CLASSROOM MANAGEMENT IN THE DIGITAL CONTEXT: A VISION FOR GEN NEXT

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Abstract

The greatest single contributor to student academic success is a highly qualified teacher. Therefore, the overarching goal for this component is that technology be a central part in providing teachers with high-quality professional development and support so that students receive a high quality education. The new millennium was ushered in by a dramatic technological revolution. Today's students are digital learners – they literally take in the world via the filter of computing devices: the cellular phones, handheld gaming devices, and laptops and game consoles at home. The new generation and the context saw changes in online, or e-learning and distance education, with increasing online presence, open learning opportunities, and the development of MOOCs and MOODLE. Now the technologies mediate the learning and they contribute significantly for the evolution of traditional based instruction to e-education where the students can learn anywhere and anytime. The situation demands the teachers to become e-excellent teachers and e-mediated learners. For implementing a new pedagogy for the new learner in a new learning environment, the present digital era with its unprecedented advances in ICTs throws open a plethora of opportunities and technologies. In this context, 'teaching with technology' is the need of the hour. The educational technology unit would have the responsibility of implementing the goals and objectives of this national educational strategic plan. Teachers and students will need access to academically appropriate, high quality educational digital content aligned to the new curriculum standards.

Introduction

In a digital age, schools, colleges and universities need teachers and learners ready to meet the challenges of teaching, learning, and working in a hyper-connected, collaborative, creative, and information-rich world. Teachers and students need just-in-time and just-as-needed access to computers in their classrooms to support content-based instruction. They need access to experts and resources and the ability to use powerful and high-speed Internet tools such as video and multimedia. However, technical infrastructure, as important as it may be, is not enough. For the promise of educational technology to be fulfilled, technology needs to be matched with digital-age curriculum, instruction, and assessment.

Globalization is amplifying the importance of knowledge and information across all societies. Lebanon fully understands the role of information and communications technology (ICT) in addressing the implementation of educational reform for improved and equitable access to quality education for all learners. It is clearly our national responsibility to enable our students to benefit from and contribute to the Teaching and Learning in the Digital Age to guide the integration of ICT into the general education system. This strategic plan includes a set of principles, goals, and objectives, serving as a series of decision points over a five-year period. If integrated into the curriculum, instruction, and assessment by skilled teachers supported by strong leaders, ICT can create new potential opportunities for students and teachers to acquire lifelong learning, information management, and analytical skills, while ensuring equitable access to education for all. However, the benefits of ICT can be reaped only through the commitment and collaboration of all stakeholders. Our approach throughout the development of this strategic plan involved seeking input from a wide spectrum of stakeholders in academic and technology fields, from both the public and private sectors.

The entire world realizes that education is a major vehicle to create a human society, which will value the lives of human beings and provide opportunities to live in harmony with fellow beings and also with nature. For this they need to know others: the diversities, the pluralities and also the need to respect

others and otherness. We need to expand and, extend education to banish ignorance of every variety. Education is bound up with human race. Its boundaries are as wide as those of life. Its implications are rich and varied. Just as it is difficult to squeeze life in a few words, in the same way it is difficult to give a single meaning or definition of education.

Education is a process of initiating the child into the ways of adult life. An educator not only holds certain beliefs and ideals of life, he also tries to convert his pupils to his own views and his own way of life. The influence of a person, holding a vital belief, brought to bear upon another person with the object of making him also to hold that belief, is education. According to Dr. A.P.J. Abdul Kalam (2006), the education system has a tremendous responsibility to transform a child into a leader - *the transformation from 'what can you do for me' to 'what can I do for you'*? The most important part of education is inculcating in the students the spirit of *'we can do it'*. Today's young students want the education system to feed and challenge their innovative and creative minds.

ICT ENABLED TEACHING-LEARNING IN THE NEW MILLENNIUM

The new millennium was ushered in by a dramatic technological revolution. We now live in an increasingly diverse, globalized, and complex, media-saturated society. The three E's of Education in the 21st Century or the so-called Digital Age are "ENABLED, ENGAGED and EMPOWERED", according to the Report of the Project Tomorrow (2011) entitled "The New 3E's of Education: Enabled, Engaged, Empowered - How Today's Students are Leveraging Emerging Technologies for Learning". Within the enabled, engaged and empowered learning scenario, students have access to a rich and varied set of digital tools and resources that provide them with gateways to new learning experiences that are not bound by their classroom walls or even the boundary lines of their town or city; the world is now their school.

The present day curriculum and methods including teaching-learning models grounded in "authentic learning," shares the following attributes:

1. Real-world relevance: Authentic activities match the real-world tasks of professionals in practice as nearly as possible. Learning rises to the level of authenticity when it asks students to work actively with abstract concepts, facts, and formulas inside a realistic—and highly social—context mimicking "the ordinary practices of the [disciplinary] culture."

2. Ill-defined problem: Challenges cannot be solved easily by the application of an existing algorithm. Instead, authentic activities are relatively undefined and open to multiple interpretations, requiring students to identify for themselves the subtasks needed to complete the major task.

3. Sustained investigation: Problems cannot be solved in a matter of minutes, or even hours. Instead, authentic activities comprise complex tasks to be investigated by students over a sustained period of time, requiring significant investment of time and intellectual resources.

4. Multiple sources and perspectives: Authentic activities provide the opportunity for students to examine tasks from a variety of theoretical and practical perspectives, using a variety of resources, and requires students to distinguish relevant from irrelevant information in the process.

5. Collaboration: Success is not achievable by an individual learner working alone. Authentic activities make collaboration integral to each task, within the course and in the real world.

6. Reflection (metacognition): Authentic activities enable learners to make choices and reflect on their learning, individually or as a team.

7. Interdisciplinary perspective: Relevance is not confined to a single domain or subject matter specialization. Instead, authentic activities have consequences that extend beyond a particular discipline, encouraging students to adopt diverse roles and think in interdisciplinary terms.

8. Integrated assessment: Assessment is not merely summative in authentic activities but is woven seamlessly into major tasks that reflect a real-world evaluation process.

9. Polished products: Conclusions are not merely exercises or sub-steps in preparation for something else. Authentic activities culminate in the creation of products that display results, issues that could not be solved, and the processes of arriving at such conclusions.

10. Multiple interpretations and outcomes: Rather than yielding a single correct answer obtained by the application of rules and procedures, authentic activities allow for diverse interpretations and competing solutions.

Education is moving into the digital age, even in developing countries. Pedagogies have changed to engage the latest digital technologies. The methods of distribution are now a blend between face-to-face and some other combination of virtual interfaces. The content is moving from traditional text-based learning to *text-plus-multimedia*. The media deployed for teaching and learning are the electronic media, including the new media, multimedia and virtual tools.

Today's students are digital learners – they literally take in the world via the filter of computing devices: the cellular phones, handheld gaming devices, and laptops they take everywhere, plus the computers, TVs, and game consoles at home. In the year 2001, Marc Prensky coined the terms '*digital natives'* and *'digital immigrants'*. This created ripples across the academia for it divided the whole humanity into two viz., the 'digital natives', who were born after the year 1980 (in the context of developing nations like India, it can be taken as 1990) and those who were born before that. These 'digital natives' have taken birth in digitally rich environments and have grown with these technologies.

The students of this generation, generally called as *NET GEN Learners*, are unbelievably multi-taskers. They can be simultaneously e-mailing, downloading videos or e-books, chatting with their fellow learners, listening to music and preparing assignments, making five hours out of the one hour, spent in front of the computer. It is estimated that the *Net Gen* make 40 hours out of 24 hours. Students live in a world of 'anytime, anywhere' access to information and to a global community of learners and educators. Today's technological environments allow them to draw on sources around the globe and integrate what they discover in to their learning using a range of media. The world wide access to information enables teachers to design, with students, learning opportunities for students that stimulate them to be independent, reflective and collaborative learners, challenge their thinking and assumptions and engage them on many levels.

Digital technologies provide increasingly powerful tools and offer a variety of educational opportunities that can improve teaching and learning. The body of wisdom of skills for the Digital age which are well described in the framework for 21st century learning points to; *Creativity and Innovation, Critical thinking, Communication and Collaboration.*

The innovative application of computer and digital technology in the pedagogy and learning process can be seen in the E-learning, web based learning, M-learning. E-Learning may be network based, internet based, or intranet based which included text, video, audio, animation and virtual environments. It provides faster learning at reduced cost increased access to learning and clear accountability for all participants in the learning process.

Teaching and Learning in the AGE OF ENGAGEMENT

Higher education paves way for the national development and it is possible if only we engage ourselves in the learning process. In my opinion educational process of teaching and learning is a constructive and creative process which involves searching the already existing knowledge, creating and verifying the new knowledge with the already existing knowledge and finally contributing it to others. All those who are actively doing these activities are the people who live in the age of engagement by *CONNECTING-CREATING-CONTRIBUTING*. It is the feature of the present day education. Students must have research minds and be in touch with their learning materials. They should be up to date in their learning endeavours and construct, interact and facilitate the free flow of ideas which should be contributed and shared with their peer groups, on-line communities etc. Thus the young minds should be engaged with the educational process. Hence on-line education should be in tune with connecting-creating and contributing the ideas of the learner. Therefore on-line education/e-learning is essential part for the enhancement of quality education.

Pedagogy in the age of engagement deals with how students and teacher are engaged with teaching learning process, how they connect, create and contribute in the context of a technologically influenced and motivated modern educational scenario. From a measurement perspective Fredricks et al (2004) argue that components of engagement commonly identified include:

- behavioral – participation in school ranging from Involvement in school-based extracurricular activities (Fullarton, 2002) to attendance at or absenteeism from school (Willms, 2003), also involvement in learning and academic tasks (Fredricks et al., 2004);
- emotional – a sense of belonging (Willms, 2003) and value;
- cognitive – a belief that school is 'for me' (Munns, 2005), an engagement and investment in learning and the school community.

Teachers in the age of engagement

The New Teacher:

- takes a greater degree of control of their professional lives, designing learning experiences for their learners based on broad learning goals and curriculum standards;
- is a purposeful learning designer, rather than (just) a curriculum implementer;
- is able to 'let go', giving learners the space to take greater responsibility in their learning;
- knows that to be authoritative does not mean being authoritarian;
- is comfortable in online learning design and delivery platforms – spaces which are not just lesson planning, or just a textbook, or just a student workbook;
- is comfortable working with learners in new, multimodal, online social media spaces;
- has a new professional identity, as teaching becomes less of a talking profession and more of an online documenting profession;
- is a professional collaborator, contributing productively to a culture of professional support and sharing;
- puts more work into documentation of best practices whilst creating less work for themselves as they contribute to and share a reusable knowledge bank;
- engages their learners' identities and harnesses lateral knowledge-making energies amongst learners;
- manages a multifaceted learning environment in which learners may be engaged in a variety of different activities simultaneously;
- differentiates instruction in order to cater effectively to learner diversity;
- is a leader in a dynamic, knowledge-producing community;
- is a practitioner-researcher, building and interpreting the evidence base of pedagogical inputs in relation to learner outcomes;
- creates and implements ubiquitous assessment 'for learning', not just end-of-program assessment 'of learning';
- creates and applies evaluation protocols to measure the effectiveness of pedagogies and programs.

RECENT TRENDS IN E-LEARNING

The e-Learning world is full of new trends, innovative ideas, and learning techniques to keep learners engaged and make training programs successful. If you've been involved in the eLearning industry for years, you know how important it is to stay up-to-date on all this information.

1. **Gamification:** It's been around a while, but it's just warming up. Gamification makes learning motivating, engaging, and fun. Gamification in eLearning follows exciting technologies and innovations within the gaming industry; think even more realistic learning experience potential using virtual and augmented reality. Expect to see more simulation, animations, and narrative based games.
2. **Corporate MOOCs (Massive Online Open Courses):** It's been foreseen that in the near future universities will award degrees with 100% content on MOOCs. Currently students learning via MOOCs are getting certificates that will soon translate into credit. A growth area to watch for is the rise of co-branded MOOCs between corporations and established academic universities, which will see students paying fees to study rather than accessing free courses.
3. **Personalized learning:** Traditionally, content is "pushed" at learners; however, personalized learning puts the learners in control, allowing them to "pull" information as needed, creating their own learning path. Learners are also offered choices as to how they prefer to learn and can choose mediums that suit their learning style and pace.
4. **M-learning and BYOD (Bring Your Own Device):** With mobile use growing, being desk bound is not necessary for accessing eLearning. Learners are opting to BYOD so they can access training anywhere, anytime. Small screen size means instructional designers need to accommodate appropriately chunking content.
5. **Augmented learning:** Augmented or virtual reality experiences are a growth area in eLearning. Learners can be placed in a replica of their work space, or a modelled 3D environment, with content pop-ups and features superimposed. It's the ultimate in taking the practical!
6. **APIs (Application Programming Interface):** SCORM and Tin Can are examples of APIs in eLearning; basically these programs have inbuilt instructions for applications to talk to each other, such

as allowing content to flow easily between different LMS platforms. Tin Can takes it a step further, allowing user data collection both online and offline. APIs open up new opportunities in learner progress tracking.

7. **Cloud LMS:** Cloud computing is now a major technology trend. In relation to eLearning, cloud based LMS services are gaining popularity and have the capacity to reduce operation costs.
8. **Flash HTML5 conversion:** Two words: responsive design. Clients want the value of a single build that performs across multiple devices, since Flash is largely incompatible. HTML5 can play audio, video, 2D/3D graphics, and animation, all without a plug-in. In addition, HTML5 also gives hardware access, offline storage, and supports cloud-based applications.
9. **Wearable learning:** Watch this space. Smart watches could soon be considered another "BYOD". Obviously screen real estate is an issue, but the humble watch has applications for in-the-moment, on-the-job performance improvement such as alerting a worker when they are performing a task incorrectly or unsafely through motion-sensor technologies and offering personal coaching.
10. **Video in learning:** You're at home and you want to learn something fast, where do you go? My bet is: YouTube. People love to watch stuff. Video with audio and overlaid text can cater for many learning types and is becoming much more of a must have in eLearning.

These trends constituted classroom 2.0 and web 2.0 pedagogy in the educational context, and further 3.0 pedagogy.

a) Classroom 2.0

Classroom 2.0 refers to online multi-user virtual environments (MUVEs) that connect schools across geographical frontiers. Known as "eTwinning", computer-supported collaborative learning (CSCL) allows learners in one school to communicate with learners in another that they would not get to know otherwise, enhancing educational outcomes and cultural integration. Examples of classroom 2.0 applications are Blogger and Skype.

b) E-learning 2.0 and web2.0 pedagogy

E-learning 2.0 is a type of computer-supported collaborative learning (CSCL) system that developed with the emergence of Web 2.0. From an e-learning 2.0 perspective, conventional e-learning systems were based on instructional packets, which were delivered to students using assignments. Assignments were evaluated by the teacher. In contrast, the new e-learning places increased emphasis on social learning and use of social software such as blogs, wikis, podcasts and virtual worlds such as *Second Life*. This phenomenon has been referred to as Long Tail Learning.

E-learning 2.0, in contrast to e-learning systems not based on CSCL, assumes that knowledge (as meaning and understanding) is socially constructed. Learning takes place through conversations about content and grounded interaction about problems and actions. Advocates of social learning claim that one of the best ways to learn something is to teach it to others.

In addition to virtual classroom environments, social networks have become an important part of E-learning 2.0. Social networks have been used to foster online learning communities around subjects as diverse as test preparation and language education. Mobile Assisted Language Learning (MALL) is the use of handheld computers or cell phones to assist in language learning. Traditional educators may not promote social networking unless they are communicating with their own colleagues.

Technology and Professional development of teachers

Professional development leads to better instruction and improved student learning when it connects to the curriculum and materials that teachers use; to the national academic standards that guide their work; and to the assessment and accountability measures that evaluate their success— and when it is collaborative, coherent, and continuous (Holland, 2005). To be effective, professional development needs to become a focus of attention and responsibility, not just of teachers, but of pre-service and in-service institutions, policymakers, education officials, and principals. One of the real weaknesses of technology-based professional development is that it often "leads" with technology instead of content. As counterintuitive as it may seem, this strategic plan proposes phasing out this type of professional development in favor of professional development that "leads" with improving teachers' content, instructional, and assessment skills. Where and when technology fits, it should be integrated into content, instruction, and assessment—not by focusing on operational skills, but rather by developing the conceptual

and instructional skills teachers need to use a particular technology to promote learning in a particular domain.

To achieve the level of transformational and innovative interventions would be required across all levers of the higher education system, especially in teacher education. In order to realize the goals of education of this century, adopting a transformative and innovative approach is critical across all the levers of higher education: from curricula and pedagogy to the use of technology to partnerships, governance and funding. The key initiatives of the Ministry of Human Resource Development (MHRD), Government of India for promoting Technology Enhanced Learning in India are as follows:

- National Mission on Education through Information and Communication Technology (NME-ICT) – www.sakshat.ac.in
- National Programme on Technology Enhanced Learning (NPTEL) – www.nptel.ac.in
- e-PG Pathashala – www.epgp.inflibnet.ac.in
- Virtual Laboratory Projects – www.virtual-labs.ac.in / www.vlab.co.in
- IT Literacy through Open Source Software – www.spoken-tutorial.org
- Talk to a Teacher – www.co-learn.in
- E-Yantra for Engineering Education – www.e-yantra.org
- E-Contents Portal – www.cec.nic.in
- Digital Library Services - www.inflibnet.ac.in

The above given initiatives are only indicative and not exhaustive. In fact, the list is lengthy, eventually culminating in SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds), an India specific MOOCs platform.

MOOCs (MASSIVE OPEN ONLINE COURSES)

A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as filmed lectures, readings, and problem sets, many MOOCs provide interactive user forums to support community interactions between students, professors, and teaching assistants (TAs). MOOCs are a recent and widely researched development in distance education which was first introduced in 2008 and emerged as a popular mode of learning in 2012.

Early MOOCs often emphasized open-access features, such as open licensing of content, structure and learning goals, to promote the reuse and remixing of resources. Some later MOOCs use closed licenses for their course materials while maintaining free access for students. Robert Zemsky (2014) argues that they have passed their peak: "They came; they conquered very little; and now they face substantially diminished prospects."

Before the Digital Age, distance learning appeared in the form of correspondence courses in the 1890s-1920s, and later radio and television broadcast of courses and early forms of e-learning. Typically fewer than five percent of the students would complete a course. The 2000s saw changes in online, or e-learning and distance education, with increasing online presence, open learning opportunities, and the development of MOOCs. The main MOOC providers are; *coursera, Stanford online, khan academy WizIQ, Canvas Network, Academic Earth, Udemy, Udacity, openHPI, edX, NovoEd, Open2Study, etc.*

MODULAR OBJECT-ORIENTED DYNAMIC LEARNING ENVIRONMENT

MOODLE (*Modular Object-Oriented Dynamic Learning Environment)* is a free and open-source software learning management system. Developed on pedagogical principles, MOODLE is used for blended learning, distance education, flipped classroom and other e-learning projects in schools, universities, workplaces and other sectors. MOODLE was originally developed by Martin Dougiamas to help educators to create online courses with a focus on interaction and collaborative construction of content, and it is in continual evolution. With customizable management features, it is used to create private websites with online courses for educators and trainers to achieve learning goals. MOODLE allows for extending and tailoring learning environments using community sourced plugins.

THREE KEY TRENDS TEACHING LEARNING IN THE PRESENT GENERATION

1. Collaborative

If Web 2.0 has taught us anything, it's to play nicely together. Sure, there are times for buckling down and working alone, but in most cases, the collaborative process boosts everyone's game. In progressives schools across the country, students and teachers are learning from each other in all sorts of ways. Sharing information and connecting with others — whether we know them personally or not — has proven to be a powerful tool in education. Students are collaborating with each other through social media to learn more about specific subjects, to test out ideas and theories, to learn facts, and to gauge each others' opinions.

Collaboration is also finding its way into curriculum with open-source sites to which everyone is encouraged to contribute. Working together is woven into the fabric of project-based schools like the Science Leadership in Academy, which focuses on science, technology, math and entrepreneurship, etc. The idea is simple: by working together, students figure out how to find common ground, balance each others' skills, communicate clearly, and be accountable to the team for their part of the project. Just as they would in the work place.

2. Tech-Powered

Pens and pencils are far from obsolete, but forward-thinking educators are finding other interactive tools to grab their students' attention. School programs are built around teaching how to create video games. Teachers are using Guitar Hero, geo-caching (high-tech scavenger hunt), Google maps for teaching literature to learn global languages with native speakers, Voki to create avatars of characters in stories, and Skype to communicate with peers from all over the world — even augmented reality, connecting students to virtual characters. And that's just a tiny sampling.

Creating media is another noteworthy tech-driven initiative in education. Media permeates our lives, and the better able students are to create and communicate with media, the better connected they'll be to global events and to the working world. To that end, programs like Digital Youth Network focus on teaching students to create podcasts, videos, and record music; and Adobe Youth Voices teaches kids how to make and edit films and connects them to documentary filmmakers.

Students in high school and college are using digital portfolios — the equivalent of resumes — to showcase the trajectory of their work on websites that link to their assignments, achievements, and course of study, using photos, graphics, spreadsheets and web pages.

3. Blended

Simply stated, blended learning is combining computers with traditional teaching. Knowing that today's learners are wired at all times, teachers are directing students' natural online proclivity towards schoolwork. It's referred to as different things — reverse teaching, flip teaching, backwards classroom, or reverse instruction. But it all means the same thing: students conduct research, watch videos, participate in collaborative online discussions, and so on at home and at school — both in K-12 schools and in colleges and universities.

Teachers use this technique in different ways. Some assign interactive quizzes and online collaborative projects at home, some use computer time in class, some assign watching videos and lectures at home and use class time for hands-on projects, some place most of the curriculum online and work one-one-one with students in class. However they choose to do it, the best examples of blended learning programs involve teachers who use home-time online discussions and collaborative projects as fuel for content and discussion in the classroom.

E-MEDIATED AND E-SHARING LEARNING

It is actually a method to develop quality education and means for national development. Prepare the teachers and students e-mediated and e-sharing learners are necessary and need of the hour. Now the technologies mediate the learning and they contribute significantly for the evolution of traditional based instruction to e-education where the students can learn anywhere and anytime. The situation demands the teachers to become *e-excellent teachers* - a teacher having knowledge and capacities to use technologies for quality of education, mastering over on-line and off-line education. This mastery is not only the ability to learn about ICT and on-line materials but inspiring the students to be connected with all of these. The *e-excellent teachers are e-mediated learners* and they facilitate in the students to become e-sharers. The main

idea behind e-sharing is that the more you share the more you learn. To have maximum profit from the on-line based education we have to know the need, relevance and ways of sharing what have studied. The mutual sharing of ideas, knowledge, concepts and experience will empower the students to excel in the learning process. This e-education leads to a reciprocal learning environment in the higher education.

A3 AND C3 MODEL OF LEARNING

We have seen quality at higher education level is the first step in the national development. So quality enhancement is the most important factor which needs more discussion. To bring quality in higher education a model can be adopted. *A3* is *ANYONE*, *ANYTIME*, *ANYWHERE* and *C3* is *CONNECT-CREATE-CONTRIBUTE*. The contemporary society, it is definitely an A3 connected society where anyone can learn anything through the use of technology based medium at any time by sitting at anywhere. So to be an effective participant of A3 connected society we must practice C3 in which we must be connected to the knowledge, create or construct the ideas and share with others through the means of technology.

CONCLUSION

The present education system especially the teaching learning process is meant for implementing a *new* pedagogy for the *new* learner in a *new* learning environment. In the context of Technology Enhanced Learning (TEL), 'teaching with technology' is the need of the hour. Constraints of time and space together with the rapid obsolescence of knowledge in some areas of science and technology have created a huge demand for different courses from different institutions in the distance mode. There is a need for a working digital library system that alone can, in the long run, provide the kind of access required for a knowledge society. Technology enhanced learning attempts to exploit the rapid developments in information and communication technology. It can be concluded that, Teachers' and students' relationships are changing, as they learn from each other; Teachers roles are shifting from owners of information to facilitators and guides to learning; Educators are finding different ways of using class time; Introverted students are finding ways to participate in class discussions online; Different approaches to teaching are being used in the same class; and Students are getting a global perspective.

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