

Renovating the Quality of Transnational Schooling Through Digital Info- Communication Technologies

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Abstract

The interchanged effects of digital information and communication technologies and the overwhelming globalization movement had changed schooling by the end of Twentieth Century from its static massive book-bound and large group rigid educational methodology to new differentiated open-ended alternatives of transnational, blended, and digital forms of education. As such, profound schooling developments have been accelerating but many others are still flowing.

Due to above emerging developments, there will be no place for one absolute learning text, sole teacher, one classroom, one school location, one daily schedule, passive lecturing and didactic teaching, or negligent paper and pencil examination.

Factors and means of schooling at K-12 and higher education levels in regard of curricula, instruction, learning, assessment, psycho-physical contexts, and geographic space are transforming deeply due to ICT effects. This article explores, the following main re-inventions in primarily methodology of schooling: Transnational education, student centered education, blended and online schooling, education for all ability- students, paperless education, multi-learning levels of schooling, systemic blended educational assessment, and Knowledge Society.

Keywords: blended learning, blended schooling; Countenance of ICT; Factory Model of education (FME); Info- Communication Technologies (ICT); Knowledge Society; micro learning; micro instruction; multiple learning levels; Re-Inventing the Quality of Schooling; Primary Methodology of Schooling; transnational education; student centered paradigm.

Introduction

The advent of digital Information and Communication Technologies (ICT) coupled with the overwhelming Globalization movement by the end of Twentieth Century had freed the static educational methodology of the Factory Model (Watters 2015) and the confined book content schooling to open-ended blended and digital cyber space infinity.

Meris Stansbury (2016), Editor in Chief, eCampus_News affirmed in an email to this Author that "Today's students are tech savvy.. they use tablets instead of notebooks, apps like Evernote on their iPhone, their iPhone instead of pens, paper is a thing of the past"..

The Factory Model of education (FME) by which worldwide schooling is still abide, was introduced in Prussian education at the late 1700s, then was copied for economic reasons by American educational system and others around the Globe.

The whole idea of assembling masses of students (raw material) to be processed by teachers (workers) in a centrally located school (factory) was an articulation of industrial ingenuity. Accordingly, schools were housed in large warehouses with hundreds of students in one massive classroom with one monitoring teacher (Watters2015)

Features of FME such big class size (OECD. 2012), students' regimentation, lack of individualization, lecturing, the rigid systems of seating, grouping, grading and marking, and the authoritarian role of the teacher are widely criticized. Hence, US Secretary of Education Arne Duncan (2010) confirmed "Our K–12 system largely still adheres to the century-old, industrial-age factory model of education, and added "it is the wrong model for the 21st century". While FME kept education living in a crude handicraft stage, it hijacked schools' capability to address the needs of students in the digital Info-Global Age (IGA).

Non-the- less, due to the wide spread of ICT tools and practices, students feel no longer obliged to learn through one school location, one classroom, one teacher, one accent, one required text, one method, one learning speed rate, one fixed daily schedule, and one graduation or promotion date to next course or class level. in brief, Info- Communication technologies (ICT) since two decades ago have been re-inventing the quality of schooling primary methodology on both K- 12 and higher education levels.

Having said that, It will be a big mistake for any decision maker or authority to reform society, to grow generations or to treat problems of organizations without the consent of education. Regardless of the nature of educational process: didactic face to face, blended or online, the educational space in which leaning and teaching take place is considered "human making contexts", regardless of the nature of these physical settings.

For any authority to succeed in its educational mission through engaging these "human making contexts" for the welfare of generations is not limited to how huge is the knowledge its owns, rather by how much are civic in handling morally the purposes, contents, means and thinking techniques in

utilizing the memory stored information. In other words, in using information (United Nations.2005) not as mere products, but as services or means for bettering worthy human development goals.

It is observed that more individuals, schools, higher educational institutions and even school systems have stored huge amounts of information in data banks, internet and other media; then use it carelessly with students by didactic large group techniques, rigid routines, subjective attitudes and grade inflation techniques for achieving at the end memorized learning of trivial details.

Actually this endangering educational problem represents the main cause beyond the backward status of underdeveloped and developing state contexts comparable to developed world societies. Schools and higher educational institutions in these low- esteem environments are persistent for hundreds of years in teaching generation to memorize and recite facts in the absence of experimenting, differentiating, synthesizing, and generating new knowledge. However, With the globally spreading effects of digital information technologies, the whole picture of schooling could be profoundly changing. This Author envisages in this regard the following reforming developments.

Renovating the Quality of Primary Methodology of Transnational Schooling

Due to the global effects of digital ICT, a number of methodological mechanisms are taking place in schooling since the beginning of 21st century. Transnational education, student centered education, blended schooling, knowledge society and digital school sites are examples of main re-inventions that are altering deeply the course of schooling methodology. While these changes up-to-this date are in the experimentation stage, it is expected within coming ten years to transform into norm practices even in the education of developing countries. Brief illustrations follow.

A- Renovating the locales of schooling from basically local to cross-border geographies in form of transnational education.

The widely globalized practices of ICTs had made it possible for generating several developments, among them "transnational urbanism" and "transnational education". For transnational urbanism (Smith 2005) which focuses on the possibilities of transnational interconnectivity for constituting and reconstituting social relations, it underlines the socio-behavioral spatial processes by which interested local communities or organizations build translocal connections to create trans-localities that increasingly sustain

new modes of being-international. Transnational urbanism as such is (in the view of this Author) a motivating force for envisioning many emergent transnational practices like "transnational education" in this article.

A-1. Transnational Schools

Transnational Schools (American Heritage Dictionary 2011) are institutions which extend educational missions and practices beyond their national boundaries, thus involving several nations and nationalities in achieving stated goals. Educational sharing in issues like professional expertise, instruction, programs, achievement degrees and certificates, support services and infra-structures, are maintained in accord of well-planned co-understandings and mutual contracts for handling academic and financial matters.

Thousands of years ago, transnational school practices represented a limited symbolic part of postage systems' responsibilities (Hozien 2014). It was fulfilled in its simplest form by officially delegated workers who rode horses, camels and caravans, carrying documents, manuscripts, and postage materials. More facts which apply to transnational schools are presented next transnational higher education.

A- 2. Transnational Higher Education "THE"

"THE" which noticeably started its university practice around twenty years ago, represents simply a task, a process, an achievement degree, or an academic program required and /or designed by one environment, e.g. institution then delivered in collaboration of other non- local partner/s.

However, "THE" should not be looked upon as merely "across border" activity or assignment, joint degrees or programs, rather as seen by this Author as one of the most lasting universal and promising approaches for higher education.

"THE" has transformed the concept and practice of local isolated higher education institutions to global collaborating networks in which each partner accomplishes the assigned tasks according to mutually agreed upon plans and well-defined standards and/or outcomes (Hamdan 2013).

The concept and good practice of TNE in higher education according to the UNESCO/Council of Europe Code (Francois, Avoseh and Griswold 2016; Francois 2015; Vignoli 2004), are "all types of higher education study programs, or sets of courses of study, or educational services (including those of distance education) in which the learners are located in a country

different from the one where the awarding institution is based". TNE may encompass "all forms of higher education activities operating in parallel to and outside the official higher education system of the host country".

As such, these programs may belong to the educational system of a country different from the one in which they are offered, or yet may be offered independently of any national system.

B- Renovating the schooling paradigm from teacher to student centered approach.

Learning Paradigm (LP) has counteracted its predecessor the Instruction Paradigm (TP) prevailed in formal schooling for almost the entire educational history of mankind. LP "emphasizes learning over teaching and student discovery and construction of knowledge over transfer of knowledge from instructor to student" (Barr & Tagg1995).

In fact, the LP delegates the learning responsibilities to students who decide on what, why, how, when and where of learning. Hence, teachers are giving up their conventional roles as the "center of educational universe". Of course, This profound change in schooling paradigm is facing "passive resistance" from many teachers who are still adhered to the old time philosophy 'If I don't say it, they won't learn it'. This one-sided point of view is seen nowadays totally invalid in lieu of the accelerating effects of info-global technologies (Kelly2015).

However, other teachers who continue pro the TP have maintained a half way toward LP by adopting a customized LP-TP approach called '*You Can Classroom Environment*'. Teachers in this approach endorse four following procedures (Hollis2015):

1. "The teacher maintains a deep belief that students can learn and communicates this belief through words and actions.
2. The teacher works to create a classroom environment that is respectful and trusting for all students.
3. The teacher responds quickly to feedbacks from students indicating misconceptions or confusion concerning content. The teacher does not restate the content louder but rather teaches it with different strategies.
4. The teacher has a healthy dose of self-efficacy, believing that his or her actions can positively impact students".

In the course of LP, "the instructor's role is to guide students in the right direction rather than simply delivering the content. And with the wealth of resources available online, the instructor is no longer the only source of knowledge. "Rather than feeling responsible for delivering material, instructors need to be responsible for monitoring students' progress, giving feedback, and intervening when the students have problems" (Kelly2015).

It should be noted moreover that adopting student-centered paradigm implies commitment for the philosophy and actions of self-paced learning which in turn requires dynamic acts such as (McKee 2015):

- *'Open entry/open exit allows students to enter or exit the program at whatever learning level they need.*
- *Lessons accommodate varied abilities, backgrounds and motivation levels of students.*
- *Each student moves through learning independently and at his/her own pace.*
- *micro study units require active responding, written, oral, and/or behavioral to ensure each student experiences successful task completion.*
- *Logically sequenced activities progress students through inductive learning steps – from simple to complex – before progressing to more difficult materials.*
- *Students achieve each micro unit in a systematic way with continual reinforcement and motivation which aids in learning retention.*
- *Micro unit Built-in self- assessment activities to help in focusing and building learning.*
- *Small groups up to 10 students with similar abilities and needs could be formed and supervised by a single teacher.*
- *Individualized and small group instructions are the norms of teaching and learning which enable monitoring each student's progress and provide tutorial assistance as needed.*
- *Instructors' and students' Guide could be prepared to provides step-by-step plans for every micro study unit and meso curricular units (Mazzarol 2005).*
- *Support services such as paraprofessionals, volunteers, or peer tutors could be available and easy to maintain'.*

In short, LP provides students the following advantages (Partly, Kelly 2015):

- Offers students broader context for learning where differentiated goals, resources, contents, techniques, equipments, facilities, support services, study time options are openly available.
- Offers students cooperative learning as students work together toward a common goal and learn from each other and actually teach each other. Further, LP enables groups to search back the materials, examine what they did, and have a feedback how to be better achievers.
- Offers students collaborative inter-independent learning opportunities to build their individual self-made- personalities". Through knowledge, experience and skill sharing and interaction with peers, teachers and human resources, students enjoy achieving their ultimate academic, professional and personal goals.
- Offers students decision making opportunities to determine individually and in small groups what they need to learn, to carry on responsibility for intended learning and to be accountable for the efficiency of achievement results. The mechanism which enables LP students achieve this principle, is the use of systemic diagnostic and formative assessment rather summative tools, as illustrated below.

C- Renovating the schooling presentation mode from in-person to blended and online systems.

Didactic in-person education which persisted for thousands of years ago is transforming by the beginning 21st century to a new form that mixes on-ground and online resources and activities in what is called "blended" schooling. This new methodology is here to stay due to different nature of individuals in growth, cognitive modalities, and availability of responsive services. There will be environments that are high, fair or low in e-learning, but neither in-person or online will reach in practice the 100% or 0% points in this regard (Hamdan. 2014).

A group of U.S university professors convened 2014 to debate the fate of lecture room in higher education in comparable to some online techniques. They concluded that "the future of the university won't be without bricks, won't be all clicks, but will certainly be far more clicks than bricks" (Schaffhauser 2014), confirming thus the lasting role of blended schooling in education.

Other writers (Bluhm and Mobbs 2015) stated that the web provides valuable resources that can be shared with others. Obviously internet pedagogy is clearly the tool of future of education. They added, one can consider students are both face-to-face and online at the same time – a kind of lively ghosts. In essence, residential classes are redesigned into new forms of blended courses through which educational methodology interweaves real teaching and learning with cyber pedagogy. What is emerging here is a complimentary blend of real and online schooling.

However, for any school system to succeed in blended schooling, specific procedures should be firstly maintained by teachers. These briefly are:

1. Be professional in both on ground and online instruction. There will be no successful blended schooling without this pre-requisite principle.
2. Re-organize the course instructional and learning topics and activities that are better to perform on ground and the others online. Then implementation plan for students and instructors and support services are credited so that each party takes the responsibility allocated to her or him
3. Resist the social conventions that learning cannot take place in this ghostly realm. Students may learn not merely by focus and alertness, but by being in a thoughtful and engaged state, the case that electronic devices can provide.
4. Remain fully human in blended schooling: authentic and engaging, thoughtful, and interesting. In both real and online cases be always real, simple, none-directive, none- stiff and to the point. These personal and professional teaching qualities will keep students focused, engaged and achievement interested.

D- Renovating schooling facilities from rigid physical buildings to lively blended and electronic sites on ground and in the Cyber Space.

School facilities at different levels of education started physical since thousands of years ago by Greek Plato Academy in Athens 387 b.c. and continued and enlarged in shape, services and size up to the end of 20th century. By then, ICTs overwhelming developments have changed deeply the nature, mission, and means of world communication, trade, management, healthcare, and education.

While education as observed (by this Author) seems a highly conservative domain among others to live up contemporary developments of ICTs. However, a major shift at the beginning of 21st century is recognized

worldwide in regard of positive attitudes towards ICTs and the utilization of its products by educational systems, schools and higher education institutions.

For this, most school buildings on ground, especially in developed countries have online twins in the cyber space. This transformation of schooling facilities appear in two forms: online education center located side by side of conventional school buildings, or new study departments or offices and services are established within existing physical ones. These two options of schooling facility could be termed in lieu of ICTs implications: External and Internal blended school sites. The two blended sites could be experimented by school systems to decide on the better one which may serve its goals and needs in reality.

E- Renovating school society from static subjective and informal gatherings to a dynamic digital purposeful organization named Knowledge Society.

Contemporary ICTs have reshaped how people think, learn, behave and perform inter-social, economical, educational, and societal affiliations (Prag Foundation 2016). Further, ICTs have transformed memory-based societies to knowledge societies which symbolize freedom of expression, Digital solidarity, knowledge-sharing, and self-learning. Other added values of ICTs are providing basic and Lifelong education for all, and scientific and pedagogical research that tend to diffuse information and communication technologies into communities' work and ways of life. hence creating constantly new opportunities for development (Bindé 2005).

Knowledge is looked upon as the "fuel" of thinking which is in turn the driving force for any social, scientific, economic and educational developments. Thus, new terms have been coined such global society, digital society, and 'Knowledge Society'. Digital knowledge as Hughes (2000) and Neil Butcher (2011) confirmed has become the predominant indicator of future wealth.

Further, knowledge as Prag Foundation (2016) added, *"has become the key resource that has value in itself and for the welfare of society.. The most important property is now intellectual property, not physical property. It is the hearts and minds of people, rather than traditional labor, that are essential to growth and prosperity. Workers at all levels in the 21st century knowledge society will need to be lifelong learners, adapting continually to*

changed opportunities, work practices, business models and forms of economic and social organizations".

It is believed in the near future that every on ground society whether school, sport, guild, science, politics or technology will have a "digital copy" somewhere in the "cloud". However, the cyber society seems more lawful, concise, peaceful and goal-oriented than its authentic twin on the ground which appears emotional, negligent, absent minded, unfocused, and over occupied in endless corruption and inter-mindless revengeful wars that exceed every imaginations.

In regard of size, school knowledge society can be on level of classroom, school building, school system or league, nation state, region or worldwide community. Each society could also specialize in working on specific purpose: social, professional, scientific, academic or cultural interests.

For Characteristics of a knowledge society, Neil Butcher and Associates (2011) has summed the following points:

- * its members have attained or achieving a higher average of education

- * its labor's force are employed as knowledge workers i.e. researchers, scientists, information specialists, knowledge managers knowledge workers and services.

- * its organizations and products are digital in nature.

- * availability of organized knowledge in forms of digital expertise, data banks, expert systems, and organizational plans.

F- Renovating assessment-based sporadic negligently prepared assignments and massive final summative written exams to systemic blended trio-stage methodology

New blended and online schoolings by the beginning of 21st century require new methodologies of educational assessment. It is proposed here, beside the limited use of summative evaluation exams at the end of each studied course or semester, to adopt two types of assessment: pre-learning diagnostic and during learning formative assessments (Hamdan 2015).

Diagnostic assessment concerns itself with specifying where each student stands in regard of required knowledge and skills before learning, specifying thus where he or she will start new learning and what content will be learned.

Formal and informal formative assessments (external and students' self assessment of progress) measure what students are achieving. The data

obtained could then be used to modify teaching and learning goals and activities to further students' engagement and performance.

Summative assessment (SA) is concerned basically with specifying the outcomes of students' final achievement scores of the studied courses at the end of an instruction, a course, a midterm, or at the end of school year. The SA decisions are made against specific norm or criterion-referenced-standards or benchmarks.

The data of SA are transformed into qualitative judgments such as: pass-fail; grades A, B, C, D, and F; or to more descriptive ruling, such as: moving to next level or new blended learning, more blended learning achievement is needed, or repeating the class, the school year or the course of blended learning.

epilogue

This article searched the effects of digital information and communication technologies (ICTs) on the quality of schooling primary methodology. These effects of ICTs' on the process of education seem enormous. Despite that, schooling itself is still generally adhered to the old philosophy and mechanisms of 'mass production' of students learning.

What is required urgently from schooling systems for empowering the newly installed ICTs equipments and softwares is two demands:

1-To apply ICTs inventions scientifically in schooling without much propaganda and rare practice on ground. It is expected from education systems in this regard, to:

- initiate case studies of similar issues in other countries,
- implement quick but thoughtful 'hot house' trials and well planned field experimentations to examine the validity and reliability of ICTs products,
- perform needed customization and preparations of school personnel and ICT's to fit the nature and demands of local school environments.

2- Invest ICTs for producing schooling change beyond the non-conventional daily routine manner. ICTs innovations are numerous and in constant flowing. At the same time, schooling is a flexible applied science that allows for differentiated practices as much students are differ in personal growth, work specialization and innovation needs.

Besides, school age, study stage k- 12 up to higher education, methodology, curricula, and practices are relative, never holy or absolute. Hence, schooling goals, curricula, methods, assessment, facilities, equipments, and services should be reformed with no limits or pre-imposed conditions except the welfare of students' needs.

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