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Blended Achievement in Transnational Schools as Collaborative Learning Communities- Toward a Systemic Assessment Framework

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Abstract
Education in public and private schools and higher education institutions is experiencing by beginning of the 21st century accelerating methodical changes from massive residential to online, blended, and wireless teaching and learning. Assessment on another hand, while looked upon as the backbone of educational systems and the steering operational mechanism of classroom educational programs is either neglectfully applied or sporadically practiced as in the cases of diagnostic needs and formative assessments. Further, online schooling (OLS) is generally lacking the merits of face-to-face communication, instruction, counseling, guidance and follow-up of students' learning achievements. Hence it is urgent for OLS, to adopt a compatible systemic approach to firstly deliver curricula, instruction and learning in more rational manners; to secondly fill the assessment gap which current schooling is suffering, and thirdly to mentor students of blended learning towards their achievement ends. The systemic assessment framework presented in this article for measuring blended achievement in transnational schools as collaborative learning communities is aimed to serve above ultimate reforming purposes.

1. Introduction

Learning throughout history whether oral nomadic, residential, blended, online or wireless represents the human priority of daily life; But learning assessment on another hand is either lacking, negligently practiced, or personally developed and implemented.

Assessment is the grit of education that steers and develop learning and instructional tasks to their required goals. Schooling without well systemized and thoughtfully designed approach coupled with enabled assessment will turn into personal corrupted and aimless business, lacking the basic standards of validity and reliability to which any human endeavor including education should comply.

Ronan (2015) confirmed that *"assessments are a key component of education systems and play a critical role in a student's learning journey. By measuring student achievement and skill mastery, assessments help students learn, teachers improve instruction, administrators decide how to allocate resources, and policymakers evaluate the efficacy of education programs".*

For needs and formative assessments, as first hand observed, are rarely practiced in the education of Developing Countries. In addition, they are randomly applied in western education, and links between both and summative assessment are missing (Maddalena 2009).

It is noticed in this regard that educational systems and school communities in Developing Countries lack the literacy, skills and practices of educational assessment generally and for blended learning achievement in particular.

The biggest challenges facing the success of emerging digital assessment approaches of schooling whether blended, online or wireless learning and achievement are in building the culture and operational knowledge of inter-related systemic diagnostic, formative and summative assessments. Collaborated Self-design and development, self- initiation, Self-search, self- diagnosis of learning needs, self-planning, implementation, and quality appraising of achievement are all among the mandatory assessment competencies with which school personnel should be quipped.

Schooling in lieu of digital information and communication technologies has entered a new age which requires to succeed a quality up-to-date different learning, instruction and assessment methodologies. Otherwise, it will turn into a weakening factor for the growth of generations, leading consequently to backward nation society and state.

More sources affirmed above assessment notions by stating that there are firm calls from educators and school leaders to abandon state summative massive unified exams for the sake of reforming the philosophy and practice of assessment that emphasize more diagnostic and ongoing formative assessments (Williams2014) and for applying assessment as "an integral part of the learning and teaching cycle" (University of Tasmania 2011).

However, the inattentive attitudes and incomplete practice of the inter-related trio-types of assessment (diagnostic, formative and summative) as norm components within the process of education are still persisting, distracting learning and instructional pursuits from fulfilling achievement needs of students.

Ferriman (2013) stated that "unfortunately, metrics are often overlooked, or just not implemented properly. Within education, assessments play a critical role in a student's learning journey. Through effective assessments, teachers gain insight into a students' comprehension of the material, which in turn assists in helping them learn by modifying instruction, delivery methods, and how to allocate resources.. On the flip side, poor assessment methodology can actually be detrimental (negatively) to a student's growth and understanding of the material."

Evidently, more school systems worldwide are still living a profound assessment crisis embodied in the "Absence of Assessment FOR Learning".. as teaching students "how to take a test" instead of "preparing them how to learn.. and to promote greater learning"(Taruna 2011).

As a result, the public had protested for years ago against the unproductive school education. In the United States for example, there were repeated debates throughout the twentieth century between the fundamentalists and progressives. Luckily, these argumentations had urged educators, especially when the Russians launched the Sputnik 4 October 1957 (Castell 2003), to launch comprehensive investigations in the quality of American school system that led to thoughtfully reforming programs and projects at the sixties and thereafter.

The above uncertainties of schooling go back in reality to the inefficiency of assessment, since it determines the qualities of the design, development and implementation of education system: inputs, processes and outcomes. A reformed systemic assessment framework (SAF) presented in this article could be a promising mechanism that helps educators to counteract the problems of schooling while transforming to transnational blended learning communities. It would serve as a guiding methodology to planning, processing and measuring the efficacy of blended learning achievements.

2. Blended Assessment Terminologies

2.1. Blended Learning Achievement

Blended learning occur when teaching and learning "integrate online with traditional face-to-face class activities in a planned, pedagogically valuable manner"(Teach Thought Staff 2015) by means of in-class learning stations, flipped / connected classrooms, online study carrels, school blended library and connected computer or resource centers.

The blend practices of "on- ground" and online learnings may fall in percentages between 10-90%. However, neither "on-ground" nor online learning which form the concept and practice of blended learning reaches zero or 100%, even in the era of wireless schooling. Since there will be always students whose cognitive styles and personal- social moods require to learn more online and less face-to-face and vice versa.

For effectiveness of online learning, several intensive studies had investigated this issue. A national analytic review conducted during 1996- 2008 by the U.S. Department of Education of 1000 studies and indicated strongly a high achievement returns accruing from online learning comparable to studying same courses in real classrooms (U.S. Department of Education 2010).

Another parallel U.S study lasted for twenty years (1990-2009) and reviewed the traditional and distance academic performance of 20000 students. The study indicated again better results for online students comparable to their counterparts learned in conventional classrooms (Shachar & Neumann 2010). But in this Author's view, combining both in blended learning will give it all the merits while neutralizing the side effects of shortcomings.

In all, blended learning and its twin blended assessment are here to stay in schooling regardless of educational and

*technological developments that could take place in the future. It proved generally (*Bri Stauffer 2015*): To increase student engagement, to be the fun, to provide flexibility and time management for students and teachers, and to Allow for performance assessments.*

2.2. Assessment

Assessment is an integral component of learning and teaching. It refers to all processes employed by academic staff to make judgments about the achievement of students in study units and over a course of study. These processes include making decisions about the relevant evidence for a particular purpose, how to collect and interpret the evidence and how to communicate it to intended users (students, parents, and school or university administrators (Lunenburg. 2010;University of Tasmania. 2011)

*Main reasons for assessing learning and performance are (*Taruna Goel. 2011*)*

- "To identify gaps in performance and learning needs (diagnostic-assessment)
- To encourage and support learning (formative assessment)
- To measure learning and improve achievement (formative assessment)
- To seek feedback for areas of improvement in the instructional design process (formative assessment)"
- To prepare learners for the next step in the learning journey (summative
- assessment)

2.3. Blended Assessment

Blended assessment (BA) is a "combination of a variety of assessment modes, such as paper and pencil tasks, online assessment tasks, peer-assessment, overall assessment" (O'Loughlin 2007). However, BA is conducted usually in individual and small group settings. But when final assessments deem necessary, could be held in proctored exam halls, as providing online facilities is frequently impractical.

2.4. Assessment Literacy

Understanding assessment and assessment strategies, is critical for both instructors and students in recognizing effective online and blended environments for teaching and learning. Instructors need to identify and implement assessment strategies and methods appropriate to online or blended learning. This includes comprehending the potentials of a variety of technology tools for monitoring student learning and for improving their teaching effectiveness. From the students' perspective, assessment literacy can guide practices that show them what is important to learn and how they should approach learning which may result in engaging them in goal-oriented and self-regulatory cognitions and behaviors (Koç and Others. 2015)

2.5. Self Assessment

Self-assessment should be a fundamental component of online education due to its distant nature and the philosophy of students-centered-paradigm.

However, it is believed that students' participating in self-assessment would be very beneficial as they examine their own learning and have firsthand experience in measuring their learning processes and achievements. In addition, they could have the ability to determine "if they have arrived at the required achievement objectives, and if not, they could repeat totally or in part the coursework " on their own in order to attain intended goals.

For example, online pre-tests could be considered for this self-assessment because students would be able to receive immediate feedback that determines the quality level of their existing knowledge. Moreover, through data of pre-tests, students can know when to start online courses, choose proper levels and contents of learning, and take the test again to measure achievements after finishing the courses (Osuji 2010; Nari Kim, et al. 2008).

2.6. 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 exchanges 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 contracts and mutual academic and financial returns.

2.7. Collaborative School Learning Communities (CSLCs)

CSLCs "are comprised of people who see themselves as connected to each other and the world, where creative thinking is nurtured, and ".. where people are continually learning how to learn together". The working culture of CSLCs reduces human isolation, increases staff capacity, provides a caring productive environment, and promotes increased quality of learning achievement (SEDLs 1994).

School Learning communities could operate in homogeneous and as well mixed local and foreign groups such as: students with students, teachers with students, administrators with students, families with students, support services with students, experts with students. transnational students with students, transnational students with teachers, transnational instructors with instructors, transnational administrators with instructors, and transnational families with instructors.

The organizational techniques by which these school learning communities could carry on their professional responsibilities, are: online groups, mixed "on-ground" and online groups, blended groups, video conferencing, texting, online chatting, emailing, mobile and tablet interactions meetings, laptop conferencing , Skype, classroom blended

discussions, social media, school closed circuits and school sites.

2.8. Systemic Assessment Framework (SAF)

It is a product of art and science of developing a measure and evaluation scheme for blended or online learning, in accord with the principles of rational, valid and reliable criteria and mechanisms of the system approach. This SAF, when properly used, will generate efficacy and effectiveness data for judging the quality of investigated learning achievement tasks.

2.9. Digital Society

Prevailing of (Australia Government 2015) Globalization, digital information, communication technologies, the internet, Local Area Network (LAN), intranet, world wide web (www), cyberspace, Integrated Services Digital Network, Broadband ISDN, ADSL Extension, Internet over Satellite, mobile internet, internet trade, on-line medicine, internet groups, social media, online education and more, are leading to the concept and practice of digital societies.

It is the responsibility of individuals, work groups and institutions to invest these digital technologies and societies for the welfare of common good and the progress of social and professional commitments towards people, including students' blended achievement and assessment.

2.10. Global Education Age

Again, with Globalization, digital information, communication technologies and transnational education which become by the start of 21st century, the operating norms of daily life and institutions, Global Education Age has just started. But it happened as Deckard (1992) indicated under disguised terms such as *"multicultural education, international curriculum development, international studies, cultural awareness, futurism, Project 2000, Welcome to Planet Earth, and World Core Curriculum"*.

2.11. Global (World) Citizenship Age

Immanuel Kant wrote1795 the essay "Perpetual Peace" indicating that World Citizenship would be a necessary step to establishing world peace (Wikipedia.2015).In this regard, residential local education and assessment usually equip children with the national citizenship. Education now being digital, transnational and global, is rearing generations to be world citizens in multi geopolitical, multi cultural, and multi socio- economic globalized society.

Individuals and communities as Global citizens can see themselves worldwide citizens besides being national local residents. As such, they are expected to be more open, interactive and collaborative in sharing knowledge, education and professional experiences.

2.12. Global blended Learning Age

The above premises which led to the concept and practice

of Global Education and world citizenship are influencing the merge of Global blended Learning Age. Considering current concept, Individual students worldwide can learn and achieve on their own, directly on ground and online any content, by any means, from any location, and at any time.

3. Structure and Use of the Systemic Assessment Framework (SAF)

New schooling and learning require new methodologies of educational assessment. The Systemic Assessment Framework (SAF) is a contribution in this direction. The working components of SAF are organized in three conventional categories composing any educational system: inputs, processes and outputs (Figure 1).

3.1. Operational Inputs of (SAF)

The main mandatory inputs considered in blended SAF are (Figure1): * *Students* who are seen in lieu of the Global Digital Age and Learner- Centered Paradigm, self-learners of all ages. * *The curriculum*. it is simply the academic message of blended and online learnings which determine the types and contents of learning achievement. * *schooling services*. They are briefly of the following categories: = Human Services e.g.: Resource teachers, Educational aides, Psychologists, Student Counselors, Technicians, Assessment personnel, Maintenance Services, Managing Services and Financial staff.
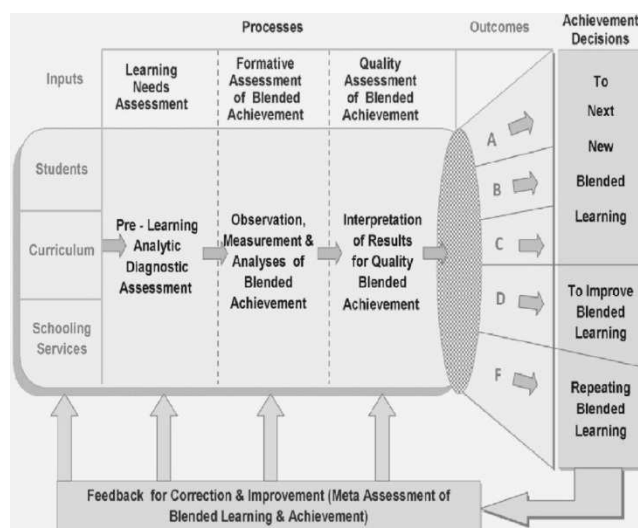

Figure 1. A Systemic Framework for the Assessment of Blended Learning Achievement.

Needless to indicate that the roles of human schooling services are (and should be in blended SAF) transforming to: coordinators, assistants, counselors, technical aides and psycho - educational clinicians and consultants.

= Blended Schooling Facilities: e.g.: Connected classrooms, computer stations, tutorial center or areas, study carrels, learning clinics or learning diagnosing laboratory, seminar and discussion classrooms, learning resource center

or resource rooms, and blended library.

= Blended Schooling Equipments, e.g.: Internet lines, Laptops, mobiles, Tablets, school audio and video circuits, and other possible machineries , devices, and tools.

3.2. Blended Assessment Processes in SAF

Assessment processes within SAF are in effect operational tasks that should be sequentially maintained by any psychometric specialist to reach the required appraising decisions concerning the quality of blended learning achievements.

The ultimate assessment principle that should be sustained when using SAF, is the organic interweaving relationship among the three major components of blended assessment: needs diagnosing, formative and summative assessments. There should be exact correspondence between learning needs, formative achievement of needs and the final knowledge, values, and skills with which students are graduating. This principle specifically means that needs assessment will be inputs for the formative assessment which results in turn will be utilized in summative assessment decisions.

Brief words concerning assessment processes follow (Figure1):

3.2.1. Diagnostic Assessment of Learning Needs

This element which concerns itself with identifying and analyzing students pre-learning backgrounds including the previous knowledge, is the most crucial mechanism within SAF for specifying the real achievements that result from contextual blended learning.

In the era of transnational blended and online learning where students initiate their achievement goals in the absence or with limited face-to-face supervision and direct follow-ups of conventional teachers, needs assessment becomes a "must" for any valid and reliable assessment until at least mobile and other digital technologies pick-up the pace and achieve more online sophisticated surveillance techniques of students' self-learning as explaining briefly below.

Conducting needs assessments can help learners and teachers develop more engaging learning programs, adapt to change and make it possible to measure the quality of learners' experience by means of discussing key areas of needs assessment analysis (knowledge transfer company. 2013). Debra Gordon (2015) stated that the worst thing you can do is develop a needs assessment based on your own thoughts and speculations without taking a critical look at the realities of students and schooling.

This Writer commends above Gordon's statement by assuring that without needs assessment, there will be no possibility to pinpoint the pure achievement gains *by excluding past* acquisition*s and as well learning gains ensued out of plagiarism, commercially bought assignments or other illegal procedures. Any evaluative decision concerning* learning achievements *without firstly performing needs assessment, will be totally subjective, misleading and worthless hunch.*

3.2.2. Formative Assessment of Blended Achievement (FABA)

This is an on-going task aims at steering and building learning toward achievement ends. FA provides feedback for students' performance to improve learning achievement.

Furthermore, FABA includes all activities undertaken by teachers, and / or students to provide feedback information essential to modify teaching and learning actions for more focusing on achievements, to engage students academically, to close observed learning gaps and to improve learning outcomes".

FABA could be formal and informal. While formal FABAs focus on curricular content supervised basically by resource or counseling teacher, informal formative assessments are undertaken by students themselves and peers through self assessments, peer collaboration during in-class comments, discussions, assignments or achievement drafts exchange.

Online formative assessment of learning provides students with flexible access to course content and instructions at any time and from anywhere with unlimited opportunities of informal formative assessment by means of extended educational discussions, peer participations, the use of a variety of learning technologies and unlimited web explorations, especially by learners who for reasons can't attend conventional schooling (Eberly Center for Teaching Excellance.2015; Herr and Others 2014; National Council of Teachers of Mathematics 2015;Yam and Rossin 2013).

However, FABA is fulfilled by SAF in three types (Figure1):
- Formative Statistical Assessment by observation of learning and teaching, and the treatment of blended achievement data by appropriate measurement, analysis techniques and feedbacks.
- Formative quality assessment of blended achievement by Interpretation of achievement results.
- Meta formative feedback assessment (MFFA) which searches back all factors and processes embedded in SAF for modification & improvement. Thus leading to the fulfillment of the ultimate goal of MFFA that is furthering learning and teaching for more achievement results.

3.2.3. Summative Blended Assessment of Outcomes in SAF

SAF outcomes are embodied in students' final achievement scores of the studied courses. These scores are acquired by "summative assessment (SA)".

The specific function of SA is to measure the level of achievement of students 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, and 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 year or the course of

blended learning.

In addition, the outcomes of summative assessment can be used formatively when students and /or instructors use the results to guide their efforts and activities for better results in subsequent courses of study. (Eberly Center for Teaching Excellence.2015).

3.3. Presage Procedures for SAF Successful Integration in Schools and Higher Education Institutions

Successful integration of SAF in schools and higher education institutions is based upon the use of a variety of procedures, most important of them are:

3.3.1. Mobile and Internet Technologies (MITs)

Forthcoming trends in mobile and internet blended learning (Fuhrman. 2015) range from 3D touch and electronic reality to wearables and the Internet of Things (IoT). Mobile devices are transforming to many various tools, such as "a scanner, a camera, and can access the entire world of books, newspapers, games, translation and others more.. "smart mobile gadgets and tools called "edugadgets" can improve teaching, learning and living.."

With its ability to function as many different tools, mobile devices are becoming more like a personal companions around the clock. "We are the technology now," technology and humans are physically merging together to interact, manipulate and create new processes and environments."

With Internet of Things (IoT), huge data is transmitted "from us, and to us" in real time. For education, that data stream will change the classroom and how we teach and learn. Using mobile devices and classroom applications, the IoT can provide instant records of students' readings, attendance and even the location of students who are supposed to be in class."

Also in this regard, IoT apps can be implanted in the e-book to monitor when a student is reading, what he/she is reading, how long they are reading, what are comprehending, problems experienced. "Thus, enabling "the instructor to make immediate adjustments to a students' reading program without having to wait for receiving their assignments to analyze and giving the proper grades." Moreover, none-directive instructors can monitor the "levels of interactivity and engagement in which learners are immersed in the content and be part of it." Thus in the near future, MITs can proclaim the unfulfilled merits of face-to-face communications and mentoring by e-school personnel which lacked before.

However, With the many possibilities of MITs for schooling, there will be viruses and other risking security issues endangering personal identity and other privacy matters. Of course, countering softwares are contentiously developed but the problem will persist just like the everlasting "soft war" between the "good" and "bad" in human life; or probably more realistically due to "unspoken" understandings between these two conflicting parties,

regardless of any ethical standards, to greedily raise more commercial benefits!

3.3.2. Techniques for Assessing Blended Learning Achievement in SAF

There are several techniques available for the assessment of blended and Online learning. Examples of these are: self-test, timed exams and quizzes, literature reviews, blended portfolios, online discussions, synchronous chatting, asynchronous threaded discussion groups, one-minute papers, e-mailing, course summary reports, individual and collaborative projects / simulations / case studies(Lorna 2012; Nari Kim 2008). However. brief illustrations of three basic techniques follow.

- *Blended Portfolios in SAF*

Blended Portfolio is composed of two parts: real cumulative paper and pencil exams, projects, performance artifacts, audio and image documents, reports of successes and failures of achievements; and electronic one holding above contents but in digital forms. The blended portfolio provides holistic detailed picture of student accomplishments, ups and downs which the student passed throughout a course of study, a term, a school year, stage or k-12 schooling.

The Blended Portfolio can be created for any student at any school level, and could be used jointly synchronously or asynchronously by the student and teacher for purposes of formative and summative assessments, depending on the intention: building learning for better achievements or judging the worth of final learning achievements (Lorna 2012; Nari Kim 2008; Renwick 2014).

- *Course Summary Reports in SAF*

The first goal of any schooling is building human cognition, while the second is transforming the new knowledge by means of practice into behaviors, skills or actions. This Author uses current technique with his online college graduate students to examine their comprehension of course content without much worrying about plagiarism. Individual students are asked to prepare summary reports based on three criteria: 1/5 the length of the studied material, using their own language / accent, and the extract of most important information.

- *Case Studies in SAF*

"Case studies are in-depth investigations of a single person, group, event, institution, or community. Typically, various types of data are gathered from a variety of sources by means of different methods (e.g. observations of behavior, actions or situations, interviews, diaries, personal notes like letters, photographs and notes, or official document such as case notes, clinical notes, and appraisal reports (McLeod 2008).

This writer uses with his online graduate students this technique to assess their knowledge transfer in real proper situations. Again, number of pages of the case study, using their own language / accent, location and date of the case, names of participants involved, and standard elements of the case report are all required.

When implementing Case studies, the following tasks could be considered (ICMR Directory n. d):

- "Gaining familiarity with the case situation (critical case facts, persons, activities, contexts)
- Recognizing the symptoms (what are the things that are not as expected, or as they should be?)
- Identifying goals/objectives
- Conducting the analysis
- Making the diagnosis (identifying problems, i.e., discrepancies between goals and performance, prioritizing problems..)
- Preparing the action plan (identifying feasible action alternatives, selecting a course of action, implementation planning, plan for monitoring implementation)"

3.3.3. Micro Blended Learning Achievement Units in SAF

When segmenting learning assignments into finite intakes, micro learning achievement units are materialized. This technique, in the era of digital information, self- learning approaches and student-centered paradigm, enables least ability students to achieve the required learning. Hence, it is seen highly effective in furthering the success of most students in achieving the materials without difficulty or seeking much help from teachers. These learning merits of the micro educational or behavioral units and the high percentages of successful learners, had motivated Fred Keller to coin the term: 'Good-bye, teacher'(Keller 1968).

Another source (Grovo HQ 2014) endorsed above notions by writing *"Micro learning has consistently achieved higher rates of improvement in student performance, value, and achievement"*.

To develop micro learning units and apply it in blended learning material, the following characteristics could be maintained (Grovo HQ 2014):

- "Micro / compact learning and achievement units.
- Short in time and requirements of learning and achievement.
- Highly engaging.
- High achievement value.
- Easy achievement.
- Applicable to needs of all learners.
- Logical and meaningful sequence in learning and cognition"

3.3.4. Clinical Prescriptive Method in Blended Achievement and Assessment (CPM)

The CPM (Hamdan 2015) is a general approach and an operational methodology presented for blended schooling. It combines the principles and procedures of both the clinical practice of medicine and psychology, coupled with educational sciences of planning, learning, teaching, evaluating, counseling, guiding, supervising, management, curriculum, media technologies, and support services. The CPM is a diagnostic, scientific and problem solving mechanism for feeding students' needs through blended learning.

While students initiate individually their learning activities, members of the school faculty, e.g. the clinical teachers, tutors, counselors, psychologists, standby evaluators, digital learning technologists, social workers, family aides and others more, perform supportive roles and /or "resource persons" by providing students the necessary services required throughout blended clinical schooling. The school personnel as such are mainly "Knowledge providers"," Skill facilitators", and "psycho - educational counselors".

For Utilizing CPM by SAF, the following stages and steps are proposed:

Stage I: The preparation for clinical blended schooling. This stage is concerned with qualifying the learning-instructional services and environments to host students' learning needs.

Stage II: Implementation steps of clinical blended schooling. Students' learning - instructional prescriptions are development based on careful counseling and analyses of students' needs.

These written paper or digital prescriptions could include: the new learnings or behavioral changes, the professional personnel, the curricular materials, study units or subjects, information and media technologies, equipments and facilities; and the implementation schedule through which individual students will pursue their achievement or behavioral tasks.

While students move from a sub-learning task to another by means of formative assessments, the results of the summative evaluation enable them *to* progress from one major topic, curricular unit or prescription to a next that is more advanced in contents and cognitive responsibilities.

3.3.5. New Concepts and Roles of Students and Teachers in Blended SAF

These concepts and roles of students and teachers are briefly as follows (Hamdan 2015):

- *Professional Teacher Using SAF*

Professional teacher's role and qualities in blended schooling, are briefly:

- Academic resource consultant. who is an expert educator confers with students, listens to their psycho-educational needs, shares views, differentiates among learning needs and probable treatment alternatives, and advises students in selecting final decissions for learning.
- Diagnostician. Who conducts interviews, administers educational/ behavioral tests and measures, gathers and organizes data, analyzes personal backgrounds, correlates factors with observed needs, and finally identifies the nature of learning needs, difficulties or problems at hand.
- Behavioral researcher. who investigates students' needs and behaviors, and make generalizations for their schooling. As the qualified researcher does, the clinical blended teacher observes educational and behavioral needs, gathers and organizes data, analyzes and interprets cause and effect relationships, and formulates conclusions regarding the best alternatives by which new learnings and achievements could be realized.
- Prescriptive educator. who as the case of physician,

makes decisions concerning students' educational and behavioral needs, and proposes appropriate prescriptions to satisfy the stated learning deficiencies.

- None - directive counselor. The role of the clinical blended teacher as a none-directive counselor in schooling is parallel in nature to that of the physician in medical care. He thus listens carefully to the student while talking his needs, discusses with him/ her possible causes and effects and advises for useful treatments.
- Responsive assessor. The clinical blended teacher as responsive evaluator focuses on the quality of learning activities and experiences rather than on curriculum formal intents; responds to students' needs for new learnings. In doing so, he or she employs heavily the principle of individual differences in regard of students' abilities, desires / attitudes and aspirations whenever is forced to judge the success of an educational or a behavioral program.

The clinical blended teacher as a responsive evaluator seeks throughout the course of assessing tasks, the collaboration of other professionals such as the school counselor, the educational psychologist, the physician, the medical consultant, and more if needed. In doing so, he or she gathers students' data from above sources, checks its validity to students needs, provides students with proper feedback concerning their current educational and behavioral status, and the actions they may take to overcome the observed deficiencies. Treatment reports in form of prescriptions are finally written and handed to individual or small groups students.

- *Professional Students Using SAF:*

Students in systemic blended learning achievement are basically: self-motivated, initiators, collaborative, independent or inter-independent learning achievers, self-learners, self-paced achievers, and self- assessors of own achievement. Though peers play important role, the final decision and responsibility lay in the hand of the student her/ himself.

3.3.6. Differentiated Students' Grade Contracts for Blended Achievement in SAF

There is a persisting educational misconception throughout conventional schooling history since the Greek Plato Academy 387 B.C., which advocates all students are expected to achieve all subject matters, at same class periods, and according to same norm criteria and assessment grading levels; as if all school and university graduates would be: science gurus, linguistic theorists, national historians, reforming sociologists, creative engineers, genius mathematicians, or superior medical surgeons!

Time has come for school systems living the current Global Digital Age and Learner- Centered- Paradigm where individual students are looked upon the "center of educational universe", to abandon the obsolete massive / large group myth which resulted throughout education history in societal huge losses as a result of student dropouts, failed courses, underachievers, wasted gifted and superiors, more deviants and outlaws, low quality professionals and mediocre institutional and state leaderships.

Instead (regardless of high or comprehensive schools' practices), students' aptitudes and personal /professional hobbies should be basically respected in responding individually to their learning needs and special aptitudes.

This Author proposes accordingly advising individual students to progress learning through three flexible successive achievement levels:

- literate learners in the subject matter with C grade and marks 50-70/ 100..
- Professional learners of the subject matter with B grade and marks 71-90 / 100. The graduates of this category will be specialists in their fields such as teachers, engineers, pharmacists, technicians and so forth.
- Future scientists, thinkers, inventors or gifted in the subject matter area usually with A grade and marks 91/100. Students of this category are required to study 50% more of the required subject and assignments.

Individual students can advance throughout this trio-learning achievement method individually and /or small groups according to their self- paced and studied topics. Students can start at any achievement level they feel confident to pursue, or simply begin with stream C and advance to B and A, as their personal, social and environmental conditions could help. And if one student fails at specific level, he or she will be assigned the achieved grade of lower one.

3.3.7. Sorting the Text Content into Fundamental and Minor Knowledge

Each subject matter is composed of two types of facts or knowledge: fundamental and minor. While fundamentals are the "learning musts" for students to achieve, minors are subordinate details that add enriching thoughts and meaning to fundamental content but never substituting it.

Considering above technique (Differentiated Students' Grade Contracts), the resource perspective teacher could assign the sorted content for students' learning as follows (illustrative examples):

- grade C students: 50 % of the fundamental content.
- grade B students: 100 % of the fundamental content + 70% of minor content.
- grade A students: 100 % of the fundamental content + 100% minor content + 50% extra content from related sources.

3.3.8. Assessment Grading Formulas for Quality Blended Achievement

A - Normative Assessment formulas (* formatives: formative assessments; * n: number of assessment):

- At schools:

* Annual system: $\sum$(term1formatives1/ n2 + summative midterm1) + $\sum$(term 2 formatives/ n + summative at second term) = average = Grade

* Credit System: $\sum$(formatives/ n + summative exam) / 2 = The Grade.

- At Higher Education:
* ($\sum$(formatives/n + summative) /2) = The Grade.
B- Quality assessment formulas:
- At School:
* $\sum$(term1formatives/ n + summative mid term1) + $\sum$ (term2formatives/ n + summative of 2nd term) - ($\sum$Average of Pre-blended achievements + $\sum$ Average of plagiarisms) = net average value = quality grade.
   * Credit System: ($\sum$formatives/ n + summative exam/ 2) - ($\sum$Pre-blended achievements/ n + $\sum$ Average of plagiarisms) = net average value = The quality score = The Grade.
- At Higher Education:
($\sum$(formatives/ n + summative exam)/ 2) - ($\sum$Average of Pre-blended achievements + $\sum$ Average of plagiarisms) = net average value = quality grade.

4. Conclusions

Due to Globalization and accelerating developments of communicational and information technologies, new learning in forms of blended, online and wireless modes have emerged and widely practiced in schooling by the beginning of 21st century. Conventional face-to- face education is consequently losing grounds in intensity and role in students' learning for eventualizing of new none-directive theories, principles, and methods of teaching, learning and assessment.

However, the above profound shift of schooling paradigm from teacher centered to student centered, are not backed by necessitated blended educational methodologies in general and for assessment particularly. Accordingly, a laissez–faire open-ended manner has prevailed in operating blended and online schooling. No one can know exactly if students have learned, what have been learned, how much they learned and the quality of their learning achievement.

To counteract this conflicting situation, a systemic assessment framework (SAF) is introduced. SAF can:

1- Integrate together the three assessment types: needs diagnosing, formative, and summative, in sequential organic inter-related tasks, leading thus to valid and reliable measurable decisions concerning individual students' achievements.

2- Enable blended schooling personnel to guide, proctor and proceed formative teaching and learning activities to their stated outcomes.

3-Steer students' achievements towards required summative ends.

4- Enable meta assessment of validity and effectiveness of SAF factors and processes, leading to "overhaul" improvements of blended schooling.

5- Extend the mission and operating space of blended schooling beyond its national boundaries by means of systemized, objective and accountable manners. SAF as an organizational behavioral approach coupled with ever flowing mobile and Internet sophisticated technologies (paragraph 3.3.1), can enable blended as well online teachers and learners to trace each another's locations, learning / teaching assignments, activities, and achievements. They can see, hear, interact, guide, counsel, consult, and even recognize what one is doing and if he or she is out of the task or behind on accomplishing required responsibilities. As such, SAF is predicted within next ten years to replace the old-time conventional schooling by newly developed digital alternatives already are disseminating in schools and higher education institutions.

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