that places the student in a more active role of both learner and instructor would more closely align with the multi-dimensional digital world to which most learners have now become accustomed and are fostering the filtering of information for validity and reliability. The teachers could provide a stimulus, which the students then begin to investigate using various structured methodology, such as frequent feedback that spurs students along the right path or steers those who stray back on track thus allowing the learners to utilize the internal strategy of trial and error. Guided peer review at designated stages is needed to create a network. We suggest the publication of exemplary works to a wider audience whether it is at local community or the World Wide Web offers a reason to monitor product quality. Most importantly, evaluation should take place throughout the entire learning process and should not be limited to the completion of a rubric at the project's end.

8. Implications

Today's digital learners have dramatic dimensional shifts and the effect of technology on the socio-economic landscape is becoming more noticeable. Digital learners like to create change and to make a drastic difference. The researchers of the present study contributed to the field in different ways. They illuminated the likes and dislikes of these learners and; therefore, clarified the way to attune to these learners' style. New technologies would present great opportunities to design new learning environments that improve the natural ways in which individuals learn.

A deeper understanding of these learners helps practitioners of teaching to fulfill the aforementioned students' priorities in more productive ways. Gen-Z learners have some characteristics which are unique to them. These traits are explicated in this study to assist educators in catering for the foregoing students' tastes. As Mohr and Mohr (2017) have declared, bridging the division between older and younger generations can be motivating and provides the chance to rethink who current learners are and to reconsider what they want as learners.

Through digital literacy, interaction, collaboration, immediacy, connectivity and communication, this study sets the scene for lecturers to adapt their teaching to accommodate to the requirements of the digital learners. With Gen-Z's different

dispositions and needs, this paper enables instructors to better evaluate and tackle these expectations and dispositions.

This study provides instructors and practitioners of teaching with the impetus to revisit their programs, methods and forms of intervention. By and large, this study paves the way for educators to become prime movers in changing the traditional colleges and universities into cyber savvy institutions.

9. Conclusion

Learning technology is not a panacea that will resolve the many issues that higher education faces today. Instead, new technologies lead directly to institutional issues, starkly highlighting them in contrast to the widespread need for education and the possibilities technology presents to fill that need. Higher education today has the opportunity to reshape itself and play an important role in the future of our society. Whether that role is ultimately fulfilled will depend on fresh, creative thinking and a firm commitment to move teaching, learning and the university into the digital age. The manners in which students are taught will not truly change until the manners in which we teach and evaluate students change. Multiple studies suggest moving students from consumers of information to producers of information. This is the key to engaging digital learning. However, until teachers are trained to expect and accept content gathered through social networks with emphasis on teaching students how to check validity and reliability of the web, the full power of the digital natives can not be released or expanded. Teachers must allow students to publish broadly then promote peer and expert outside evaluation. Non digital-savvy teachers will require support and training before they feel competent to allow students the freedom to explore their full digital capabilities. Research demonstrates that these Gen-Z come to school with budding skills in terms of new forms of literacy, possessing different strengths in cognitive ability, and finding motivation in different forms than did their predecessors. These new learners are instructed by teachers who, for the majority, spent childhoods engulfed in television programs that fed information for consumption, rather than interaction, omitting the choices and short snippets that lead to further discovery. New and different learning styles are evolving into new learning theories, new literacy, and new pedagogy. This will surely require educators to revisit and ultimately expand the horizon of educational content and delivery.

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