ICTS INTEGRATION PLAN FOR LIBERATING LOCAL MASSIVE LEARNING INTO DIFFERENTIATING STUDENT CENTERED OPEN TO TRANSNATIONAL AND GLOBAL ALTERNATIVES

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Abstract:
Information and communication technologies (ICTs) are accelerating developments and making high impacts on every aspect of human life including education. However, education systems and institutions as keys to rearing generations and being the strategic tools for building professionals, pioneers, and civic society are still far behind comparable to other national services in incorporating ICTs and achieving priority goals or producing new methodologies and education reforms. As such, a paradoxical context has been created: abundant availability of ICTs versus a lack of integration and reforms in education. Hence, the major goals of this paper are presenting a prudent "ICTs integration plan (IIP) and exploring the feasibility of possible education reforms. The plan explains counteracting solutions coupled with sixteen presage factors and tasks that should be maintained for integration and closing the gaps between observed ICTs' abundance and the degrees of its utilization in innovating learning, instruction, management and boosting renewal projects in schooling. Applying the IIP in schools and colleges would lead to negating local massive learning and instruction for the sake of differentiated student centered initiatives open to transnational and global alternatives.

Keywords: differentiated student centered initiatives; school society; ICTs info violation of human privacy; ICTs integration; liberating local massive learning; open to transnational and global alternatives

1. Introduction

The advent of online and blended educational models through the 2008-2015 years of current third millennium has changed profoundly the nature and cultural structures of world societies (Powell and Watson, et al. 2015). New socio- economic and educational classes, professions, and power patterns have aroused (Asian Development Bank, 2017).

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Education has become widely viable for all, not just for the privileged. "blend-digit" education has freed students from the restrains of 'traditional teacher centered-paper curriculum- analogue classroom' to blended and digital enablement, engagement, and empowerment (Hamdan, 2016). It offers learning tasks that incorporate deep thinking, problem solving, and utilize emerging digital resources including artificial intelligence (Asian Development Bank, 2018).

However, Bushweller 2017 made a critical view of ICTs' status in American schools after a 1997 statistics report. He affirmed, "*Even though nearly all public school classrooms are now connected to the internet, problems and inequities persist. The quality of those connections varies widely from school to school and district to district, and how teachers use technology in their classrooms ranges from sophisticated, project-based learning to boring skill drills, largely dependent on the competence of the technology and teacher training. K-12 educators have a challenging road ahead in improving their use of technology*".

Education Week 2017 indicated that ICTs' products and devices are 'flooding' into the U.S. classrooms but the use in schooling is incompatible with their flow in the education marketplace. Actually, the essence of Education Week's concern matches exactly the central research problem of this article: abundant availability of ICTs but with limited successful integration in schooling coupled with a lack of educational reforms.

Nonetheless, Richard Culatta, the CEO of the International Society for Technology in Education, added, "*One of big concerns is that we are simply digitizing what we have always done. That's not collaborative or empowering students.*" Education Week 2017 added to Culatta's views in the following: "*Public schools have more classroom technology and faster internet connections than ever before, and teachers and students alike report using the digital tools at their disposal more frequently than in years past*". But a new analysis of the National Assessment of Educational Progress survey data by the Education Week Research Center highlights two troubling trends:

The first: Despite the promise of building "21st century skills, "such as creativity and problem-solving, students report using computers in school most often for activities that involve rote practice; and

Second: Even as their classrooms have been overloaded with new devices and software, the percent of students with teachers who say they've received training on how to effectively use such technology has remained unchanged, with a persistent divide between *high- and low-poverty schools*".

Evidently, the determining decision was lacking since some years ago on the part of educators and ICTs specialists, besides the lack of reconciling visions and goals among them, and missing initiatives to lead schooling reforms despite the transformation contexts were somewhat open for ICTs integration and learners' centered 'blend-digit' approach.

None-the-less, the schooling conservative views and practices have persisted against the digital headways of ICTs' immersing in education. Jeminiz 2013 described tactfully the case of traditional schooling as an *"ailment suffering from two diseases: control*

"it is" and content "it is"". The danger of these two educational shortcomings appears for: control "it is" through forcing learners to learn only what the teacher offers them. Thus *"limiting learning to content from A to Z or from 1 to 1o"*. And for content "it is" appears in insisting on students that all content must be learned by all regardless of their abilities or interests.

Further, Jimenez denounced the two terms "control it is" and "content it is" calling them 'diseases' as they impose on students to learn all the material provided by the teacher. To counteract this *educational impasse, Jimenez 2013 offered an alternative technique called "3- Minute e-Learning"*.

Within the same direction however, Hamdan 1988 in a book in Arabic titled "Clinical education - a proposed a strategy for student success" and Hamdan 1999 in English titled "Re-schooling society in the digital global age". And described in details the concept and applications of micro curricular, teaching and learning units, and presented a trio stream methodology through which individual students choose the level/s of what they need to learn as literates, professionals and pioneers in curriculum subjects; using individual and small group peers prescriptions where sources, social preferences: self, peer groups or direct-face-to face; support services, learning assessments, timelines are carefully [laid out](#) (Hamdan 1988, 1999). But for sorrows, "*Arab reading Nation does not read*" (Khalaf2012; Mahmoud 2017; Qaerat 2016). This anti-brain development attitude had opened endless road to perpetuating ignorance that is persisting up to this day!

On another hand, Pearcy 2009 in her PhD Dissertation summarized students' opinions towards online, face-to-face, and blended instruction. In weighing samples' practices of these schooling forms, she gave the following statistics: face-to-face 94.41%, online 72.4%, blended 70.27%. However, considering the time lapse of 10 years since Pearcy's graduate research, new statistics are expected to be more realistic: blended 50%, online 25%, and face-to-face 25%.

Through the second decade of the 21st century, new profound ICTs developments have merged and accelerated in volume and variety with no limitations. Horn and Staker (2013) studied blended learning across U.S. schools and presented four blended models namely: The Rotation, The Flex, The A La Carte, and the Enriched-Virtual.

Lately, new ICTs breakthroughs have also entered the communication, businesses, management, education and other daily life fields, namely augmented and virtual realities. These blended technologies when scientifically employed in education; teaching, learning, and management could be reformed towards more sophisticated schooling methodologies such as transnational and global approaches, open source schooling, self-individual and small groups' collaborative achievements (Perdue, 2018; Rouse 2018).

Moreover, NASA and European Space Agency (ESA) have contributed several "blend-digit" programs for supporting the roles of ICTs in developing and enriching blended and online education. NASA for example has initiated engagement programs

and projects that offer several opportunities for education and research to inspire interest of students and educators to explore and experience unique space and aeronautics content through NASA's education opportunities such as:

- Student Grades K-12 and Higher Education Projects
- Educator Grades K-12 and Higher Education Faculty Projects
- NASA Education Projects (Mike Kincaid, 2018).

European Space Agency (ESA) 2018 is also embracing contemporary digital education. ESA has leading programs on space education to literate the public and generations in space advances and discoveries and inspire young people to pursue careers in science and technology (European Space Agency 2018).

Furthering the cause of ICTs Integration and dissemination in schooling, The Commonwealth Education Hub held a roundtable June 2015 at Bahamas to discuss some topics of ICTs integration in education systems by means of technological devices, Open Educational Resources (OER) and Massive Open Online Courses (MOOCs). Key areas of focus emerged from the discussions included: broadband provision, educator training, higher-education models, and ICTs policy integration.

Following up CEH's efforts, UNESCO Asia Pacific May 2017 invited education ministers and leaders from 46 Member States in Seoul to deliberate on a regional strategy for integrating ICTs to help implement the 'regional strategy' -aligned education sector plans.

Four priority areas were identified:

- ICTs for expanding relevant skills development in secondary and higher education;
- ICTs for improving the quality of teaching and teaching practices;
- ICTs for enabling inclusion and equality in education;
- ICTs for better monitoring and evaluation.

Yet, the ICTs ultimate reformation goals (integration, deployment in schooling, new differentiated methods and strategies of learning, instruction, assessment and management) that are due to ICTs field applications are scarcely observed. There are several factors and conditions that hinder the digital renewals in education. This research article aims at offering solutions for these problems and unleashes the plans, methodologies, and reforming alternatives that promote ICTs integration, dissemination, "blend-digit" achievement and liberating Local Learning to open transnational alternatives far beyond local boundaries.

It is ultimately misleading in the ICTs digital Age to continue with the conventional backward teacher centered paradigm in schooling, where learning based Teacher, tutor, authority, big brother or sister (but never learners themselves), continue to have "the total say" for learning decisions of whole student population. This autocracy trend has persisted in the educational scene since 500 B.C. where Greek Sophists (Sampaolo, 2017) at this early era of human rational history, used to summon roaming citizens at Agoras or other public places and promptly lecturing and orating them before dismantling due to tapering out curiosity. However, during that extended

period of classical education, few marginal changes for survival purposes took place but never for introducing revolutionary changes as observed recently in the case of ICTs.

1.1 Academic Terms

A. Differentiating Student Centered initiatives, liberating local massive learning

As students using extensively ICTs to learn online and blended individually and in small peer groups to satisfy their interests and achievement needs, through mutual local and transnational collaboration with academic counseling non-directing teachers and other school personnel, they are applying differentiated learning Centered model, thus liberating local massive learning.

B. Digital school societies

The [Digital School Society](#) (DSS) is a micro school societal unit, which represents the nucleus of serial larger ones as locale (County), national, DSSL league, DSSC congress, continental and global digital school societies (details in later paragraph). The benefit implications of digital school societies appear in providing flexible intercommunications among individuals and groups of DSSs, exchange new ICTs' inventions, knowledge, and skills, and ICTs based educational reformations.

Upper type of DSS is the digital School Society (DSSL). it is branching from the DSS to encompass memberships of digital school societies in one country like U.S.A, South America, and Arab Middle East. Alternatively, North East U.S.A (DSSL); or African Arab Middle East (DSSL) and Asian Arab Middle East league (DSSL).

The basic responsibilities of DSSL are organizational and consultative. It shares ideas and ways for solving local DSS problems and educational difficulties, holds discussion meetings and conferences for improving schooling and introducing new reforms through more ICTs integration and dissemination.

Further, Digital school societies' congress (DSSC) is branching out of the DSSL to assume professional responsibilities similar to DSSLs, but in non-directive sharing, supervision, follow-up and advising manners.

DSSC holds all DSSLs. Educators and ICTs specialists could elect 2-3 members of each DSSL to formulate the global DSSC. DSSCs members have a full representation of all DSSLs such DSSLs of North America, Europe, Australia and New Zealand, Africa, Arab Middle East, China, India, South East Asia, and Russia. The professional responsibilities of DSSCs are similar to above DSSLs, but in non-directive sharing, supervision, follow-up and advisory manners.

C. ICTs Integration

Digital reformation of conventional education is fulfilling two challenging goals: the first is the integration of ICTs in schooling, and the second is the dissemination of ICTs' and utilization of implications, methodologies and tools in learning, instruction and management.

ICTs integration in schooling usually takes place in two stages: pre- service through teacher preventive preparation programs and in- service where teachers are

on-the job and need updating of professional knowledge and skills in what is known remedial training. Next are some methodology alternatives to enhancing ICTs integration (SCOTT 2018).

- Offering elementary courses (mini presentations and training sessions in ICTs skills development & pedagogy approaches).
- Experiencing ICTs Skills into context of teaching, learning and school management.
- Practice driven approach. Pre- service teachers should be provided exposure to the use of ICTs in practical aspects of teaching.
- Combining pre-service and in-service training in utilization of ICTs in integration.
- Reciprocal mentoring of teachers as learners and vice versa.
- Applying ICTs integration in "small intakes". Start with specific tasks then step further as the context allows.
- Securing collaboration in structuring professional development options and resources.
- Applying heavily telecommuting projects of teachers and learners.
- Applying heavily online Discussions.
- Securing manpower supporting teachers in teaching and development of learning resources and for arranging maintenance of hardware and software.

D. ICTs info violation of human privacy

ICTs gadgets and tools like augmented and virtual realities, emails, social media, digital "add-on" devices could easily strip through audio, visual and video means the privacy of any person or enterprise of movements, communications, locations, visitors' identities, hobbies, interests, daily routines, readings, studies and even what he/she thinks as inferred from recorded voices, talks, phone calls, TV shows, internet sites and many others.

These tools are enabling any interested individual or party whether official or ordinary to sneak deeply into the privacy of individuals, specific groups, organizations, institutions, businesses, schools or universities, and know instantly what they look like, personal characters, activities, daily routines, hobbies, interests and what readings and assignments are pursuing.

What implies here is that school and college faculties have no excuse or justifications to back down of presuming deep ICTs integration and well thoughtful reforms in teaching and learning since they through the new "privacy violation enabled-ICTs" can at any time and place reach their students, mentoring them, and sharing individually what are occupied with regardless of time.

E. Open Learning to Transnational and Global Alternatives

Schooling that can successfully acquire the ICTs' digital educational merits stated in # 3 above, is eventually capable of fulfilling the responsibilities of open transnational global alternatives for learning and teaching.

1.2 Assumptions Underlying ICTs Integration

1. Traditional large groups "Factory Model" schooling proved over thousands of years insufficient and ineffective through graduating low achievers 16% with low marks; average 68% with average scores; and upper 16% with A and B scores.

2. Huge ICTs' Developments are accelerating and overwhelming in every human concern whether businesses, communications, industries, education, public management, professions, creative arts, hobbies, and much more. These ICTs' inventions are available in quantities and qualities that are exceeding any human capacity to comprehend or any educational institution needs to consume or fulfill.

3. Despite the highly intensive innovations and disseminations of ICTs' in every aspect of daily life as indicated previously; and despite of education is being the most decisive factor in building societal generations through schools and higher educational institutions; it is observed globally that education is the least field ever utilizes ICTs in its so many plans, programs, frameworks, courses, methodologies, or strategies. In fact, there are no breakthrough comprehensive ICTs' plans or projects directed for reformation of conventional schooling proved to be successful. Hence, a paradox impasse has been created as abundant ICTs while lacking of educational reforms are illogically observed. Further, when examining education literature, one could find many reforming proposals under the auspices of UNISCO and few Developed countries. However, after spending much money and efforts, some projects had failed and were dismantled by the sponsors and/or local governments as the case of Philippines when decided "*after only a year of the project to drop 729 out of 24,098 schools were using the tablets, and the government scrapped the project altogether in 2014*" (Asian Development Bank, 2016[b]).

4. The paradoxical stands for both ICTs' Abundant innovations and developments, and the lack of successful integration and reformation proposals of education systems are firmly persisting. Hence, new plans based purposeful studies of schools' realities and developmental needs in human, educational, digital renewals are urgently needed. The gap between observed realities and the ambitious goals in the future represents the basic task of reforming plans to close. The multi-facet action plan in this article offered latter is an optimal step in this direction.

5. The success of any human endeavor is determined upon the careful preparation and qualification of all factors and processes involved in its implementation on-ground. As such, each time the variation between the required (demanded in planning) and the observed is low near zero, indicates the high validity and effectiveness of both the integration plan and ICTs application in schooling.

1.3 The Research Questions

This research paper presents the following four questions to answer:

1. What are the nature and mechanisms of the paradoxical problem of abundant ICTs versus lack of educational reforms? The answers are in paragraphs Introduction, Academic Terms, and Assumptions Underlying (MFPII), "A Glance at Current ICTs' Developments and Practices in Education" and the paradox of abundant ICTs versus lack of educational reform.

2. What are the Challenges confronting ICTs Integrating in Education? The answer is in the paragraph "Key Challenges confronting ICTs' Integrating in Education".

3. What are the Elements of successful ICTs Integration in education? The answer is in the paragraph "Elements of successful ICTs Integration in education".

4. What are the constructs of the multi-facet of "ICTs Integration Plan" (IIP) and mechanisms of its disseminating in schooling? The answers are in paragraphs "The Structure of the Multi-Facet "ICTs "Integration Plan", presage factors and tasks for ICTs integration, *and ICTs' Liberation of Local Learning to Open Transnational Global Options*.

1.4 A Glance at Current ICTs' Developments and Integration in Education

Molnar 2017 assured three formative conditions for e-education program to succeed, which are:

1. Collaborative inquiry work to overcoming challenges. This collaboration involves teachers, school administrators, the education system, and local community.

2. Adequacy review of resourcing and supportive infrastructure.

3. Systemic monitoring and evaluation of e-education programs for improvement.

Alessi and Trollip 2001 discussed the application of technology in the process of learning and highlighted four general activities that proved to be successful through research, namely:

- Presenting information,
- Guiding the learner,
- Practicing,
- Assessing learning through formative and summative testing.

Further, Virtual and Augmented Realities are newborn technologies. VR is literally makes it possible to experience anything, anywhere, anytime. With the largest technology companies (Facebook, Google, and Microsoft) focusing on stimulating [virtual reality companies and startups](). Virtual reality in education is expected to be the focus of schooling in the future. (Reality Technology, 2018)

Moreover, AR is rapidly growing in popularity due to bringing elements of the virtual contexts, into real world. Hence reinforcing what students see, hear, and feel. A technology that combines virtual reality with the real world in the form of live video imagery that is digitally enhanced with computer-generated graphics. (Perdue 2018; Rouse 2018)

NASA and the European Space Agency (ESA) as two highly sophisticated technological corporations are initiating special programs concentrating on aerospace education.

NASA for example has launched initiatives engagement programs and projects that offer several opportunities for education and research to inspire interest of students', educators' and faculties' in science, technology engineering and mathematics, have the opportunities to explore and experience unique space and aeronautics content through NASA's education opportunities (Kincaid 2018).

European Space Agency (ESA) 2018 also has strong orientation towards reinforcing contemporary digital education. The ESA has advanced programs on space education to literate generations in space advances and discoveries and inspire young people to pursue careers in science and technology. ESA has more educational services for teachers (Teachers' corner) more than imagined.

To clarify however the statistical standings of ICTs developments and Practices in schooling and other aspects of life, the Author conducted a Web search during the period 8/18- 24/2018 and found a "flood" of types, and products that have been noticed in the realms of schools and higher education institutions; but without established systemic regulations or organized plans that steer their implementation in schools or at national levels.

DeNeen 2012 gave for example top 50 sites to get education for free, among them [New York University](#), [Open Yale Courses](#), [Google Code University](#), [Weber State University](#), [Universidad Colombia](#), and udemy offering 55.ooo courses starting at $12.99 each.

Queen Rania. 2018. (the First Lady of Jordan and noble Socio- Educational Reformer) announced January 24, 2018 in Davos the launch of Edraak's (Cognition) Free Online Platform for School Learners to provide all Arab school-age children with free access to quality education by 2020.
The project includes e-curricula and learning resources in all major subjects, including mathematics, physics, chemistry, biology, English, Arabic, and computer programming.

Sheikh Mohammed Al Maktoum. 2018. ([Eminent](#) Emirati Reformer, Vice President and Prime Minister of the United Arab Emirates, and Ruler of the Emirate of Dubai) has established Oct.2018 'Madrasa' under the auspices of Mohammed Bin Rashid Al Maktoum Global Initiatives, MBRGI. 'The platform offers 5,000 Arabic educational videos on subjects including science and mathematics and targets all levels of school students from K-12.

Viewing above abundant ICTs pioneers, developments, achievements, practices and examples in education, nullifies any excuse from educators and education systems, specially of developed countries, nor teachers and learners living the third Millennium for not integrating ICTs in schooling, and shifting promptly to "Blend- Digit" Learners paradigm, since ICTs analogue literature**,** digital hard and software, designs, plans, programs, methods, techniques, equipment, facilities, and services are available in sums

and qualities far exceeding what may need or can be used in and out the classrooms. The following summaries illustrate ICTs realities in the marketplace.

1.5 The Paradox of Abundant ICTs versus a Lack of Educational Reforms - The central research problem of ICTs integration in education

Above paragraph shows briefly Abundant ICTs availability for education. However, no integration efforts of ICTs in schooling were apparently successful, no educational reforms were evident, and no venture to replace Teacher-Centered- Paradigm for the sake of Learner Centered Blend- Digit Approach has been materialized. The next few sources illustrate this paradoxical stalemate.

In fact, one can talk as much as he or she wants about various educational technologies and their potentials for reforming education, but until they address ICTs issues and products in a significant operational manner, educational reforms will be nil in many countries or at best will slow down to the minimal in some other parts of the world.

Gavin 2018 stated that 'ICTs and resources (Edtechs) have recently turned into an education business. A lot of money and official supports are being invested for ICTs integration. Still, education is not witnessing any improvement change. Gavin asked, "*Why are some schools seeing it as a burden, rather than a phenomenon that governments and large institutions seek to achieve*?" This is actually the central paradoxical question that this paper pursues to answer.

UNESCO 2016 developed a master plan 2013 for ICTs' integration in the education systems of member countries (Nepal, Philippines and Uzbekistan). However, despite extended guiding efforts and follow-ups, "*the project had collapsed after one year and a total of 729 of schools out of 24,098 schools were using the tablets, and the governments scrapped the project altogether in 2014*".(Asian Development Bank, 2016[a])

The failing factors of the project were:
- "*unclear education goals from using the tablets;*
- *digital content was developed only AFTER the units were distributed;*
- *no internet connection in schools;*
- *no budget for training teachers to use the tablets; and*
- *lack of technical support''*. (Asian Development Bank, 2016 [a])

Educational technology is continued to be implemented in unorganized manners in many areas of the developing countries. More developments are unlikely to occur unless five items are addressed: power, Internet connectivity and bandwidth, quality teacher training, respect and better pay for teachers, and the sustainability of ICTs integration (Wright 2014; Laferrière, 2011).

Developing Countries (DCs) don't have enough of these empowering factors for ICTs due to financial problems caused by severe poverty, wide spread corruption and political instability. However, the real reasons beyond DCs' complex bankruptcies are of twin in nature: corrupted long time reigning officials and the intensively use of

corruption among locals. Corruption in DCs represents a common cultural and behavioral norm practiced daily by the majority.

Ebenezer 2012 studied the real experiences of Ghana's ICTs in education policy and their impacts on a Senior High Model School (OSHS). He found that 'ICTs' implementation at OSHS was aggravated by inadequate ICTs facilities, poor Internet connectivity and lack of technical *teachers to integrate ICTs in education. Students were lacking computer competency skills beside the inability of the government, school's to manage and provide ICTs facilities to the computer laboratories, and most of the computers were broken down, and some were obsolete.* The Ministry of Education and Ghana Education Service were under financial pressure to provide necessary ICTs infrastructures, which urged consequently educational authorities to seek partnership with the private sector to provide teaching materials and ICTs resources to the schools.

Vrasidas 2010 conducted a large-scale survey to examine how Cypriot teachers use technology in the classroom and what challenges they face. The sample of 1,051 teachers out of 4,150 the total population of primary school teachers in Cyprus. The survey found that many teachers who participated in the survey used ICTs on a daily or nearly daily basis but few of them prepared activities, which specifically required their students to use ICTs.

However, when teachers asked why didn't use given technology. Teachers gave the following factors and statistics that hindered the use of ICTs in their classrooms:

1. "*Length of the curriculum that needs to be covered during the year (81.4%)*
2. *Time constraints (71.7%)*
3. *Insufficiency of Time required for preparing ICTs -based activities (60.4%)*
4. *Unavailability of infrastructure (53.5%)*
5. *Inadequacy of amount of quality content (50.7 %)*
6. *Lack of in-classroom teacher support (50.2%)*
7. *Lack of participation of teachers in decision making (43.4%)*
8. *Need for professional development (37%)".*

School and college of education are currently living the ICTs revolutions, the" Age of ICTs info "Nudity", the fourth industrial revolution (knowledge economy and revolution), digital societies, blended and online educational trending, pending new "neo blend-digit" methodologies of schooling that are replacing the old ways of educating generations as largely "passive recipients" of knowledge, concerned basically for rote-based learning. These emerging shifts in educational practice necessitate a well-designed multi-facet plan for ICTs Integration and Implementation in schooling. This main paragraph is aiming at just that.

1.6 A Proposed Multi-Facet "ICTs" Integration

Two major tasks are invoked here: A designed "ICTs" Integration Plan, then disseminating it in real school environments.

1.6.1 The Structure of the Multi-Facet "ICTs" Integration Plan" (IIP)

Gavin 2018 wrote that it is "now the times to write a development plan for the school, even a simple one to get started. Once it's down on paper (or on screen) it will appear achievable". The helpful thing is that all schools are experiencing the same work. So it is beneficial to contact the best digital schools and see how they did it.

One important note is that to avoid buying digital equipment such as iPods, interactive whiteboards, or anything else without planning of how, when, where, why to be used. All purchases need to be part of a clear ICTs development plan.

These prompt calls for inter-schools collaboration coincide with this Writer's (Hamdan, 1988, in Arabic) for establishing educational leagues of schools lying in physical distance proximity at the pre-internet era, then in English (Hamdan, 1999) for schools with related educational policy as the Internet just entered the online service through launching the "Information Superhighway" in 1995.

UNESCO 2016[a] drew up a strategy to guide member countries (Nepal, Philippines and Uzbekistan) to target four priority areas: human resources and teacher development, infrastructure development, creation of digital learning materials, development of an education data system developing during 5- to 6-year master plans for the adoption of ICTs in their education systems.

The strategy involves a careful preparation process and sequenced actions to help countries realize their goals and avoid often-costly mistakes when ICTs infrastructure is put in use without other necessary tasks and support services, such as (UNESCO Bangkok, 2016[a]):
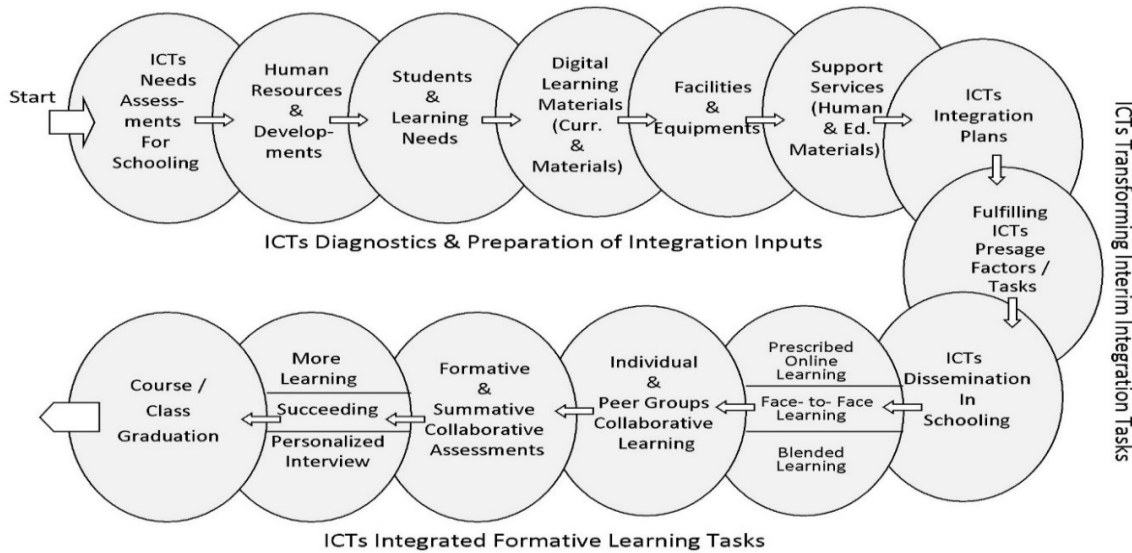

Figure 1: Components of the "ICTs" Integration Plan" and Disseminating
Learners Centered "Blend- Digit" Prescribed Schooling

- Thorough ICTs needs assessment;
- Set clear and realizable goals.
- Focus on country-specific priorities.
- Set up a coordinating agency between ministries and departments.

- Provide full support and alignment.
- Develop projects and programs for the rollout of the physical infrastructure, teacher training, e-content development, and administration;
- Create a clear timeline and resource mobilization plan.
- Put in place systematic monitoring and evaluation systems to ensure sustainability.

1.6.2 Presage Factors and Tasks for ICTs' Integration

Every human endeavor, goal or project sustains and succeeds through careful preparation of specific factors, tasks and conditions that determine the professional identity and practice of the required venture.

The ultimate venture, which this article seeks to accomplish, is establishing ICTs in education and to reinforce its role in promoting learners centered "blend- digit" prescribed approach. These 16 determining factors and tasks appear in the following:

A. Establishing "ICTs" Integration Councils

"ICTs" integration councils are fundamental organizational frameworks that are in charge of steering the "ICTs" integration plans to its ultimate goals, serve as advisory, consultative and guiding resource bodies of knowledge and experience, collaborate in solving field difficulties of local, regional and national (state) school (Figure 2).
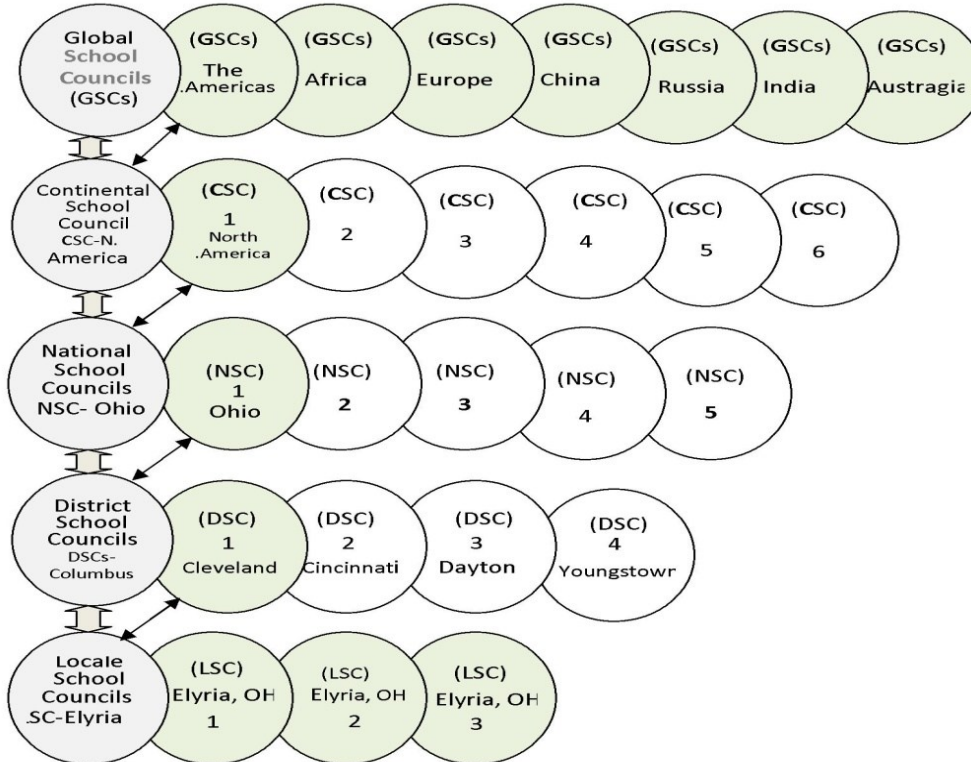

Figure 2: A Sample of "ICTs" Integration Councils Recommended in the Plan"
Organization and Operation of "ICTs" Integration Councils ("ICTs"ICs)

The strategy involves a careful preparation process and sequenced actions to help countries realize their goals and avoid often-costly mistakes when ICTs infrastructure is put in use without other necessary tasks and support services, such as (UNESCO Bangkok. 2016ᵃ):

These prompt calls for inter-schools collaboration coincide with this Writer's (Hamdan 1988 in Arabic) for establishing educational leagues of schools lying in physical distance proximity at the pre- internet era, then in English (Hamdan 1999) for schools with related educational policy as the Internet just entered the online service through launching the "Information Superhighway" in 1995.

"ICTs" come into educational practice in three types regarding of size and responsibility: micro at the local and district levels, intermediate at the regional and national levels, and macro at the continental and global levels.
Relationships among "ICTs" ICs are mutually inclusive, nondirective, advisory and collaborative.

"ICTs" technical team of six skilled technicians (at the minimal): 3 programmers and 3 for maintenance to fill daily 3 shifts. While the programmers' job is designing sophisticated software's programs for the operation of every bit of "ICTs" and needs of integration Councils, the maintenance team is on demand technicians to keep the system working 24/24h.

Two to three members of local, district and national councils could serve as delegated members at the continental and global councils. "ICTs" ICs operating media are mainly online, digital clouds, and blended.

B. Implications of "ICTs" Integration Councils for Operating the "Blend- Digit" Approach and Educational Reformation

The effective field application of "ICTs" integration councils coupled with successful prescribed "Blend- Digit" approach could enable schools' populations, instructors, students, administration, and support services to liberate local learning to open transnational Global alternatives; moreover, "ICTs" integration councils when organized and administered intellectually, will lead to the following implications:

- More effective and sustainable "ICTs" integration in schools and colleges.
- Improvement of the education process from planning, development, implementation to assessment of quality achievements.
- Reinforcing purposeful professional intercommunication among various levels "ICTs" integration councils and schooling faculties for better learning and teaching.
- Promoting mutual understanding and collaboration among "ICTs" integration councils and schooling faculties across world regions, continents and the Globe.
- Enabling the school systems, schools and colleges across the World to build up closer meaningful relations and achieve more successful "ICTs" integration and educational reforms.

- Enabling macro educational regional, continental and Global councils to coordinate plans and efforts that could achieve at the end World educational collaborative unity.

C. Reforming and reviving educational policy

The educational policy (EP) is the dynamic cardinal foundation that determines the identity of schooling components, e.g. curriculum elements, the nature and procedures of implementation methodology, and the quality assessment framework of intended outcomes.

Educational policy is derived from the national philosophy, the vision and mission of schooling, besides countries in particular, it is considered highly the key for determining the content nature of the curriculum, the aims, the learning-teaching alternatives, and procedures of leaning. (Wikibooks2018)

To benefit from this foundational factor in the design, development, and implementation of schooling, educational decision makers should express the policy statements in operational clear terms and used afterwards systemically for deriving and monitoring the inputs, processes and outcomes of schooling.

E-learning policy is usually initiated by local school systems or an authorized group to specify and steer the types of learning, the goals, curricular content, strategies and directions that will be achieved by students. Moreover, as school systems differ one from another across the Globe, so each e-learning policy follows and has a distinguished educational identity of its own. (Brown 2007)

D. Reinforcing ICTs Education Policies

One of the most important factors to the effective ICTs integration plan in education is ICTs Education Policies. Hence, careful efforts should be exerted for updating and activating the role of ICTs in advancing the cause of e-education.

It is noted generally that ICTs initiatives have often preceded policy development. it is urgently needed to correct this upside down pedagogic design is more focusing on updating ICTs policies and making necessary revisions to include justified new developments such as eLearning, micro learning, e-projects, open educational resources (OER) and MOOCs (CEH 2015).

E. Establishing Digital School Societies

One of the fundamental responsibilities of the central ICTS s steering committee is establishing digital school societies (SDSs): local, national, continental and global (DSSs). The formative nature and interrelated memberships of these DSSs appear in figure 3.

F. Developmental principles of DSSs

The following principles could be considered here:

All school population (teachers, ICTs specialists, administrators, students, families, community leaders, and support human services) could participate in forming,

managing, and exchanging contacts and benefits with other members. This DSS due to its size, large membership, and diverse professional and academic interests may be called Grand DSS.

For flexible decision-making, and quality control, sub DSSs could be introduced, e.g. math DSS, ICTS s DSS, Arabic DSS, science DSS, social studies DSS, and hobbies DSS.

Several elementary, junior and senior high, which operate in close geography, educational policy, and cultural proximities, may form DSS leagues. Similarly, DSSs leagues, which belong to same locality or nation state; or share compatible or related cause or culture, may join higher school association called DSSs congress.

Developing an organization framework to keep things in order during temporary experimentation period (e.g. 6-12 months). The framework presents a code of ethical communication, brief guidelines of participants' roles in DSS, the qualifications of the steering committee and none-directive monitors who observe major types of activities, responsibilities, and achievements of each DSS.
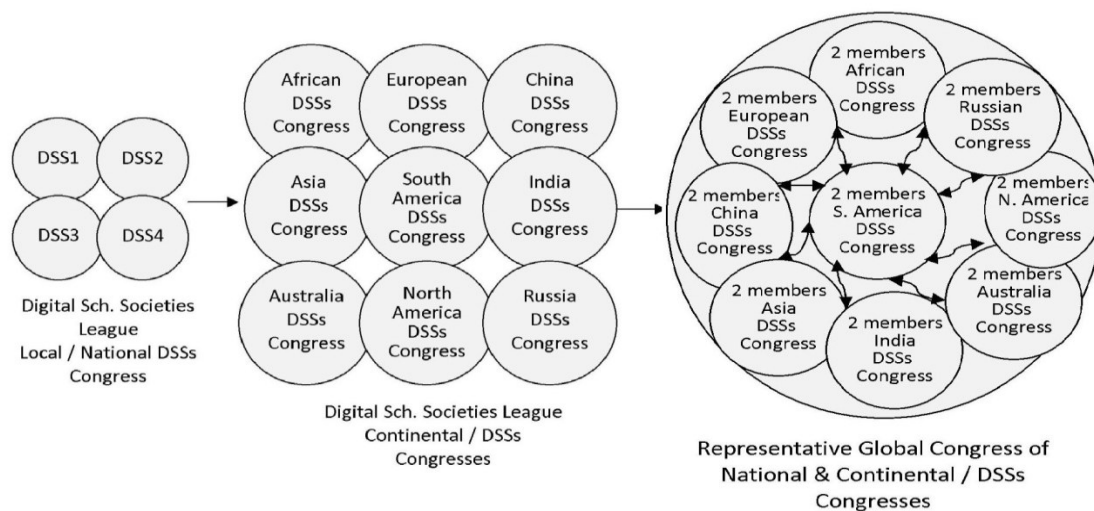

Figure 3: Digital school societies (DSSs) on local, national, continental and Global levels and associated DSSs leagues and congresses

Benefits accrued from embracing DSSs, leagues, and congresses in education, could be:

- Building psycho-educational communications among school communities across the World.
- Availability of free and open online contexts for teachers and learners to discuss and share academic knowledge and experiences to enhance and enrich achievements.
- Availability (where needed) of free online tutoring: teacher to teacher, teacher to student, student-to-student, and expert to teachers, students, or school personnel.
- Exchanging / sharing of professional training and developmental needs for any topic or skill regardless of time and location.

- Forming online collaborative teams and groups for sharing cultural values and merits, solving learning and behavioral difficulties, and achieving better academic and personalized progress.
- Encouraging the sense and practice of diversity among individuals, groups and peoples across the World.
- Building mutual understanding among "World school communities" (WSCs) that could lead to "tolerant global society" because of flowing continuum of WSCs.

G. Establishing Digital School Culture

At the current Info Global Age where economies, communications, cultures and interactions are widely open upon each other by free choice or by force, has made it essential for schools in the 21st century to open doors for unconditional tolerance and digital culture practices. Luckily, with the ICTs accelerating developments have helped school societies to formulate and interact individually and in small collaborative ventures through electronic devices, equipment, facilities and services.

Actually, when one indicates from an affluent view that her / his school or college is 'paperless', they mean it is digital in learning, instruction, assessment, communication and more others. However, in deprived areas or experiencing hard life conditions, young people like refugees fleeing towards Europe as recently observed, are lacking the chance for education or attending disadvantaged schools that are shortage of qualified teachers. A new field study of refugees schooling case has indicated that for societal integration to succeed, educators should have to change their affiliation approach. (Vergin 2018)

Contributing to the program of German acculturation, "Teach First" supports schools in deprived neighborhoods by recruiting college graduates from various disciplines to work at mixed population schools. These so-called "fellows" are tasked with mentoring refugee students in particular, with the aim of preparing them to enter the German school system and indulge themselves in German daily schooling (Vergin 2018). In fact, the above "Teach First" activities represent the essence of German acculturation of schooling and conducts'.

Lee and colleagues 2017 call for Intentional pedagogy and course design that require helping students develop their intercultural competence. Thus emphasizing students' intercultural competence as a core objective of twenty-first century classes. Further, they assured that preparing students to be effective and engaged citizens in today's interconnected global society is of vital importance. One way of doing so is to foster international student success and effective interactions in multinational classrooms. To achieve this purpose, school and college faculties need to be quipped in intercultural language, ways and tools of intercommunication and interactive skills.

H. Building the Intercultural Competent Faculty

"Increased domestic and global access to higher education has resulted in having multiple diversities in any given classroom or academic program." (Lee 2017; Darby 2018)

Cultural competence is the ability of a person to effectively interact, work, and develop meaningful relationships with peoples of various cultural backgrounds. It is more than tolerance of differences in others with whom the person interacts or works. In fact, cultural competence enables individuals and groups in recognizing and respecting the uniqueness of peoples and environments by using not only words but also attitudes and actions in any contexts throughout the Globe.

Lee 2017 argues for developing intercultural pedagogy to help teach, respect, and value the contributions of all international and domestic students, "*we need intentionally developed pedagogical practices to engage varied students effectively and respectfully within U.S. classroom.*"

Researcher Deardorff (2012) recommends faculty to develop intercultural competence in areas of:
- individual willingness to work with those from other "*cultural, socioeconomic and religious backgrounds,*"
- awareness of own cultural values and biases, and
- ability to adapt behavior and communication to "*accommodate students from different culturally conditioned communication styles.*"

Pappas 2018 recommends teachers to incorporate "dialogue topics" and "Primary motivations" of students when developing interesting online learning. The first procedure provides them a desire to be involved and active learners while the second gives them the sense of belonging.

It is assumed here that there will be no successful "blend-digit" leaning and instruction without having first highly qualified school and college faculties skillful in using personal computers, laptops, printers, LCD projectors, palm devices, iPods, fax machines, cell phones, Internet, and Intranet, just examples.

Further, for cross-cultural-adaptability, the school and college faculties are expected to be capable of:
- "*Positive attitude toward change and new environments*
- *Recognize and respect learners' diversity and individual differences*
- *Enjoy working with diverse school populations*
- *Enjoy cross-cultural school environments*
- *Thrive in a culturally diverse workplace*
- *Gained valuable knowledge and experience performing tasks in a multicultural work environment*
- *Enjoyed communicating and managing tasks in environments different than her/his own.*
- *Adept at making contacts with a wide range of peoples.*
- *Abilities to integrate into the local population and make friends quickly*" (Csbsju 2018; Deardorf 2006; Kapil and Ataur 2007).

It is useful to emphasize that blended and e-educations is primary a composite of different civil servants (e.g. students, teachers, human services, professionals, and more), needs, goals, curricula, methods, facilities, equipment, logistics, and achievement results. Hence, it is mandatory for these two operations to succeed, that school

personnel to be highly trained in maintaining the management of cultural diversity and competence (Spitzberg and others 2006), since the "world of one people and one language is unlikely in any imminently foreseeable future (Spitzberg and_Changnon 2006).

I. Development of Digital curricula

The curricula of "Blend-Digit Approach" necessitate specialists who can transform analogue courses and textbooks into interactive blended and digital documents each composed of hundreds or thousands of micro "intakes" of knowledge, value and skill units that could be sorted into three categories for learning: commons for all students to be literate in the subject; specialized plus alternatives (complimentary knowledge) for professional workers; and the whole curriculum plus a research study and literature report for the future pioneers and reformers (Hamdan 2016).

Levin and Mudd 2018 advocate the alignment of curriculum content, instructional and learning strategies to the working needs of students. They argue that "*students by reaching the university level they have ideas of the professions they prefer to work in the future*". Accordingly, university instructors are expected to reinforce students' career directions through discussion seminars, projects, research papers, direct applications and demonstrations of professional skills in connecting classrooms and relevant workplaces and centers.

J. Countering the backward Attitudes against ICTs Integration

Negligent or resistant attitudes are observed generally on school personnel towards work renewals including current ICTs Integration in learning, teaching and management. This stems from feelings of inadequate knowledge and skills to operate the new digital equipment, shortage of in-service training on the nature and use of needed facilities, tools, materials, and technical services. To counteract these deficits, special qualified committees should be set up to compensate any item needed for effective installing of ICTs and services in schooling.

Moreover, mobile phones in some local educational systems are banned because instructors find them distracting rather than a potential aid to learning, since the devices can be used to reach out beyond the classroom to obtain resources, or contact local experts. Other times, the use of mobile phones is restricted as not everyone has one. Thus, avoiding the potential unfair advantage to those students who have one. Such contexts may hinder discussion and teamwork for the subject to a large degree (Wright, 2014).

K. Preparation of ICTs' human resources

The basic concern of ICTs' human resources is the "blend-digit" librarians. They are considered in the ICTs Global Age fundamental professionals as the case of academic teacher, student counselor, ICTs specialist, and assessment educator. The "New Librarians" are no more looked upon as support or assistive services.

School, college and public librarians in the 21ˢᵗ century are no longer just "*the keepers of the books."* Rather are highly trained specialists and staff members, whose responsibilities extended to all students, all subjects and most likely all local and transnational communities. The "New Librarians" are most likely assuming the following responsibilities (Grigsby, 2017):

- Introduce new technologies into school and higher educational institution.
- Counteract fake news and information before reaching students and teachers, advising them to be critical about such sources.
- Transform libraries into flexible spaces to host small interactive spaces as well as large open spaces for groups, activities, and classes.

Scott 2018 offers five important issues for the "blend-digit" librarians, which transform their traditional roles from "curators of knowledge" to professional school and college faculties who enable teachers and students integrate and use digital technologies to positively impact learning. These issues are:

- Attend school and college meetings at which teachers and instructors learn department goals, and share the new and exciting things of what the library can offer.
- Keep the tech simple. Attend the school professional communities (PLCs); Pay attention to teachers' preferences for meaningful research lessons involving simple technologies.
- Refresh past lessons. Share teachers in planning instructional-learning responsibilities, including the chance to update instruction and tech tools. Keep up with technology developments and incorporate as much teaching and learning tasks can use.
- Engage students by allowing them to be experts and initiators of new knowledge.
- Encourage students to learn and use technologies. Urge in them the sense of confidence and expertise by providing those opportunities to apply experiment and invent new ways, tools and skills to advance learning.
- Be willing to go beyond**.** As effective blended and online "New Librarians" give more time and knowledge to new clients: teachers and learners, even if sometimes these respond above or beyond scheduled responsibilities.

J. Preparation of Professional ICTs' Technical services

The types of ICTs' Technical services could be determined, adapted, and decided upon in lieu of two criteria: the universal technical standards in similar ICTs' educational settings, and the local educational needs and physical characteristics of school and college environments. Some human services may need retraining; such issue should be handled promptly by a professional center. Examples of ICTs' Technical services are (UC Davis.2018):

- Accounts and passwords;
- Classrooms, labs & printing;

- Desktop, mobile and tablet services;
- Educational technology;
- Email development and utilization;
- Internet and network;
- Media and events;
- Professional services;
- Security;
- Servers and storage;
- Software and business applications;
- Voice communications;
- Web services.

K. Preparing of ICTs support services

Examples:
- Carrier services;
- Fixed telephony services – access and use;
- Fixed telephony services – calling features;
- Mobile telecommunications services – access and use;
- Mobile telecommunications services – calling features;
- Private network services;
- Data transmission services;
- Other telecommunications services;
- Internet backbone services;
- Narrowband Internet access services;
- Broadband Internet access services;
- Other Internet telecommunications.

L. Preparing ICTs environment- facilities and equipment

Elements, which ICTs integration council could consider, are (Wikibooks2018; Wright 2014):
- location of internet access box;
- positioned away from chalk dust, water, magnets;
- positioned so you can view the monitors with internet access;
- place a limit on number of students allowed in that area;
- be sure that the users have a purpose/task and a time limit.

M. Things to consider when arranging classroom

Examples (figure 4):
The goals are to:
- promote attention, structure, access, and orderly movement;
- minimizing distractions;
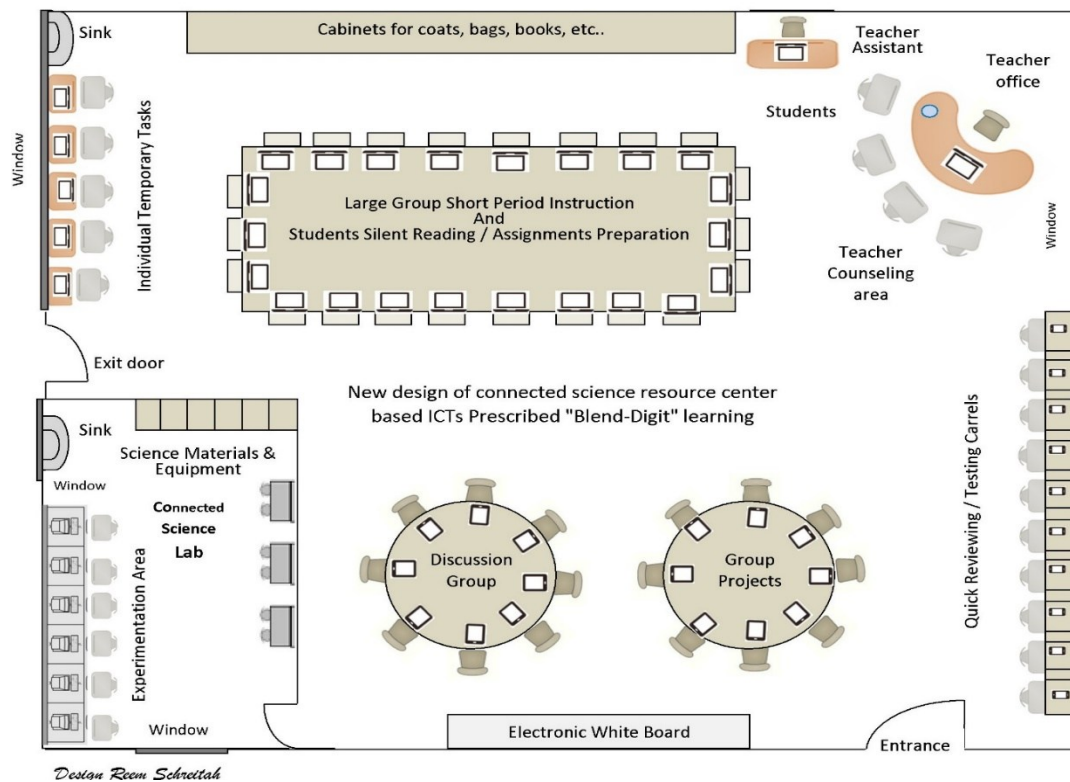- make efficient use of the available space.

Figure 4 A sample of new design of connected science resource center
based ICTs Prescribed "Blend-Digit" learning

Things that affect decisions include:

- Number (and nature) of students;
- Size and shape of room.

Conventional classrooms should be remodeled into new physical settings capable of including all activities of new blended, online and face-to-face individual-peer groups learning, non-directive counseling, instruction and assessment. Such a transformation appears as the example in figure 4.

Placements of un-movable items as:

- door;
- windows (if any);
- bulletin boards;
- chalk board/ dry eraser board;
- bookshelves;
- counters;
- closets;
- height of ceiling;
- electrical outlets;
- internet/cable outlet;
- drinking fountains/sinks;
- bathroom.

Types of ensuing lessons/activities:

- full class presentations by the teacher;
- small group work;
- large group discussions;
- individual work;
- learning centers;
- distributed/accessed materials/equipment for often use of students;
- available furniture such as tables or desks, bookcases and filing cabinets;
- AV equipment;
- overhead projector;
- computers;
- VCR/Television;
- decorations, such as maps/charts, posters, animals, plants. (Phillips 2014)

N. Provide Access to ICTs Technologies

This basic task of ICTs integration could be maintained through providing students with tablets and laptops and enabling them to use digital infrastructure and services. (Faulder, 2011)

Further focus was also needed on increasing teacher access to technology and on addressing sustainability issues related to costs of ownership (e.g. and recurring costs) CEH 2015).

O. Countering the gender discriminations

Women in Asia are on average 70% less likely than men in the labor force. This gender gap persists despite economic growth, more access to education, and the desire of women to become employed (Asian Development Bank, 2016c).

There will be no real progress in societal life, institutional work, education productivity, industries, and national security until the rights and responsibilities of men and women are balanced out and mutual fairness is achieved.

How can policymakers boost female participation in the labor force? Asian Development Bank.2016c presented the following simple answers:

- *"Introduce job quotas that counteract the negative effects of discrimination.*
- *Provide vocational training for women.*
- *Develop job matching services.*
- *Apply policies on parental leave, childcare or flexible working hours.*
- *Make available transportation for female employees, to provide a socially acceptable way for them to travel between work, school and home".*

P. Securing Sufficient Sustainable Budget and Financing

While budget and financing issues in developed states are viable and protected against corruption and theft by firm laws and a sense of professional responsibility, it is in developing countries a risky task due to the widely spread corruption and lack of

credulity and accountability conventions among officials and people. Needless to assure that without budget or saved funds, developmental plans and projects will cede. Consequently, no progress is realized. As such, developing and underdeveloped communities continue to live desperate life conditions including education and schooling. Human resources involved in the IIP such as professionals, curricula, ICTs, instructional, learning services. Curricula and/or courses and textbooks.

Q. Mainstreaming ICTs integration in Schooling

This task is viable due to the continuous non-stop emerging new technologies and the availability of systemic monitoring and evaluation methods, techniques, and strategies. A highly positive example in mainstreaming ICTs integration in schooling, is of the Republic of Korea which boldly transformed its 'traditional classroom settings concerned with rote-based learning, where students were largely "passive" recipients of knowledge, to ICTs -based education system in which "student-centric," and focused on supporting creativity, collaboration, and critical thinking. This strategic change of Korean ICTs educational policy was highly successful due to unconditional support from policy makers, government, parents, teachers, and local powers, along the availability of sufficient resources (Faulder, 2011; UNESCO Bangkok.2016[b]).

R. Disseminating the ICTs Integration Plan in Schooling Considering Some Trends and Challenges of ICTs Integration

From virtual reality to predictive ICTs analytics and from blended teaching learning of the connected classrooms to online campuses and interactive simulations, technology is paving new ways to enhance educational access around the world.

ICTs when used in teaching learning will enhance students and teachers experiences at all levels of education, consequently reinforcing ICTs integration in schooling, when utilized as (Pappas 2018):

- A support mode to raise students' levels of self- esteem and confidence.
- Simulations, which allow students to experiment with virtual situations which cannot be represented in real life of the school environment.
- Forms of creative design and production through combining various media in one product.
- Information resource to enable students to develop questioning and research skills.
- Communication tools with other individuals and communities.
- Tools for exposing students to new socio- cultural perspectives on diverse issues.
- Channels for self- expression for children, particularly adolescents.

Paul Kim said human beings must have the capability to "reboot" their minds and "learn to unlearn and relearn." He cited these trends posing major challenges to both learners and education providers as the world flows ahead into the Fourth Industrial Revolution (Asian Development Bank, 2017):

1. Nearly half of all jobs are at risk from automation and computers in the next 20 years. The advent of artificial intelligence is making the future of jobs uncertain and the relevance of skills more important. What may seem as adequate technical skills today may soon become obsolete. Therefore, only those that are agile enough to adapt to the rapidly changing work ecosystem will endure.

2. Rapid technological advancements are creating "new collar jobs". We are not talking politics similar to the past Soviets' proletariat (the working class), rather of an emerging ICTs professionals who could through digital operation and maintenance promote communication of data and human and institutional welfare. However, more intelligent and powerful computing resources are creating "new collar jobs," which require specialized or relevant skills, often obtained through vocational training, not necessarily a 4-year college degree. Some companies have actually started to invest in job training programs of their own, or partner with schools to equip students with the exact skills they will need to get a job.

3. Learning is no longer just for the wealthy. People used to pay for access to lifelong learning or continuing education. With so many emerging technologies and social media networks becoming a vehicle for education, more education entrepreneurs are offering just-in-time and on-demand disposable learning tools for all ages that used to be privileged opportunities for an elite group of learners. Thus, people need to learn to be more active in adopting self-regulated learning skills and critical questioning skills.

4. The new innovators come from those who are curious and critical. People must be encouraged to ask critical questions freely. Current schooling and training models need to be updated to focus more on enablement: shifting the kind of questions from fact searching to questions that seek explanations. Lifelong learners are the designers and makers who must create their own jobs again and again; they must know how to question in order to innovate. Thus, training opportunities need to be redesigned, not just to hone technical competencies, but also to better integrate critical questioning skills.

5. Education is a Sustainable Search for Generations' Development not additive endeavors.

Current schooling and training models need to be updated to focus more on enablement, engagement, and empowerment while learning activities must incorporate design thinking, solution making, and problem solving tasks, leveraging emerging computing resources, including artificial intelligence.

S. The "Blend-Digit" Learning Model(s) are the Core Method for ICTs Integrated Schooling

Hamdan 2018 wrote "neoBlend-Digit" model combines simultaneously blended and online techniques and leads when scientifically applied to learning free of the "factory Model" teaching and as well to learning choices open to infinity in curriculum options,

learning tools, techniques, facilities, and time in and out of learning sessions. "neoBlend-Digit" schooling gives students total and open freedom to decide and initiate their individual and peer groups' learnings.

> *"neoBlend-Digit"schooling is academically criterion-referenced learning, achievement, and assessment (never norm-referenced, which doesn't guarantee quality outcomes). It is responsive to individual student, peer groups and as well to the needs of education market place. its learning is based on educational/ clinical prescriptions that respond to learners' self-paced; individual and small groups' learning initiatives; and for self and peers' formative learning reviews, and supplies students with alternative education sources whenever are needed".*

On another hand, Christensen, Horn & Staker (2013) reported that blended learning schools across the U.S. and developed blended learning models and definition. They defined blended learning as: *"a formal education program in which a student learns at least in part through online, with some control over time, place, path, and/ or pace, partly in a supervised brick-and-mortar location away from home"*. They specified four techniques of blended learning: the Rotation Model, the Flex Model, the A La Carte Model, and the Enriched-Virtual Model. However, schooling will be governed in the future mainly by two methodical forms: blended and online.

T. ICTs' Liberation of Local Learning and teaching to Open Transnational Global Options

Living the ICTs revolutions, the Age of ICTs info "nudity" through privacy violations, the four[th] industrial revolution (knowledge economy), digital societies, blended and online educational trending, the new pending "blend-digit" methodology that is replacing the old ways of educating generations as largely "passive recipients" of knowledge, concerned with rote-based learning into another alternative: active learners who are collaborators, self-initiators in seeking new knowledge, values and skills.

The primary goal of "blend- digit" schooling is personalizing instruction and learning of teachers and learners for ultimate qualitative and quantitative achievements that enable individual students to succeed in school, college and career. The "blend-digit" model, as this Author believes, is the lasting open-ended approach for the education of Humanity. It may tend to be more online, may appear in different terms or using more techniques, tools, educational space, or personnel, but will remain however belonging to the theoretical and practical brand of "blend- digit" schooling.

Epilogue

With all ICTs' accumulated abundance of pioneers, experts, academicians, educators, specialists, Technicians, literatures, developments and innovations, equipment, techniques and methods, and more; motivate this Author to believe that the real causes

beyond the failures of ICTs integration and educational reformation (especially in Developing Countries) go back to the lack of willing of local education leaderships, lack or poor finance, widely committed corruption, illiteracy of normal standards and values of professional responsibilities, and the negligent inter-communication with fellow citizens in forms of intolerance, indifference, and ego-centric attitudes.

To reverse above pessimistic setbacks of ICTs integration and recurring educational reforms, the following propositions could be observed:

1. Countering the lack of will, motivation and 'indifference' or negative attitudes towards schooling. College and community leaders towards ICTs integration and reformation. Holding public discussions and lectures on TV stations and open mass gatherings at sport stadiums, and distributing handouts directly or by emails and social media could help in counteracting these psycho-informatics problems.

2. Forming education ICTs steering committees or councils on local, national, regional, continental and Global levels; to develop, disseminate, and mentor plans for integration and personalized "blend-digit" learning throughout the World.

3. Preparation of well-informed plans at above geo- demographic five levels for sharing, monitoring and follow-up the responsibilities of designing, implementing, and accountable assessment of the ICTs' integration and reformation projects.

4. Launching professional and logistical campaigns for updating the factors and tasks stated in paragraph: 'Presage Factors and Tasks for Planning Analytics of ICTs Integration'. Plan the developmental campaigns according to specified content and details' realities with on-going follow-up, monitoring and systemic assessment of achievements.

5. Providing feedback report of the *ICTs*' plans' accomplishments, noted successes and shortcomings, and possible alternatives for improvements. This feedback report is to be distributed to all *ICTs*' concerned parties by means of emails and other digital means.

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