A Reforming Inclusive Quality Educational System for a Sustainable G/local Learning-a Countering Paradigm to the Massive Backward Curriculum and Instruction Pedagogies

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Author’s contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

Humans are different individuals by nature and have diverse personality traits, cognitive powers, thinking speeds, timelines, and live spaces for thinking, searching, and learning. Despite this psycho-educational logical approved fact, massive curriculum pedagogies are observed throughout hundreds of years of the Common Era. The Author believes “putting "whole" students or massive groups together in one large 'container' hall for one-way instruction with no regard to their understanding powers is in itself non-educating, non-dignifying and a gross violation of human rights and values. To understand the status quo of this everlasting schooling problem and to offer effective solutions for learning generations in the Info Digital Age; the descriptive 'Causal Comparative/ Ex Post Facto techniques and the 'Action developmental' method’ were used. While the Author searched the accumulated massive groups' literature since the Greek Sophists 500 BCE up to the period of Guttenberg large paper printing and the educational setbacks of the Factory Educational Model, coupled with the implications and possibilities of ICTs’ integrations for reforming the concepts and methodologies of schooling and higher education. The Author concluded the article by offering a reforming paradigm "Inclusive Quality Education System for a Sustainable Glocal Learning.” This ‘system’, when applied according to proposed descriptions and criteria, will lead to

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profund progressive changes, such as paradigms of learners-centered-growth, interests and hobbies needs; ICTs' non-directive 'Blend-Digit' pedagogies; learner self and collaborative peer groups; learners' torturing one other(s); and blended school personnel, e.g., Teachers and support services who are indirect leaning guide counselors and standby collaborators.

Keywords: E-learners, factory educational model; "digit-blend" learning; learners-centered- growth needs; multi achievement tracks; self-collaborative peers; inclusive quality education; sustainable glocal learning; massive backward pedagogies.

1. INTRODUCTION

Although schooling had entered the 21st Digital Age, in practice, however, schools of Western education systems continued practicing the "old days" of large group unified methods with limited ICTs practices. However, schools' leaders give an impression of modernity or to look like living the Information Age [1].

Developing countries schools, on the other hand, are not only persisting on the past, but rather are regressive in tolerating lenient policies towards learners' and teachers' practices, values, and techniques of cheating, plagiarism, grade inflation, passing flunked or non-attended courses, negligent learning and teaching, and valuing schooling as a low priority (direct field observations of the Author).

Further, several cultural and merged new factors had intervened to hinder the reformation of schooling and school systems around the World [2], perpetuating thus the 'conventional teacher-centered-society' (TCS) approach.

This long-live conventional methodology TCS had started early in the written human civic BCE history of Babylon Scribers, the Pharos Clergymen, Confucius China, the Greek Sophists 500 BCE, the Plato Academy 487 BCE, and the Church preachers, 100- 1800+ CE, which culminated in the Factory Model and practices at the 1800s up to the 1990s CE where the Digital Information Highway had been launched in Western communication and education [2].

The Factory Educational Model (FEM) in the 1800s led to the rise of centralized education systems where teachers directly control learners' population and the learning process. Lecturing and recitation teaching-learning techniques are standard practices up to this date as the FEM is applied.

However, with the Fourth Industrial movement and the initiation of the first Digital Information Revolution at the beginning of the 21st century, several concepts and practices have been changed. For example, "The illiterate will not be those who cannot read and write, or cannot learn, unlearn, and relearn,' but also somewhat who lacks the use of ICTs in inquiry and learning. Without a theoretical and practical knowledge of ICTs, individuals who can't know, understand, apply, analyze, synthesize (learn, unlearn, relearn) and assess the worth of learning [3,4].

"Information literacy skills, digital literacy skills, visual literacy skills, and collaborative learning skills are essential proficiencies to enable generations to contribute effectively and participate in the digital economy" [4].

Our current schooling and educational systems are too old, overly outdated, and severely unproductive. One educator expressed deep dissatisfaction with conventional teaching by stating, "Our current education system relies on outdated concepts leftover from the agricultural and industrial ages." He added, "In the Information Age, information- not raw materials and physical labor - is power" [5].

Moreover, there are countries still reporting insufficient use of computers in schools [6]. School systems in 45 nations and districts worldwide have at least one computer for every five learners. In comparison, 11 countries reported having more than one computer per class (5 to 10 learners per computer), and eight school systems have at minimum one computer per school (14 to 53 learners per computer).

Christine [1] spotted the above views in that core practices and structures of the factory model are still used today in the twentieths of the 21st century, which include "bias grouping of learners by age, distributing them into "container" buildings, standardizing curriculum, measuring learner achievement for purposes of comparison, and standardizing teacher work."

Time is urgently calling for a profound reform by which schooling shifts its paradigm from the
agricultural-industrial modes; where ‘the school was an information warehouse’, contrary to what should be according to information age paradigm ‘the school of information highway’.

The diverse needs of generations, individual and peer group learners, necessitate more variations in quantity and quality study contents, methodologies, locations, open sources, "Blend-digit" open schedules, and learners-centered-needs, interests, and hobbies paradigm (Fig. 1).

1.1 Research Academic Terms

Three cardinal terms constitute the axles, around which the structure of this article revolves. Briefly explained as follows.

1.1.1 Inclusive quality education

Inclusive education is a comprehensive concept, a strategy or a methodology for the education of normal and special needs children. The learners share the same physical space and interact socially and academically. Engaging in activities in isolation of peers is not inclusive.

It is important for school’s community: administrators, teachers, parents and kids to understand the concept, practice of inclusion, and promote it. Thus, all will learn ‘When this occurs, everyone benefits’ [7].

1.1.2 Learners-centered growth needs, interests and hobbies

Learner-centered education places the focus on each learner’s individual needs. The educator must first understand each learner’s peer group’s unique educational context and evaluate their abilities to progress toward specified learning objectives. The purpose of the learner-centered model is to provide an individualized, flexible learning environment for learners.

- The teacher as the source of knowledge has vanished.
- Learners assume responsibility for their own learning.
- Learners become an active part of the learning process and may assist in teaching their peers.
- The learner-centered classroom provides an emphasis upon higher-order thinking skills.
- Learners learn self-advocacy skills.
- The learner-centered classroom provides a built-in system for accommodating different learning styles or specific challenges.
- Learners in the learner-centered classroom feel significant as individuals and integral part of their classroom experiences.[8].

1.1.3 Sustainable glocal learning

Sustainability is often used to describe reconciled local and global practices committed to social and ecological flexibility and adaptive management to keep the quality of pedagogical actions preserved for current and future generations. There are three bases of sustainability: environment, community, and economy [9].

Although globalization and glocalization have been developed as a response to the increasingly interconnected and interdependent world, global education focuses on bringing in local environments into world new inventions and developments.

While glocal education is concerned with the differentiation of the newly imported materials, knowledge, values, skills and experiences, adapting them to fit the needs of local teaching, researching, and citizenship. [10]. Hence, this Author sees glocalization as an optimal reconciling force in providing generations the glocal flexible enlightened personalities and quality citizenships, which qualify them in maintaining effective roles in both local and global communities.

1.1.4 Massive backward curriculum-instruction pedagogies

Pedagogy is dealing with proper understanding and techniques. The main concern of pedagogy lies in setting up environments where the teacher understands the needs and concerns of learners and collaborative school services. The primary mission is to transfer knowledge globally, and the micro local details, which cover the fundamental informed developments [10].

Pedagogy has three essential components: (1) curriculum, or the content of what will be learned and taught; (2) methodology, or how teaching and learning are to be done; and (3) techniques for socializing children in the repertoire of cognitive, affective and psychomotor skills required for successful functioning in the future glocal society (a well fit locally and globally) that education is designed to promote (NASs, 2020).
The Massive Curriculum -Instruction Pedagogies (MCIPs), which this Author is refuting in this article, is not "innovative" like Ferguson and Sharpies, 2014 explained when using MOOCs. Instead, it is a "whole content assigned to learning and teaching, required from all learners and teachers to handle without any differentiation in voice tone, content, techniques, timeline, forms of lessons and summative assessment of achievement.

The fundamental concern is to reform the backward practices of MCIPs wherever they are, especially those observed in Developing, Underdeveloped (Africa and Middle East), South East Asia, and Latin American countries. The following discussion explains.

The observed practices of MCIPs are backward: closed, not interactive, resist modifications or adding new content when needed, expository, predetermined, one way-teacher sender/students-receivers, oral passive, large groups, and limited or null integrated MCIPs methodologies. MCIPs resemble the conventional Factory Educational Model, which is still practiced up to the twentieths of the Third Millennium, as indicated by Christine, 2019, and well observed in the classrooms up to the current day.

1.1.5 Moreover, curriculum and instruction massive pedagogies are characterized by the following setbacks

MCIPs are prejudice harmful educational methodologies since they concern themselves with the 68% of average learners. The below 16% and above 16% are out of immediate considerations. Massive pedagogies are shortage of responding to the learners' growth needs, which leads normally to low achievement statistics. Thus considered logically as the main cause beyond the inferiority of learners, families, institutions, and society.

Let us look objectively at some next average statistics: Second-year schooling: 68%.68% = 46.24% quality learners, families, and society (QLFS). Third-year schooling: 46.24%. 68% = 31.44% QLFS. Third-year schooling: 31.44%. 68% = 21.38% QLFS. Fourth-year schooling: 21.38%. 68% = 14.54% QLFS. These statistics pinpoint how developing and underdeveloped countries don't have alternatives, choices, or tools to compensate for the deteriorating qualities of schooling and consequently generations.

MCIPs concentrate efforts on teaching one way, messages to average ability learners who represent a ratio of 68%. Down 16% of learners are lost since their comprehension abilities are below the average. While the upper 16% either don't need the average learning or achieve it at a brief period and spend the rest of time useless waiting for average peers to pass learnings. They were beside, missing opportunities to further learning.

MCIPs are like commercial business, interested at most in how much can save the investors or the public treasury, more than how many quality learners are graduating each year. Again, It embodies the policy of the conventional Factory Model.

1.1.6 The research problem

Massive pedagogies, lack of sufficient ICTs integration in education, and the unorganized efforts of "Blend –Digit" reformation are. The first fold problem (massive pedagogies) is the chronic extended problem throughout 100-2000 C.E. These whole learning-teaching methodologies result at best in standard achievement curve where, down3% Fail, Down 13% D, the middle 68% C, upper 13% B, and upper 3% A.

The adverse side effects of this extended period of extensive large group education are no progress was clearly observed, especially in "Third World Countries." The massive educational pedagogies kept the status quo at least degree possible of most related human concerns from thinking and pioneering, schooling, ways of living, businesses, to ambitions for the future.

While there are abundant ICTs developments, a lack of informed integration in education is observed. This is a paradoxical issue, indicating significant ICTs developments brought by the First Information Revolution at the beginning of the 21st century; At the same time, limited integration and utilization in schooling and higher education are barely noticed. It is worst yet to observe more propaganda and talk about fake or unreal ICTs applications in education.

The third problem facing ICTs reformation of schooling is the unorganized fragmented promotions of the "Blend-Digit" approach among scholars, highly techs. Field professionals and specialists are not doing enough; where several promotional techniques could easily be maintained to provoke ICTs in schoolings, such as online seminars, conferences, webinars,
clubs; digital societies and alliances. e.g., digital school society, local digital community, digital regional society, a coalition of local "Blend-Digit" schools. A coalition of national "Blend-Digit" schools, an alliance of continental "Blend-Digit" schools. However, the professional plans, goals, programs of these ICTs organizations ought to be described meticulously.

1.1.7 The research methodology and questions

The research methodology applied in this article is the descriptive 'Causal Comparative/ Ex Post Facto techniques and the Action developmental' approach, which focuses on tracing the cause-effect relationships of schooling problems, and how to encounter the weakening causes to develop the status quo of concerned factors to have better education.

The curriculum, instruction, learning, the standards, learners' satisfactions or the procedures are examples of what are investigated here. It involves searching the problem past realities, analytic evaluation of event data, critical reflection of the status quo, and proposing a developmental plan for changes in the practice. The purpose of action research is to learn through action that leads to personal or professional development. [11,12].

Accordingly, the article aimed to answer the following questions:

1- What are the main political, cultural, and economic factors, which hindered the reformation of the massive curriculum - instructional pedagogies since the first century A.E. up to the Twenty-First Century A.D.? (Possible answers could be found in pp.1-5)

2- What are the ICTs components of the reforming inclusive quality system for countering the massive curriculum-instruction pedagogies? (Possible answers could be found on pp.6-18).

3- What are the operating principles and procedures, which should be deployed for maintaining a quality inclusive system dedicated to sustainable global learning? (Possible answers could be on pp.19-24).

1.1.8 The inclusive quality education system for a sustainable glocal learning

The Reforming Inclusive Quality Education System (IQESGL) is a Blend-Digit operational framework composed of any behavioral or working system in the Exact and Applied sciences of four components: inputs, processes, outputs, and multiple streams of meta quality assessment feedback. Each of these consists of several elements that determine individually and in clusters the required nature and outcomes. Illustrations follow (Fig.1).

Hamdan (2017) wrote that learning and building the future are natural rights of every learner, young and adult. It is not justifiable for anyone to cause any suffering or failure to learners' ambitions; or a claimed 'right for any authority, formal or private to brag on helping others, especially learners.

In fact, it is an honor and/ or a duty for any citizen and resident to volunteer or serve others' needs, regardless of any conventional prejudices. Actually, sharing others' needs is considered a field real test to what degree any person is a civic human.

1.1.9 Reforming the conventional concept of "Student" into learner and e-learner

In the Global Digital Age, the term "student" becomes outdated and incapable of responding to the demands and practices of the ever-flowing ICTs developments. E-learner is mostly a self-directive, inter-independent, peer collaborative, digital, blended, and personalized achiever.

Moreover, the difference between a learner and a student [13] is that a learner seeks new knowledge, experiences, values, and skills to learn and grow, with minor attention to grades. While a student is a person who attends classrooms to study a subject and getting grades. He/she strive for grades as a personal priority as much aptitude enables them to earn [14].

2. COMPONENTS OF IQESGL

Components of IQESs, which determine individually and in clusters the nature, operations, and outcomes of the reforming system. Illustrations follow (Fig. 1).

2.1 Inputs of "IQESGL"

2.1.1 E-learners (individual and peers)

Psychologically, e-learners are internally self-control initiators and self-balanced and contained. They are educationally social inter-
independents, keep their personal data and characters intact, and rarely share them with peers, teachers, and school services.

On the other hand, the learners are moderate psycho-socially, mixed inter-dependent, and independent, and internal /external self-control. As the contexts, the individual modes prefer. Finally, students are inter-dependent, external locus of control in learning choices. They rely individually upon and peer groups on a teacher, a peer, father, mother, books, classroom, daily schedule, library, school services, and more others.

2.2 Self-Collaborative Peers

This pedagogical technique is highly fundamental for the effective operation and learning success of the IQE. Self-collaborative peers encompass two components: individual learners and peer groups. Renee, 2005 stated," self-study using individual learners and peer groups has incorporated reflections on themselves as part of a learning research team.

A collaborative torturing relationship was significant for sharing concerns and presenting ideas for innovative practice in a safe space through self-study. The association was built over time, which encouraged a mutual desire to create a teaching and learning environments that value the learner role and was engaging for the whole collaborative group [15].

School Services, e.g. non-directive teachers, non-directive educational Psychologists, blended school administrators, and blended support services.

2.2.1 Nondirective teachers and instruction

Non-directive teachers usually give informal interviews in which they ask questions to help learners analyze areas of potential growth. The learner must be the one to discover the location of needed change, and therefore the teacher must refrain from controlling the interview through leading questions [16].

![Fig. 1. Reforming inclusive quality education system](image-url)
2.3 Study Curricula

Study curricula are a must for any schooling since learning and teaching will miss the academic content, which shares it with learners to achieve and grow. Biswajit 2018 indicated that the openness of curricula comes primarily in various forms in non-directive teaching-learning pedagogy. It provides:

- "Open curriculum whereby learners have a choice and flexibility to choose curricular areas leading to desired learning outcomes.
- Open admission that allows for on-demand and walk-in admission.
- Open standards, e.g., learning objects.
- Open source software like MOODLE that is a PHP-based open-source LMS.
- Open educational resources that are briefly touched upon learners’ concerns
- Open teaching/open tutoring, i.e., seamless access to teaching and resources”.

2.3.1 MOOCs "Massive open online courses"

Massive Open Online Courses (MOOCs) are free online courses available for individual learners to enroll and achieve their choices. MOOCs provide an affordable and flexible way to learn new skills, advance careers, and deliver quality educational experiences at a scale [17].

MOOCs typically are comprised of video lessons, readings, assessments, and discussion forums. There are 927 universities worldwide and primary providers such as Coursera, edX, Udacity, Swayam. And covering subject studies like Computer Science, Psychology, Cybersecurity, Health, Law, Accounting and Web Development [18].

2.4 Paper Curricula

Paper curricula are the conventional sources of learning-teaching contents, usually available in textbooks, learners and teachers manuals, guides, and workbooks. These paper sources are still essentials for most blended curricular, learning, and instructional pedagogies.

Support schooling materials: examples are learner manuals, teachers' guides, teacher's handouts, and slide shows, technical, Communication, and logistical support services pamphlets. The sufficient quantity and quality of these services are essential for effective, meaningful support materials.

2.4.1 ICTs integration in schooling

ICTs in the current emergent global knowledge economy come in the forms of complex and software digital technologies, including the computing platforms that empower devices such as laptops, tablets, smartphones, Internet sites, info centers, laps, e-instruction, e-learning, e-management, and e-clouds. Computers and the Internet might increase productivity in education just as they did in offices. Schools are already using computers to find information, create documents, and connect to parents, but it seems much harder to use computers to improve quality when learning and teaching.

The recent use of cloud services and inexpensive digital devices has resulted in the growth of "bring your own device" (BYOD) environments in schools.

ICT technologies have already begun to transform classrooms around the Globe. One widely accepted indicator of ICT penetration in school systems worldwide is the number of learners per computer in schools [6] and Internet Penetration, 2021 (Table 1).

The above table shows inequitable penetration of the Internet among the populations of World regions. While the grand statistics of the world population is relatively low, 64.7%, Africa, Asia, Latin America, and the Middle East are somewhat lower. North America has the highest penetration rate of 89.9%.

There appears to be an inequitable distribution of ICT penetration in school systems located in North America, Europe, and East Asia versus those found elsewhere, particularly on the African continent. Four main obstacles to the positive benefits of ICT integration in classrooms include educator attitudes and beliefs, school resources, teacher ICT knowledge and skills, and institutional factors.

Digital Resources. Many countries worldwide do not have access to robust software packages available in regional languages that enable access by either educators or learners. Other issues concerning resource scarcity include inadequate curriculum resources that integrate ICT, insufficient planning time for incorporating ICT into instruction, inconsistency of high-speed
Connected Classrooms could be established in conventional schools by merging two or more classrooms for each discipline. Then redesigned and provided with the latest digital equipment and devices, diversified learning spaces, and tools to provide the highest degree of learners' contacts, interaction, and engagement in learning and achievement. Learners' psychosocial relationships are enhanced immensely regardless of their distant geographic regions.

### 2.6 Connecting Classrooms

Connecting classrooms are different from any other learning-teaching formats in two features: It help learners understand the significant issues that shape the world and provide the knowledge, skills, and attitudes they need to make positive contributions. Connecting Classrooms through Global collaborative Learning leads to a partnership between local and transnational schools [23]. Connecting Classrooms are expanded forms of the "Connected Classrooms" but different in two features:

- Provide immediate communication with learners and teachers in glocal environments, and collaborate in planning and implementing learning, teaching, and evaluation activities and projects.
- Provide learners with open and varied opportunities to learn, repeat learning, and progress in tasks according to their

### Table 1. World internet penetration (World internet statistics, 2021)

<table>
<thead>
<tr>
<th>World Regions</th>
<th>Population (2021 Est.)</th>
<th>Population % of World</th>
<th>Internet Users 31 Mar 2021</th>
<th>Penetration Rate (% Pop.)</th>
<th>Growth 2000-2021</th>
<th>Internet World %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>4,327,333,821</td>
<td>54.9 %</td>
<td>2,762,187,516</td>
<td>63.8 %</td>
<td>2,316.5 %</td>
<td>53.4 %</td>
</tr>
<tr>
<td>Europe</td>
<td>835,817,920</td>
<td>10.6 %</td>
<td>736,995,638</td>
<td>88.2 %</td>
<td>601.3 %</td>
<td>14.3 %</td>
</tr>
<tr>
<td>Africa</td>
<td>1,373,486,514</td>
<td>17.4 %</td>
<td>594,008,009</td>
<td>43.2 %</td>
<td>13,058 %</td>
<td>11.5 %</td>
</tr>
<tr>
<td>Caribbean</td>
<td>659,743,522</td>
<td>8.4 %</td>
<td>498,437,116</td>
<td>75.6 %</td>
<td>2,668.5 %</td>
<td>9.6 %</td>
</tr>
<tr>
<td>North</td>
<td>370,322,393</td>
<td>4.7 %</td>
<td>347,916,627</td>
<td>93.9 %</td>
<td>221.9 %</td>
<td>6.7 %</td>
</tr>
<tr>
<td>Middle East</td>
<td>265,587,661</td>
<td>3.4 %</td>
<td>198,850,130</td>
<td>74.9 %</td>
<td>5,953.6 %</td>
<td>3.9 %</td>
</tr>
<tr>
<td>Oceania/ Australia</td>
<td>43,473,756</td>
<td>0.6 %</td>
<td>30,385,571</td>
<td>69.9 %</td>
<td>298.7 %</td>
<td>0.6 %</td>
</tr>
<tr>
<td><strong>World Totals</strong></td>
<td><strong>7,875,765,587</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>5,168,780,607</strong></td>
<td><strong>65.6 %</strong></td>
<td><strong>1,331.9 %</strong></td>
<td><strong>100.0 %</strong></td>
</tr>
</tbody>
</table>

internet access, and unpredictable electrical blackouts, especially in Developing and Undeveloped Countries. On the other hand, unrealistic expectations, poor planning, and insufficient funding can hinder ICT integration into classrooms [19].

Education Facilities (EFs). Examples of current facilities are connected classrooms, connecting Classrooms, High-Reliability Schools, blended academic labs, and blended info centers.

Phillips [20] confirms that different types of instruction require other environment arrangements for learning. As such, several new facilities and equipment of "Blend-Digit" personalized learnings should be observed tentatively to prove their proficiency in hosting the IRIQES approach. Further, IRIQES is pedagogically a clinical methodology based on prescriptions, learner's needs, initiatives, self-paced, criterion-referenced learning, self-guided achievement, and assessment that guarantee quality outcomes for the majority of individual learners.

Educational facilities (EFs) are the physical environments that host and foster the schools' needs. Examples of EFs are: Community Services, Child Development Centers, Elementary School, Secondary School, Training Facility, Health Care Facilities, Land Port Entry, Libraries, Office Building, Research Facilities, Parking Facilities, Warehouse, Waterfront Facilities [21].

### 2.5 Connected Classrooms

Connected Classrooms [22] are integrated school facilities with digital communication and information technology equipment, run by trained teachers with a group of technically skilled learners. These combined rooms allow teachers and learners or peer groups of learners to interact face to face and remotely online wherever and whenever they are in the school, home, public or private places. They communicate together and achieve the learning and teaching tasks desired.
speeds. Besides, enable learners to modify, postpone or cancel learning temporarily to respond to their ongoing needs, desires; and restore their desire to learn and achieve.

Another fundamental concern of "connecting classrooms" is teaching learners Core (21st century) or deep learning Skills in "new ways of working, thinking, and living in a global world." [24,25].

2.7 High-Reliability Schools

Marzano High-Reliability Schools™ framework defines five progressive levels of performance that a school must practice becoming high reliability school—where all learners learn the content and skills they need for success in college, careers, and beyond.

However, this framework shows how best practices work together to empower education authorities and schools to attain measurable five ascending levels of reliability [26].

Using the framework and indicators, districts and schools can drive permanent, positive, and significant impacts on student achievement by synthesizing multiple complex initiatives into one unified system.

2.8 Digital Information Centers

Information Centers (I.C.s) were characterized in 1950-1980 C.E. as being mainly analog in their info resources, supplies, machinery, and materials. During the 1981-2000 C.E., the nature of I.C.s had shifted to blended equipment, where digital technologies mixed with natural resources and tools for easier acquiring info, knowledge, and data. [27].

2.9 Blended Academic Laboratories

"Laboratories are considered as one of the most important facilities in schools and colleges. It provides various practical experiences starting from the theory of physics, chemistry to biology and other academic subjects. Computer laboratory is also one of the important section and 99% of the public and private schools are using it". It is also mandatory at the time of digitization [28].

However, "Blended Academic Laboratories" should not be limited to computers and sciences. Instead of huge ICTs, they should be utilized in other subjects such as laboratories of languages, social studies, arts, mathematics, vocations, trades, business management.

Education Equipment, e.g., "Blend- Digit" carrels, computers, tablets, smartphones, digital peripherals, BOYD "Bring Your Own Device," Internet of Things (IoT), digital hardware and software, and digital whiteboards.

"Blend- Digit" carrels, when equipped with Internet, support tools, and peripherals; are ideal for creating learning privacy when it's needed most. These equipment units can be used in various environments, from libraries to computer suites to school or college classrooms and corridors. Carrel desks can help learners study privately without disturbing distractions.

Carrel desks or booths become hardwearing and heavy-duty tools. With their smooth surfaces and high walls, they are perfect for pupils who need to focus on their studies, whether they are learning, preparing for an exam, or researching a project [29].

2.9.1 Digital white boards

Digital whiteboards are available in a variety. One recent example is Lucidspark's online whiteboard. It is a virtual whiteboard that helps teachers and learners collaborate to bring the best ideas to reality.

Whether learners and teachers are working individually or in teams, an online whiteboard can help them write down and organize ideas faster. With templates, freehand drawing, sticky notes, and other intuitive features, individual learners and non-directive teachers can easily participate in various brainstorming activities. The online whiteboard lets all collaborators spread out over different areas of the board, so everyone has enough space to present her/his ideas [30,31].

2.9.2 Educational glocal environments

Transnational collaborations between schools and universities are joint efforts that allow for integrating local, international, intercultural, and global resources and possibilities in teaching and learning. There is a shared role that ICTs play as an essential mechanism in such collaborations.

The approach, which uses digital technologies in collaborative projects between several educational institutions of close proximity, is called "glocal" [32]. It combines digital technologies of global communication and collaboration with experiences and engagement in local contexts. The global approach for using
digital technologies offers new perspectives for advancing plans and strategies towards the internationalization of education curricula.

Preparing learners to learn and act across global and local dimensions and across geographical and cultural contexts has become an essential task for schooling and higher education in the 21st century. In fact, compelling real-world problems, from climate change to rapid urbanization, harmful hunger, compulsory boats' migration, and pandemics, are global but manifest differently in different local contexts.

2.10 Quality Processes & Tools of IQESGL

Twenty processes & tools variables are following examples but are not sacred nor absolute. These may differ from one educational environment to another due to culture, economic conditions, policies, civic development stage, and ICTs integration level.

2.10.1 E and blended learning

E-learning (electronic learning) is any type of learning that occurs through or with a computer or hand machines, e.g., mobiles and tablets connected with the Internet-the purpose of eLearning. The purpose of eLearning is to allow learners to learn. With a hint, Blended Learning increases knowledge retention by +50%.

'Traditional learning methods are no longer adapted to contemporary learners' needs. Blended learning augments traditional methods without seeking to replace them by using a reliable learning platform as a complement to in-person learning sessions' [33].

E-learning technology has overcome the geographical gap among learners. E-learning offers the ability to share material in all kinds of formats such as videos, slideshows, word documents, and PDFs. Conducting webinars (live online classes) and communicating with professors via chat and message forums is also available to users [34].

Blended learning is an approach to education that combines online educational materials and with traditional place-based classroom methods. It is a fundamental methodology applied to grades 1-12 schooling and to higher education. It requires the physical presence of both teacher and learner, with more initiative and control of learners over time, place, path, or pace [35].

Blended Learning [36]. is emerging as the predominant instructional model of the future. On the one hand, it is increasingly proving to be the most effective way of teaching and learning. It demonstrated to increases knowledge retention by +50%. It solves some of the challenges teaching organizations face, like the lack of facilities and teachers, scheduling conflicts, and more.

Blended Learning has different implementation scenarios. Some teachers simply use multimedia presentations during their traditional classes. Others teach entirely online with a few face-to-face meetings. Three different blended learning models are traditional (some online is mixed with some real), self-paced (asynchronous), and synchronous collaborative web-conferencing [36].

2.10.2 Collaborative learning

'Collaborative learning [37] is an umbrella term for various educational approaches involving joint intellectual efforts by learners or learners and teachers together. Usually, learners work in groups of two or more, mutually searching for understanding, solutions, meanings, projects, or creating a product.

Collaborative learning activities vary widely, but most center on learners’ exploration or application of the course material, not simply the teacher’s presentation or explication. Collaborative learning represents a significant shift differently from the typical teacher-centered or lecture-centered techniques in college classrooms.

In collaborative classrooms, the lecturing/listening/note-taking may continue sporadically alongside learners’ discussion and active work with the content material. Teachers who use collaborative learning approaches tend to think of themselves as knowledge expert transmitters and coaches of emergent learnings.

2.10.3 Self and collaborative peers

Self-Collaborative Peers includes two components: individual learners and peer groups. Renee, 2005 stated, self-study has begun to incorporate reflections on ourselves as part of a research team.
A collaborative teaching relationship was significant for sharing concerns and presenting ideas for innovative practice in a safe space through self-study. The association was built over time, which encouraged a mutual desire to create a teaching and learning environment that valued the learner's voice and engaged the whole collaborative group [15].

Collaborative learning happens when learners, teachers, school leadership, and services interact socio-intellectually using specific content strategies. This collaboration involves engagement, active participation, online discussion, and investigation of learning topics that interest individual learners and peer groups [37].

2.10.4 E and blended teachings

The rapid popularity of online courses among learners makes teachers take online teaching as their primary job, and due to technology getting more accessible and easier to use [38]. However, teaching from a distance is still a relatively new concept to a large number of teachers, particularly in developing countries, and it takes time to accustom those who haven't use it before [20].

Blended teaching is an instructional approach that uses digital knowledge, skills, and activities in harmony with quality practices in the classroom. In some blended classes, digital and face-to-face teaching may take turns according to a schedule. For example, learners might take one class on campus and another one entirely online. This approach is common in universities. In other cases, individual learners and peer groups have brief counseling and guidelines or read specific pages in the paper text, then go to online sources to achieve the required learnings [39].

2.10.5 Distributed learning and teaching

Distributed learning and teaching [40] is a general educational model that allows instructors, learners, and content to be located in different, no centralized locations so that instruction and learning can occur independently of time and place. It describes a multimedia method of instructional delivery that includes a mix of Web-based education, streaming video conferencing, face-to-face classroom time, distance learning through television or video, or other combinations of electronic and traditional educational models.

However, Ziad Hamdan [41,42] had authored two works on "Distributed learning," the first in Arabic, 1988, titled "Clinical Education- Toward a Personalized Tool to Superiority and Overcoming Achievement Deficiencies"; and the second in English, 1999. Title" PRE-SCHOOLING SOCIETY in the DIGITAL AGE."

2.10.6 Media enabling pedagogy

Biswaajit 2018 indicated that openness comes primarily in various forms in the course of teaching-learning pedagogy, where:

- "Open curriculum whereby learners have a choice and flexibility to choose curricular areas leading to desired learning outcomes. Open admission that allows for on-demand and walk-in admission and non-cohort-based credit accumulation.
- Open standards, e.g., learning objects – SCORM sharable courseware object reference model.
- Open-source software like a liknon-cohort-based PHP-based open-source LMS.
- Open educational resources that are briefly touched upon below and discussed comprehensively in the last chapter.
- Open teaching/open tutoring, i.e., seamless access to schooling and Resources" p.4.

2.10.7 Media enabling curriculum

Many professional communicators employ social media as a professional practice, yet it needs more scientific investigations to become a prevalent component in professional courses. One practical option is instructors who can transform learners' everyday practices that inform their personal identity into professional techniques that will form their professional identity.

Thus, through course intervention and habitually on the part of the learners, results demonstrated remarkable growth in participants' beliefs, engagement, insights, and goals regarding social media usage [43]. Actually, this is the essence of the concept and methodology of "Media enabling curriculum."

2.10.8 Open equitable educational resources

Providing all learners an equitable education is a cornerstone of their development [44]. A major contributing factor to their disparities continued to
be the lack of appropriate instructional materials. One effective solution is the use of "open educational resources" (OERs). These materials encompass print and other media that are generally free and readily available to schools and school districts. Also, they address a range of subject areas and grade levels, and educational needs from instruction to assessment [45].

Most important, OERs can help school districts in their efforts to close apparent achievement gaps by providing resources that many educational institutions could not otherwise economically afford.

2.10.9 Micro learning & teaching

The utmost merit of microlearning & teaching lies in its apt to be achieved by most learners and teachers.

Studies of Learning have shown that short learning modules, interspersed with learner interactivity, produce far better and more lasting learning than extended, continuous learning modules. For this reason, many faculty are replacing their traditional lectures with micro-learning modules [33].

The answer to Why Mobile Micro learning for learning? [46] is: because it enables learners within 5 minutes a day to exert 4 more engagement and 50% more retention than traditional methods! That is all it takes staff to actually remember the things that matter and influence the most.

Micro-Learning offers small, bite-sized pieces of content delivered engagingly and when learners actually need it. Mobile design allows consuming content remotely, intuitively, and on-demand. Combine this with a very user-friendly format and layout of small-sized pieces of content, gamification elements, quizzes, and retention techniques. The learner will understand that a perfect training app is worthy of using, encouraging much worldwide practice.

2.10.10 “Blend-digit” methodology

It is a learning-teaching non-directive approach that combines online resources and mixed digital with analog factors and sources in harmonious, meaningful arrangements to achieve the required goals and content of learning.

2.10.11 Mentoring and assessing e-programs

Several qualitative and quantitative studies found that successful mentoring programs enhance productivity and job satisfaction and ultimately lead to professional advancement.

Traditional mentoring methods are created through the means of one-on-one relationships established between the mentor and the teacher or education professional. E-mentoring through synchronous and asynchronous ICTs, mediated Communication is a new means for establishing mentor professional relationships by creating online teams [47].

2.10.12 "Blend-digit" video conferencing

Blend-digit" video conferencing is an audio/visual technique, uses digital, online, and analog resources to enable learners to achieve learning and growth outcomes. Video conferencing in connected/connecting classrooms facilitates, e.g. lectures/presentations.

Small group learning: video conferencing in the classroom is small peer group discussion sessions, working on group assignments or projects, and conferences and meetings for connecting learners and teachers for advising sessions, or as a way of holding "office hours" to answer learners' questions remotely.

Both instructors and learners can benefit from video conferencing. Examples of the benefits and uses are next [48]:

- Content sharing: video conferencing provides instructors, learners, experts, community leaders the ability to share documents and files in real-time.
- Connect participants: Video conferencing facilitates interaction by bringing people together.
- Recording functionality: it allows participants to record the lecture or lesson for future reference.
- Engage others: it brings in guest lecturers and other subject matter experts regardless of their distant residences to share merited knowledge, experiences and inventions.
- Interaction and collaboration: it encourages interaction and collaboration between learners and teachers.
2.11 E -Chats in Learning

The e-Chats and e-Discussions techniques are effective media of psychosocial active integration and engagement of learners and educational services to achieve outcomes.

Web-based chat platforms have been around for years but are gaining a new role in classrooms as educators look for ways to incorporate technology into the curriculum. Focusing on learners’ fascination with texting and other digital Communication, well-implemented electronic chats can support their critical thinking, in addition to building knowledge through "social constructivism."

The immediacy of the technology gives learners a direct connection with the instructor as well as classmates. Web chats promote real-time collaboration and discussion that can lead to a deeper processing of class material [49].

Integrating e-chatting technology does require intentional planning on the part of the teacher. Preparation should include training learners on the rules of online protocols, and a process for orderly taking turns so that everyone gets a chance to participate. Sources for etiquette rules that can be adapted for the classroom include specific software alternatives that make online chatting easier. (Paltalk.com, and chat-avenue.com, 2021).

Teachers may try free chat on platforms such as "Chatzy.com, TodaysMeet.com, Titan Pad.com, and CoveritLive.com." Many of these do not require registration, and all are secure in that only invited individuals may participate in the chat. Educators and learners interested in safe chatting with other learners around the Globe might try participating in organized projects via chat/sharing platforms.

Examples, Kidlink.org as Chatzy.com, TodaysMeet.com, TitanPad.com, and CoveritLive.com. Many of these do not require registration, and all are secure in that learners are using their own mobiles and tablet, and only invited individuals may participate in the chat. Non-directive teachers should be available during off-hours to monitor chats’ activities [49].

2.11.1 E-Discussions in learning

"Discussion panels and seminars are an essential component of online learning. They give introverted learners a chance to articulate their thoughts. They enrich the learning environment by allowing everyone to share their experiences. And they serve as mechanisms for the collaborative production of new knowledge and meaning' [50].

"Connected Classroom" discussion serves several educational purposes due to its unique form of learners' talk and exceptional group dynamics. The forum requires learners and non-directive teachers to talk back-and-forth at a high cognitive and affective level, with both one another and the subject matter concerned.

On the other hand, threaded synchronous and asynchronous discussions using connecting classrooms on the Internet could provide a forum extended to diverse locations all over the World [51]. Thus, threaded discussions could reduce the teacher’s authority, practice more democratic discourses, and foster more fluent ideas, speech, and personal integrity of learners. However, Homme-Généreux, 2021 offers several techniques to structure discussion online sessions to help learners apply what they have learned. Among these the following examples: Guessing Game, Forced Analogy, Faulty Design, Mash-Up (creative problem solving), Sticky Note Party, Wisdom of Crowds, Lotus Diagram, Build a Checklist, and Force Field Analysis.

2.11.2 Block Chain technology

"Blockchain technology is a distributed info record system that promotes decentralization, transparency, and data integrity." In this context, the block represents digital information, and the chain determines how digital data is stored in the database/record.

Usually, digital pieces of information make up the "blocks" in the ledger. When you recall or work on an idea, a related opinion or a task will be activated and follow suit. This merit is expected to ease learning and accelerate learners' achievement of academic concepts. Furthermore, you have three main parts that store the information about the blockchain transaction, such as time & date, amount, and topic. Moreover, the block will keep who is participating in the blockchain transaction. However, instead of using real names, learners get unique "digital keys" as usernames. So, the blockchain will contain that username only. (IRÉDALE, 2020).
2.11.3 Artificial intelligence (AI)

Artificial Intelligence is the most straightforward concept, programming machines with digital data, sounds, voices, movements, physical action, motion, conduct, expressions, and speech, which resemble human behaviors and situations in reality. Digital equipment and machines, which provide learners and instructors with voice or written feedback, are intelligent tools. And when programmed to teach learners whole courses from start to graduations, that eventually enables AI to serve the role of digital teachers.

SAS, 2018, the pioneer in 'Artificial Intelligence' confirmed that 'Al' has "core technologies of machine learning and deep learning, computer vision, natural language processing, and forecasting and optimization, in addition to real-world, which requires tools to manage data and deploy at scale."

2.11.4 Gamification in learning

'Gamification in learning (GinL), like Hannan, [52] explains, involves using game-based elements such as point scoring, peer competition, teamwork, score tables to drive engagement, help students assimilate new information, and test their knowledge.

It can apply to school-based subjects but is also used widely in self-teaching apps and courses, showing that the effects of gamification do not stop when we are adults. A classroom that contains gaming elements could be called a "gamified" classroom.

The best combination is to create sustained engagement instead of the unique needs of learners. The most effective gamification systems use other elements such as narrative and connection with fellow players/learners, or the use of "Virtual White Board" would capture more learners' interest.

2.11.5 E-Clouds in learning and teaching

Public clouds are storage e-facilities open to serve the info needs of a wide range of people regardless of conventional prejudices of gender, race, geography, culture, purpose, and time. Public e-clouds are data services merited with speed, scope, and commercial flexibility [53].

Due to the above merits of Public clouds, it is recommended to be employed as a strategic device against data loss "disaster." e-Clouds generally and Public e-clouds mainly enable an organization platform recovery and provide them continuity by feeding the data necessary for keeping educational/organizational missions operating.

2.11.6 “Schools without flunking” (SWF)

School curricula or texts are non-sacred by their own rights. Therefore, all learners who are using the same academic content, language, design, and technical forms, are not obliged to apply unified conventional whole analog, large group contents methodologies, due to two reasons: first is, the “blend-digital” nature of current Age; and the second is, the effective learning strategies of the 21st generations are learners-centered, individual/small peer groups, self / collaborative, criterion-referenced, self-paced and multi-achievement tracks.

Continuing with traditional school methodology through the third Millennium is considered educationally futile in lieu of digital Info Age and the accelerating of overwhelming ICTs developments everywhere.

Massive schooling works generally as whole production factories, the principle of the standard curve and subjective norm-referenced assessment of achievement, which does not guarantee learners success in further studies or related jobs realities. The alternative objective measure adopted by the "SWF" is a criterion-referenced assessment that authenticates performance success based on actual field requirements.

"Schools without Flunking"(SWF) is a “strategic inclusive quality education model for a sustainable glocal schooling". SWF is a contemporary “Blend-Digit” education approach that responds to each learner's needs interests and hobbies. It allows learners to learn specific curriculum contents or of the textbook, which are congruent with their aptitudes (particular intelligence) and the future work or profession desired for life. [54].

2.11.7 Qualifying the input/process analog curricula to fit the (IQESGL) blend-digit requirements and to promote a quality citizen output

Hamdan 2019 wrote "man-made" school curricula or texts are non-sacred by own rights. Hence, it is not justifiable to ask all learners to learn literarily the same academic content, using
the same language, a design, and technical forms, through oral non-interactive pedagogical methods, based on teacher's authority, learners recitation, and significant peer group techniques. The massive analog schooling is capable of graduating low knowledge learners with fail and pass grades; average learners with C grade; upper 13% with B and limited top 3%, A grade.

Whole group education is not concerned with differentiating the learning abilities of individual learners. It is incapable of responding to their learning and growth needs, besides evoking delinquent conduct such as dropping out of school, achievement flunking, and violent behaviors. Thus, depriving local communities and civil institutions of superior and gifted graduates is wasted by massive schooling and vain educational negligence, especially in developing and under-developed countries.

Reforming Analog Paper Texts into Digital and Blended academic contents is a one-time step. The existed analog curricula or textbooks are dedicated to 68% of average learners. The above 16% and below 16% demand different curricular materials, which are differentiated from a tiny peer group to another.

However, The "Blend-Digit Approach" of curricula necessitate specialists who can transform analog 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 four categories for learning: commons for all learners to be literate in the subject; specialized plus alternatives (complimentary knowledge) for professional workers; and the whole curriculum plus a research study for public administrators; and the entire curriculum plus a research study a literature report for the future reformers and pioneers [55].

Levin and Mudd 2018 advocate the alignment of curriculum content, instructional, and learning strategies to the operational needs of learners. They argued, "learners by reaching the university level have ideas of the professions they prefer to work in the future." Accordingly, university instructors are expected to reinforce learners' career directions through discussion/promotion seminars, projects, research papers, apprenticeships, internships, and demonstrations of professional skills in connecting classrooms and relevant workplaces and centers.

2.12 Quality Outputs of "IQESGL"

2.12.1 Quality citizens and residents

2.12.1.1 Citizen empowerment and inclusion

Digital technologies must serve as catalysts for empowerment instead of widening the digital gap. New forms of collaboration are needed to bridge the digital divide. For this issue, The Digital Future Society explores extensively how the developments and diversifications of digital technologies have profound consequences on citizen empowerment. For instance, if we are to address new and existing forms of digital divides in a meaningful way, we must first be able to quantify them and monitor efforts to close those gaps.

Besides, suppose citizens are to make informed decisions about their lives and futures. In that case, they need a trusted information environment to arguably more complex than ever in the age of digital disinformation. For digital technologies to become more meaningful inclusive enablers of citizens. Hence, a new set of agreed-upon metrics for digital inclusion is needed.

Citizen empowerment in the age of disinformation. This could be done through indulging individual personality into learning generations [2].

A tech-driven information crisis is pushing societies to a range of harmful corrupted data, news, rumor, gossip, or fake stories manipulated by a widespread distrust and aiming at the dismantling of democratic principles. What tools, solutions, policies, and initiatives successfully tackle the disinformation while empowering citizens in the digital age?

One main scientific procedure to counteract the faulty consequences of disinformation is for school systems to give up the rearing priority of cognitive knowledge in children at the expense of other fundamental qualities such as emotions, values, physical or action skills, and social, civic habits.

For schools and educational systems to make a profound turnaround to building inclusive human personality is to reinforce individual traits capable of feeding all personal growth needs utilizing balanced quality intakes of curriculum content and the use of 'Blend-Digit' non-directive
instruction and guidance, collaboration, enabling technologies, and distributed methodologies. Meaningful personality inclusion could highly likely occur.

Implications of inclusive personality to curriculum and instruction pedagogies Inclusive personality is a composite of human civic and social characters who can't by nature live alone. He/she always seeks to belong to other humans whom they feel congruent with their social identities.

"According to research [56], nurturing prosocial behaviors may improve academic outcomes—both classroom grades and test scores. Humans are born with prosocial behaviors. Each time they do a prosaically act, their brains release chemicals that make them feel good, and those same chemicals enhance learning".

Responsible Citizens. The responsible citizen (RC) has a genuine understanding and acceptance of other citizens and helps them anywhere they are. Further, a responsible citizen has a dynamic knowledge about his/her role in the community, state, and the world. He has a role in making the world a better place to live. 'R.C.' serves as a change agent that acts against injustice in social, economic, and environmental interactions.[57].

Civic Responsibility is comprised of actions and attitudes associated with democratic governance and social participation, civic responsibility that can include involvement in societal public occasions and activities, which are critical to the success of democracy and philanthropy. By engaging in civic duty, citizens ensure and uphold specific democratic values written in public documents [58].

2.12.2 Quality transnational education

"Transnational education" (TNE) refers to distance learning programs, teaching partnerships, offshore campuses, and MOOCs. Besides, with the global demand for higher education, transnational education is disseminating widely throughout World education.

UNESCO/Council of Europe Code of Good Practice in the Provision of Transnational Education states,"all types of higher education study programs, or sets of courses of study, or educational services (including those of distance education) in which the learners are located in a country different from the one where the awarding institution is based. [59].

Transnational education could include any one of the following arrangements:

- 'Course-to-Course Credit Transfer
- Branch Campus
- Franchising
- Joint Degree
- Dual Degree
- Distance Delivery
- Progression Agreement or Sequential Degrees
- Degree Validation’ [59]

Quality standards of TNE are [60] 'Critically reflective, Lifelong Advocacy for Second language learners, Site-specific Innovation, and Cross-cultural competency.

2.12.3 Quality ICTs’ learners centered education

There is a common belief that 'ICTs can empower teachers and learners, transform teaching and learning processes from being highly teacher-dominated to learner-centered. This transformation will result in increased learning gains for learners. [61, 8].

2.12.4 Quality glocal education

Glocalization can't be fully understood without exploring the identity of a twin concept: globalization. While glocalization is a transitional educational approach concerned with teaching, researching, local culture, needs, and citizenship, it promotes the legitimacy of different forms of knowledge, respects diverse cultural traditions. It embraces equity, inclusivity, and how all could be reconciled with the demands of globalization for the spread of technology, trade, and democracy across the Globe [62].

However, regardless of the academic differences of globalization and glocalization, this Author believes it is critical for each education system to embrace glocalization as an essential guide for strategic educational frameworks to educational philosophy and policy, curriculum pedagogies, learning-instructional-assessment methodologies, ICTs integration in schooling, and the maintenance of national-cultural identities, e.g., quality citizens and citizenship among World nations.
The fundamental educational role of glocalization is keeping the local socio-national identity intact against overrun by globalization, disintegration, or be swallowed by greedy emerging nations. That is, empowering the developmental-maintenance factors from within through glocalization, updating, and coordinating the local socio-national affairs with the current universal levels of globalization as a World renewal mechanism from outside.

2.12.5 Quality artificial intelligence (AI)

In widespread usage, Artificial Intelligence [63] refers to the ability of a computer or machine to imitate the capabilities of the human mind—learning from examples and experience, recognizing objects, understanding and responding to language, making decisions, solving problems—and combining these and other capabilities to perform functions a human might perform.

The advantages of artificial intelligence are enabling learners and non-directive teachers to ease and diversify the content, the activities, the place, the timeline, and ICTs schooling pedagogies. AI contributes immensely to the quality of learning and teaching.

Artificial Intelligence works with large amounts of data that are first combined with fast, repetitive processing and intelligent algorithms allow the system to learn from the patterns within the data. This way, the system would be able to deliver accurate or close to correct outputs. As it sounds, AI is a vast subject, which involves much-advanced and complex processes, and hence its field of study includes many theories, methods, tools, and technologies. Examples follow:

- Machine Learning: Machine Learning is how a machine can learn on its own from examples and previous experiences.
- Neural Networks: Artificial Neural Networks (ANNs) were developed getting inspired by the biological neural network, i.e., the brain.
- Deep Learning involves a large amount of data analysis, and here the algorithm would repeatedly perform the task, each time twisting/editing a little to improve the outcome.
- Cognitive Computing: The ultimate goal of cognitive computing is to imitate the human thought processes in a computer model.
- Computer Vision: Computer vision works on allowing computers to see, recognize, and process images the same way as the human eye does, and then it provides an appropriate output.
- Natural Language Processing: Natural language processing means developing methods that help us communicate with machines using natural human languages like English.

2.12.6 Quality glocal educational recreations

Glocal educational recreations are natural, digital, and blended tools, games, programs, and software materials. This provides chances to include recreations in one's life and helps learners socialize and become less dependent on one's parents. Before analyzing the effect of recreations in educational curriculum, it is vital to know the impacts and necessity of recreations in one's life as a whole (en. Wikipedia, 2021).

Recreations could be practiced in several types for different purposes. Examples of these appear next [64]:

2.12.6.1 Physical health

Recreational psychomotor activities for building muscular strength, flexibility, muscular endurance, body composition, and cardiovascular endurance.

2.12.6.2 Mental health

Mental health is essential for overall physical health.

2.12.6.3 Improved quality of life

Through physical activities that help participants recover from the deteriorated physical strength and develop self-realization and a positive outlook on life. [65].

2.12.6.4 Endurance health examples

Backpacking, Bowling, Camping, Canoeing, Fishing, Golfing, IceSkating, Kayaking, Sailing/Boating, Skiing, Rowing, ScubaDiving, Skydiving, Surfboarding, and Swimming [64].
2.13 Implementation of the Reforming Inclusive Quality Education System for a Sustainable Glocal Learning

2.13.1 A model for the inclusive quality implementation framework for glocal learning

The Interactive Inclusive Quality System (IQESGL) and framework (Fig. 2) are implementation mechanisms to enabling every child to learn and grow with a success of 97% of the school learning population. Illustrations briefly follow (Fig. 2).

Input factors interact internally with each other's and externally with tools and procedures of 'Processes' for the sake of required learnings and further education 'outcomes' in Fig. 2. For example, learners and peers through "Blend-Digit" short counseling with a non-directive teacher (NDT) search other input elements to specify what could be utilized, for what learning needs, when day and hour, how much, how long. Then examine individually and peer groups by sporadic coordination with the 'NDT' to prioritize achievement outcome, which should be first, second, third, or others.

2.13.2 Basic analytic guidelines for using the IQESGL, Fig. 2

Some following guidelines are offered next to steer the venues and decisive goals for practical learnings and developments.

The factors and elements in the system are not sacred or absolute. They could differ and increase or decrease completely or in part from an environment or one education system to another. The only constant variables in the IQESGL model are specified as follow (Components of IQESGLComponents of IQESs, which determine individually and in clusters the nature, operations, and outcomes of the reforming system. Illustrations follow (Fig. 1).

Inputs of "IQESGL": E-Learners (individual and peers). Psychologically, e-learners are internally self-control initiators and self-balanced and contained. They are educationally social inter-independents, keep their personal data and characters intact, and share them with peers, teachers, and school services according well thoughtful decisions. All other elements in the category of inputs are supportive and serve the growth needs, interests, and hobbies of learners and peers.

The processes / e & blended learning. All other elements in the processes' category are supportive, and in service for the quality of e & blended learning.

The outcomes / mainly quality, citizens & residents. All other elements in the outputs' category are supportive and in service for the quality of citizens & residents.

The cardinal concept and principles of the IQESGL 'System' are determined by:

- Focus: Learners-centered-growth needs and hobbies.
- Methodology: ICTs' non-directive 'Blend-Digit' pedagogies.
- Responsibility: Individual self and collaborative peer groups.
- Techniques: learners’ torturing one another, one to one and small collaborative groups.
- Decision-makers: mainly learners and peers; teachers and school services are non-directive counselors, and knowledge and opinion providers, and 'stand by' backing learners for any help.

Quality should be maintained first in all elements of both inputs and processes (IQEGLS). There will be:

- No quality outcomes without first having the quality of the inputs and processes. Since they are precedents to the later products.
- No quality concept (composed of specific facts, characteristics, nature, elements, criteria, degree, principles, procedures and validity) is absolute or perfect to be applied literally to all educational systems or events without firstly qualifying the “quality” to measure the different educational systems or environment.

Ultimate outcomes achieved after graduating 2-3 generations, using non-directive self-peer collaborative, and ICTs integrated learning, are
expected to be contemporary civic, ICTs orientated, self-confident, and self-responsible quality citizens who are most likely merited with the following habit characteristics [66]:

- Decision making as a habit.
- Self-dependent as a habit.
- Self-control is a habit.
- Self- and time management as a habit.
- Specialized productive work as a habit.
- Self-contained and courage as a habit.
• Seeking proper sophisticated knowledge as a habit.

Qualifying the Pedagogies of the (IQESGL) to Produce Quality Learning and Achievement Personalized Outcomes.

Qualifying the (IQESGL) pedagogies necessitates new learning-Instructional strategies to fit the requirements of the new multi achievements Tracks. Massive schooling generally works as mass production factories, the principle of the standard curve, and the subjective norm-referenced learning achievement and assessment. This "subjective norm-referenced" doesn't guarantee learners success in further studies or related jobs in reality. The alternative objective measures, which could be adopted here, are criterion-referenced learning and assessment that authenticate performance success against actual field requirements (Fig. 4).

2.13.3 Brief notes on the four achievement tracks of personalized learning (Fig. 4)

A- Academic Pioneers who are the thinkers, inventors, and scholars of curriculum subjects. Traditionally, they represent the elites of society. Personal and professional qualities of Academic Pioneers are the internal locus of control, inter-independent, initiators, self-contained, self-reliance, and self-management

B- Societal/institutional leaders. They are the administrative authorities or the management commands of the public and private organizations and institutions. Curriculum specialists and educators reinvent the subject contents of courses offered in schooling and higher education, searching for the implications of each subject knowledge and experiences to the management and interaction styles and techniques.

For example, in social studies, learners discuss how to interact formally and informally with others in school and college, public works or situations, and private matters, e.g., establishing a family, communicating cordially with members from friendships, and rearing children. In mathematics, learners could examine how different enumerations are used to manage diverse needs and occasions.

Societal/institutional leaders have personal and professional qualities such as Critical thinking and problem solving, creativity and imagination, social intelligence, public welfare, mission focus, communication, and collaboration.

C- Professional specialists represent all working classes of females and men from top employees to grassroots. You find them in daily life as professors, teachers, engineers, medical specialists, nurses, artisans, house cleaners, technicians, drivers, and services assistants. Specialists' personal and professional qualities are knowledge of job standards, commitment to standards, time management, self-direction, self and peer/colleague collaborative assessment, field skills, fundamental literacies, mastery of essential competencies of each job or work.

D- Literates: learners here take the school or college course to pass it because it is mandatory. Their aptitudes, hobbies, and future professions lie in other domains. They learn the core of the curriculum, which estimates roughly 20-40% of the required content. They are expected to achieve fundamental Literacies, such as academic literacy, courtesy communications with others, literacy of the three Rs, numeracy, scientific literacy, ICT digital literacy, financial literacy, self-management literacy, cultural and civic literacies. (Partly, British Council.2021; World Economic Forum.2015)

Fig. 4. Four Learning Tracks of Personalized Schooling- learners as literates, professional specialists, societal/institutional leaders, and academic pioneers [66,67,68]
3. CONCLUSIONS

Educational communities and institutions are living by the beginning of the 21st century, the "Blend-Digit "Global Age. ICTs have deeply changed the oral, closed, massive, analog, teacher-centered-society educational methodologies of Plato Academy 387 BCE and the large extended groups 1800 CE into open e-cloud, "Blend-Digit, "individual/ collaborative peer groups, and diverse "learner-centered-growth needs and hobbies" techniques.

The aim of the "Blend-Digit" school of the future has emphasized the principles and practices of "Democracy," equity, and education justice in providing learning-instructional opportunities to all free of charge in any local area in the nation.

The school of 'digit-blend' learning/instructional methodologies, cultures, societies, infrastructures, and environments will soon be widely practiced in realities. Satellite internet broadcasting will be available and accessible or semi-free everywhere on the Globe.

Information and educational communication Satellite stations spread everywhere and provide in different languages and specializations educational opportunities in remote and regional areas.

The availability of mobile machines, tablets, and other hand digital tools provide every individual at any remote geographic region with educational opportunities to learn and specialize in any academic or professional matters of their interests, with apparent little needs to guidance and consultant personnel.

Future learning generations, due to the diverse, more quality and quantity inputs in information, ICTs, experiences, values, skills, environments, personnel, and equipment, will be merited with:

- Higher academic qualities than previous ones.
- More self-confidence.
- More quality performance.
- More innovation and creativity in their domains.
- More confined personality through special characters, values, and conducts, which pass un-noticed with minimum sharing with others.
- More inter-independent in daily habits, interactions, and peer group learnings. They tend to share with peers, teachers, and school services what is necessary for learning.

Further, A futurist forecasted new trends in the 2021+, as follows (livecustomwriting2020 j):

- Modern super technologies. More likely, a robot-teacher, a robot-learner, ICTs, and the Internet of Things (IoT) will help in attending lectures and workshops along with humans.
- Democratic processes. Freedom of generations and learners to choose on their own or through limited guidance and follow-ups, educational institutes, disciplines, knowledge and obtain on their own, academic and professional certifications.
- More comprehensive range of services will be broadly available for academic proofreading services or any other assistance concerning texts.
- Flexible public opinion on education. The marvelous inventions and advances of several individuals who lack conventional academic education have weakened the belief of the significance of academic degrees as preconditions for significant accomplishments.
- Medical services are widely available for any health problems using Robotic surgery, bionic arms, disinfecting robots, and the Internet of Bodies (IOBs).
- The way we study has profoundly negated attending traditional libraries, to learn something new. Smartphones and virtual glasses will be popular in 2020+.
- Enough alternative energy due to Solar, wind, and water wave energies will be widely available.

Moreover, this Author predicted 2020 that ICTs developments will lead soon to the invention of powerful satellites roaming the open space 24/24, that will:

- Digital communications will be provided to any individual, location, school, college, home, business, public and private institutions, and peoples wherever on Earth or possibly in their bedrooms on Earth or possibly on other inhabited planets.
- The digital revolution, which just started at the beginning of the current 21st century, will convert the whole global inhabited Universe (including the Earth or millions
yet to be discovered) into "small digital villages," collaborating for good or evil like somewhat Earth's communities, governments, and institutions.

- Launching digital microscopic explorations of millions of planets and stars roaming the Orbit universe could be reached by the digital waves traveling away millions/billions of light-years.

Extensive investigations and developments for discovery hypotheses in the future were laid down by this Author in the 1980s [69,70]. Examples:

- Discovery hypothesis 1: Sensory computer chips will replace dead or ruined neurons to keep the brain functioning. Drafted at 1984/85. Published, 1986, P.45 (in Arabic). It is still after 36 years in the experimentation stage.
- Discovery hypotheses 2: Virtual whiteboard. Published, 1986. The use of electronic boards in distance & classroom learning and teaching Hamdan, [70].
- Discovery hypotheses 3: The Flying Car. Published, 1984. It was described precisely like the Helicopter style observed at the experimentation stage after 36 years from its original description. The primary purpose of the 'Flying Car' was easing transportation from one place to another when traffic jams, which is the same physically and use as it is experimented today.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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