Opening on-line education: The institutional model of a "Global Degree"

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Abstract

Global developments dictate more than ever the reorientation of the existing educational structures and the creation of new ones, so to respond to the new challenges that students are facing. This paper endevours to present the formulation and development of a new educational structure and mode, such as the proposed **"Global Degree"**, which comes to fill this gap. This new educational norm based on the methodology of the **"International Academic Credit" (IAC)**, which will be globally established will create solutions for making learning more targeted, flexible, updated and applicable. It will work on a parallel route with conventional degrees offered by Universities around the globe and it should not aim to substitute the existing higher education structures.

The core methodological instrument is the **IAC** which measures and represents the academic workload, which is required for studying and it works similarly to the ECTS. Methodology also uses all the current innovative technological educational tools such as virtual learning via *Second Life*, but also the latest applications on distance education and e-learning whereas, television and the internet serve as educational platforms. Students will be awarded a **"Global Degree"** by any of the Institutions that will participate in the **"Global Degree Consortium"**.

What is proposed is an "extensive hybrid" higher education methodology, where each student will build his own Degree regardless the mode of attendance (full time, part time, distance learning), the method of studying (conventionally, via e-learning, virtual learning, *Second Life*), the location of the University, or even the language of tuition.

Keywords: open learning, open education, global degree, distance learning, international credits.

Introduction

"It is in fact a part of the function of education to help us escape, not from our own time — for we are bound by that — but from the intellectual and emotional limitations of our time."
T. S. Eliot

It is commonly accepted today that the education landscape is changing and there are more types of learning than ever before: conventional, part-time, full-time, distance and online. Simultaneously, global developments dictate more than ever the reorientation of the existing educational structures and the creation of new ones, so to respond to the new challenges that students are facing. People want and need to learn in different ways, which support their preferred styles so it is important that we meet demand and give learners what they want, when they want it.

In this framework, this paper endevours to present the formulation and development of a new educational structure and mode, such as the proposed **"Global Degree"**, which comes to fill this gap. This new edcational norm, if established, will create by definition a new **institutional model** for higher education.

The concept of the creation of a "Global Degree" will be first presented followed by an assessment of global learning today together with the new methods of what we call "new learning". Following this reference, the methodology, the SWOT analysis and the implementation plan of the "Global Degree" will be analysed followed by the concluding remarks.

The potential establishment of a "Global Degree" is a concise and innovative proposal that will revolutionise international higher education and at the same time blend conventional learning with distance learning without abolishing any of the existing structures.

Its mission statement: "one world, one degree, limitless capabilities" stands at the core of the proposal.

The Concept

As noted, the global developments and the contemporary international setting dictate more than ever the reorientation of the existing educational structures and the creation of new ones, in order to respond to the new challenges that countries and students are facing.

The formulation and development of a new educational structure and mode, such as the proposed **"Global Degree"**, comes to fill this gap. This new educational norm based on the methodology of the **"International Academic Credit" (IAC)**, which will be globally established, will create solutions for making learning more targeted, flexible, updated and applicable. The **"Global Degree Project"** will also accommodate life - long learning and continuous education programs.

It will work on a parallel route with conventional degrees offered by Universities around the globe and it should not aim to substitute the existing higher education structures.

The institutions that will participate in the **"Global Degree Project"** will sign an "**International Academic Treaty"** and adopt the **"International Academic Credit" (IAC)** as a parallel system to those that they already use. Participating Institutions could then award a **"Global Degree"** to successful graduates without abolishing the awarding power of their traditional ones. **"Global Degrees"**, will acquire the same academic and professional rights as conventional ones in the country of the awarding Institution and globally where possible. **"Global Degrees"** will have an additional distinct logo and watermark in order to be distinguished from the conventional ones that institutions award.

Each student shall accumulate the newly established "**International Academic Credits" (IACs)** as he/ she did so far with traditional credits or ECTS for instance, with the distinctive difference that the location, the time, the mode of learning and the institution are now placed on a different layer and they do not constitute constraints but opportunities for flexible learning and continuing education processes.

More specifically, what is proposed is an "extensive hybrid" higher education methodology, where each student will **build** his/ her own Undergraduate or Postgraduate Degree regardless the mode of attendance (full time, part time, distance learning), the method of studying (conventionally, via e-learning, virtual learning, *Second Life* etc), the location of the University, or even the language of tuition.

Students will then be awarded a **"Global Degree"** by **any** of the Institutions that will participate in the **"Global Degree Consortium"** and additionally, they will be able to build new Degrees and to acquire new knowledge in the future based on the "**International Academic Credits" (IACs)** they have already attained. A civil engineer, for instance, could receive his/ her **"Global Degree"** and in fifteen years he/ she could return to University and study to be an architect using the relevant **"International Academic Credits"** he/ she has accumulated in the past as an engineering student plus those that are specialised for architecture. In this way, continuous education is enhanced and the learning process never stops.

Global Learning Today

Before proceeding to the methodology of the proposed new educational norm, it is vital and fruitful to assess the contemporary situation regarding global learning today. The Organisation for Economic Cooperation and Development (OECD) has just released a new report, which is part of the *Education Indicators in Focus* series, looking at higher education graduates between the ages of 25 and 34 in OECD and Group of Twenty member countries – 42 countries in total.

In this report (OECD, 2012) top findings include:

The expansion of higher education in rapidly -developing G20 nations has reduced the share of tertiary graduates from Europe, Japan and the United States in the global talent pool.
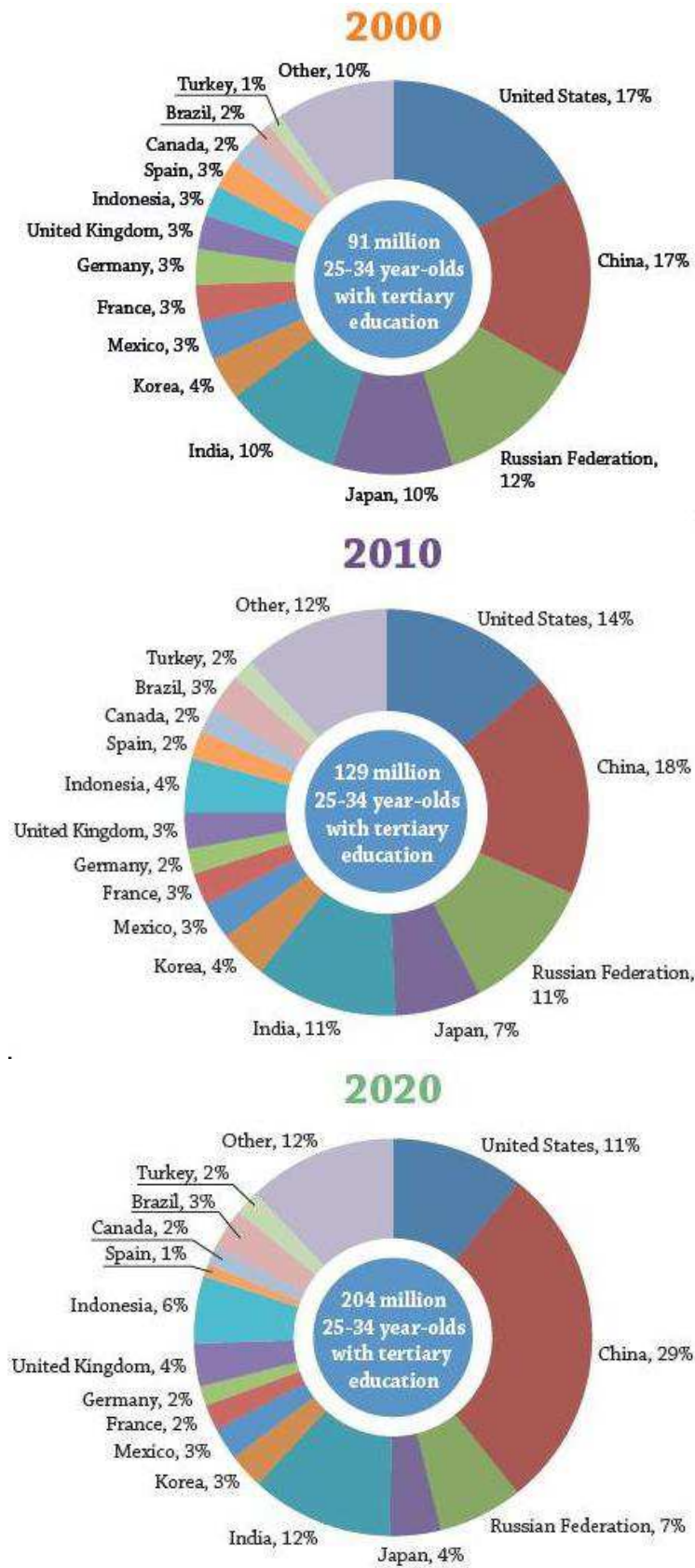
If current trends continue, China and India will account for 40% of all young people with a tertiary education in G20 and OECD countries by the year 2020, while the United States and European Union countries will account for just over 25%.

The strong demand for employees in "knowledge economy" fields (i.e., STEM) suggests that the global labour market can continue to absorb the increased supply of highly -educated individuals.

Highlights: 2010 vs. 2020
- China is expected to produce 29% of all higher education graduates aged 25-34 (up from 18% in 2010);
- the United States is expected to produce 11% of all those graduates (down from 14% in 2010);
- India, which produced 11% of graduates in 2010, is expected to overtake the United States and produce 12% of the share of graduates by the end of this decade;
- the UK's share should increase from 3% in 2010 to 4% in 2020;
- significant declines are forecasted for Japan (from 7% to 4%) and the Russian Federation (from 11% to 7%);
- in 2020, 6% of young graduates will hail from Indonesia.

Share of 25-34 year-olds with a tertiary degree across OECD and G20 countries (2000, 2010, 2020)

2000

Other, 10%
Turkey, 1%
Brazil, 2%
Canada, 2%
Spain, 3%
Indonesia, 3%
United Kingdom, 3%
Germany, 3%
France, 3%
Mexico, 3%
Korea, 4%
India, 10%
Japan, 10%

United States, 17%
China, 17%
Russian Federation, 12%

91 million 25-34 year-olds with tertiary education

2010

Other, 12%
Turkey, 2%
Brazil, 3%
Canada, 2%
Spain, 2%
Indonesia, 4%
United Kingdom, 3%
Germany, 2%
France, 3%
Mexico, 3%
Korea, 4%
India, 11%
Japan, 7%

United States, 14%
China, 18%
Russian Federation, 11%

129 million 25-34 year-olds with tertiary education

2020

Other, 12%
Turkey, 2%
Brazil, 3%
Canada, 2%
Spain, 1%
Indonesia, 6%
United Kingdom, 4%
Germany, 2%
France, 2%
Mexico, 3%
Korea, 3%
India, 12%
Japan, 4%

United States, 11%
China, 29%
Russian Federation, 7%

204 million 25-34 year-olds with tertiary education

(Source: OECD, 2012).

The global talent pool has grown rapidly over the past decade

In 2000, there were 51 million 25-34 year-olds with higher education (tertiary) degrees in OECD countries, and 39 million in non-OECD G20 countries.

Over the past decade, however, this gap has nearly closed, in large part because of the remarkable expansion of higher education in this latter group of countries. For example, in 2010 there were an estimated 66 million 25-34 year-olds with a tertiary degree in OECD countries, compared to 64 million in non-OECD G20 countries.

The number of higher education graduates will continue to grow

It's likely that the global talent pool will continue to grow across most OECD and G20 countries, and that the fast-growing G20 economies will continue to account for an increasingly large share. According to OECD calculations, there will be more than 200 million 25-34 year-olds with higher education degrees across all OECD and G20 countries by the year 2020.

What's more, 40% of them will be from China and India alone.

By contrast, the United States and the European Union countries are expected to account for just over a quarter of young people with tertiary degrees in OECD and G20 countries.

By 2020, China aims for 20% of its citizens – or 195 million people – to have higher education degrees. If this goal is realised, China will have a population of tertiary graduates that is roughly equal in size to the entire projected population of 25-64 year-olds in the United States in 2020.

The "knowledge economy" must grow to absorb the growing talent pool

In many ways, the rapid expansion of the global talent pool – and its expected growth in the future – is no surprise. Since higher levels of education are strongly linked to higher employment rates and larger earnings premiums, individuals have strong incentives to pursue more education.

Similarly, as national economies continue to shift from mass production to "knowledge economy" occupations, countries have strong incentives to build the skills of their populations through higher education.

At the same time, the explosive growth of the talent pool raises an important question: 'Will the global labour market continue to absorb the increased supply of higher-educated workers in the future?' (OECD, 2012).
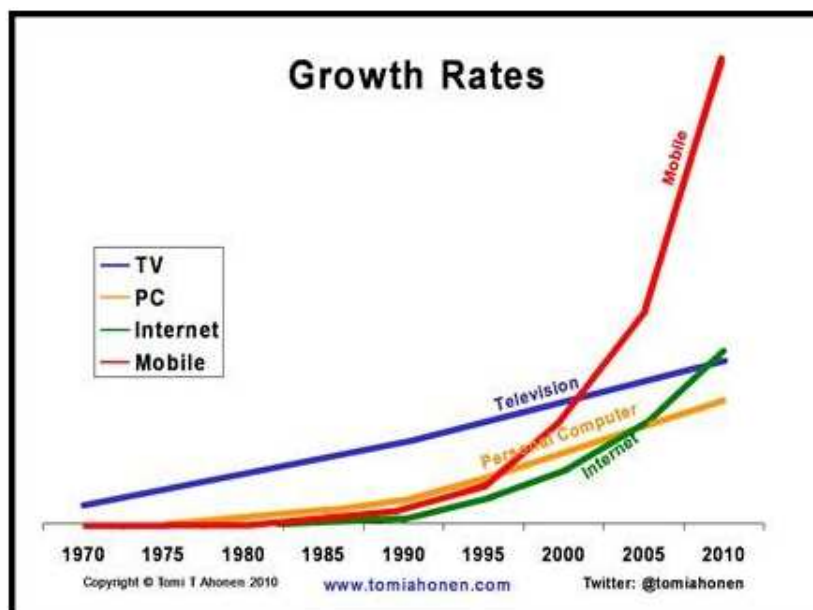

New Learning

It is expected that the future of education will eliminate the classroom, the borders between countries and all the stereotypes for acquiring knowledge. Technology can turn our entire lives into learning experiences. As Nicholas Carr (2012) argues, a hundred years ago, higher education seemed on the verge of a technological revolution. The spread of a powerful new communication network—the modern postal system—had made it possible for institutions to distribute their lessons beyond the bounds of their campuses. Anyone with a mailbox could enroll in a class.

The rapid explosion of the information age introduced to education methodology a series of tools and instruments that changed learning for ever such as: educational platforms, video lessons, social networking, cloud computing, smart objects, mobile learning, educational gaming etc. According to the latest ICT Facts and Figures (ITU, 2013), currently 2,7 billion people, almost 40% of the world's population, are online. Europe is the region with the highest Internet penetration rate in the world (75%), followed by the Americas (61%). 41%

of the world's households are connected to the Internet. In 2020 the number of Internet users will reach the number of almost 5 billion, equivalent to the entire world population in 1987. This compares with 1.7 billion users in 2010 and only 360 million in 2000.

Additionally, the growth of students accessing their course materials from mobile devices is increasing on a daily basis. In 2013, there are almost as many mobile - cellular subscriptions as people in the world. It is very fruitful to observe the growth rates statistics published by Tomiahonen.com in regards to mobile usage:

Mobile Usage Growth Rates

(Source: Scholarix, 2011).

It is very evident, how the growth of mobile subscription is exploding all over the world, whereas, the e-Learning market hit $ 52.6 billion by 2010. In this framework, it is interesting to notice that 77% of American Corporations are using online learning, 51% of companies have at least delivered 1 training session via e-learning and 80% of employers have used e-learning courses.

Following these references, demand for open courses and greater access to knowledge has been increased so rapidly that we observed new developments and initiatives on a constant basis. An example of the new era of learning are the **Massive Open Online Courses (MOOCs)**. In reality, MOOCs merely added momentum to the steady growth in learning that has occurred since the turn of the millennium. These "massive open online courses," are earning praise for bringing outstanding college teaching to multitudes of students who otherwise would not have access to it, including those in remote places and those in the middle of their careers. The online classes are also being promoted as a way to bolster the quality and productivity of teaching in general—for students on campus as well as off. There is also a rapidly increasing number of educational initiatives that are build around the concept of open education via the use of the latest educational technology. New associations, strategic alliances and coalitions are formed between some of the best institutions of the world in order to realise these new initiatives.

E-institutions Initiatives

e-institutions
A look at some of the major online education efforts

Name	Founded	Enrollees	Model	Details
Coursera	2012	1.5 million	for profit	Backed by $22 million from VCs and colleges. Nearly 200 courses available, over a wide range of subjects.
edX	2012	155,000*	nonprofit	MIT and Harvard have each pledged $30 million. Seven courses available. Will offer certificates to people who complete the work.
Udacity	2012	739,000	for profit	Got $5 million in seed funding. Offers 14 courses, focused on computer science, ranging from beginner to intermediate to advanced.
Open Learning Initiative	2002	51,000	nonprofit	Carnegie Mellon project offers Web classes and researches online teaching methods. Has 15 courses, including sciences and French.
University of Phoenix	1976	346,000	for profit	Has physical campuses for undergrads and grad students but also offers individual courses online.
The Open University	1969	264,000	nonprofit	Based in the U.K. Combines Web curriculum with physical study centers. Offers hundreds of free online courses in a range of fields.

*EdX figure is for Spring 2012 class only.

(Source: Nicholas Carr, 2012).

The leaders of Udacity, Coursera, and edX have not limited their aspirations to enhancing distance learning. They believe that online instruction will become a cornerstone of the college experience for on-campus students as well. The merging of virtual classrooms with real classrooms, they say, will propel academia forward. They claim that they are reinventing education and that these initiatives will change the world.

As Marina Gorbis (2013) argues, MOOCs today are our equivalents of early TV, when TV personalities looked and sounded like radio announcers (or often were radio announcers). People are thinking the same way about MOOCs, as replacements of traditional lectures or tutorials, but in online rather than physical settings. In the meantime, a whole slew of forces is driving a much larger transformation, breaking learning (and education overall) out of traditional institutional environments and embedding it in everyday settings and interactions, distributed across a wide set of platforms and tools. They include a rapidly growing and open content commons (Wikipedia is just one example), on-demand expertise and help, mobile devices and geo-coded information that takes information into the physical world around us and makes it available any place any time, new work and social spaces that are, in fact, evolving as important learning spaces (TechShop, Meetups, hackathons, community labs).

Another example is the **Khan Academy**, a non-profit educational web portal created in 2006 by educator Salman Khan. Its mission is to provide "a free world-class education for anyone anywhere". The web portal supplies a free online collection of more than 4,300 micro lectures via video tutorials. Although it has no qualification awarding power, the fact that Khan Academy has delivered over 260 million lessons proves that there is huge motivation and potential for the future.

Methodology

One of the most important developments in education apart from the application of the new technological developments has been the translation of qualifications into outcomes and competencies. In this way, it is easier now to measure educational values so that we can transfer knowledge more easily and more effectively.

As Marina Gorbis (2013) noted, we are moving away from the model in which learning is organized around stable, usually hierarchical institutions (schools, colleges, universities) that, for better and worse, have served as the main gateways to education and social mobility. Replacing that model is a new system in which learning is best conceived of as a flow, where learning resources are not scarce but widely available, opportunities for learning are abundant, and learners increasingly have the ability to autonomously dip into and out of continuous learning flows. Instead of worrying about how to distribute scarce educational resources, the challenge we need to start grappling with in the era of socialstructed learning is how to attract people to dip into the rapidly growing flow of learning resources and how to do this equitably, in order to create more opportunities for a better life for more people.

Following this reference, the core methodological instrument for the accreditation of the "Global Degree" is the **International Academic Credit (IAC)**, which measures and represents the academic workload, which is required for studying.

Similarly to the European Credit Transfer System (ECTS) the International Academic Credits (IACs) are measured as follows: relation between the expected learning outcomes (based on the selected teaching and learning methods and assessment approaches) and the time available in terms of student workload. To earn **1 International Academic Credit**, a student must carry out **25 hours of activity**. These could be broken in:

- attending or viewing lectures
- individual study
- activities or practical / lab exercises

The methodology also uses all the current innovative technological educational tools such as virtual learning via *Second Life* but also the latest telematic applications on distance education and e-learning whereas, digital/ satellite television and the internet serve as educational platforms.

Above all, in the centre of the **"Global Degree Methodology"** and the **International Academic Credit** is the student. The didactic model focuses on the following learning dynamics:

- ✓ use of new technologies in higher education
- ✓ need for continuing education and life-long learning
- ✓ active participation of students and self-learning process

In this new model, the individual student becomes the centre of this new educational process. A **Personal Learning Environment (PLE)** could be then created including institutional support, pedagogical technological interface, and resource support.

Everything focus on the student as the **"Global Degree Didactic Model"** is been build around his/ her academic and professional aspirations. This new context will include the following

features: the learning ecosystem, world view, information reflective thinking, the work environment, social interactions, technology and experiences.

Following this reference, the establishment of a "Global Degree" will also utilise and incorporate in its methodology the following learning norms and structures:

PLN – Professional Learning Network: This acronym is relatively new, but the idea is not. Teachers have always had learning networks or "communities," people we learn from and share with. Teachers are information junkies; we are also social. Put the two together and tech and you have a personal learning network.
MOOC – Massive Open Online Courses: As analysed in the previous section, massive open online course (MOOC) is a model for delivering learning content online to any person who wants to take a course, with no limit on attendance.
Flipped Classroom: A reversed teaching model that delivers instruction at home through interactive, teacher-created videos and moves "homework" to the classroom.
Blended Learning: Blended learning is a formal education program in which a student learns, at least in part, through online delivery of content and instruction, with some element of student control over time, place, path, and/or pace (Teachers with Apps, 2013).

The methodology will also expand to use certain contemporary technological and innovative instruments and trends such as: open and interactive content, mobile learning, the sharing of teaching and educational material, networks and informal learning: eg. Twitter, personal learning environments, E-portfolios and educational e-learning platforms. For example, a Virtual Leaning Environment (VLE) discussion forum, a Twitter account or a Skype session will be proved ideal global communicative skills for the answering of questions or for class interaction.
The number of hours needed to build a learning program under the "Global Degree" initiative, is nearly impossible to be calculated due to the blending of different types and modes of educational methodology. Nevertheless, it is fruitful to present the average development times for learning programs:

Development times to create one - hour of training:

- **34:1 — Instructor-Led Training (ILT)**, including design, lesson plans, handouts, PowerPoint slides, etc. (Chapman, 2007).
- **33:1 — PowerPoint to E-Learning Conversion** (Chapman, 2006a).
- **220:1 — Standard e-learning**, which includes presentation, audio, some video, test questions, and 20% interactivity (Chapman, 2006a).
- **345:1 — 3rd party courseware**. Time it takes for online learning publishers to design, create, test and package 3rd party courseware.
- **750:1 — Simulations** from scratch. Creating highly interactive content (Chapman, 2006b).

Development times to create one - hour of e-learning (The elearning Guild, 2002):

✓ **Simple Asynchronous:** (static HTML pages with text & graphics): 117 hours
✓ **Simple Synchronous:** (static HTML pages with text & graphics): 86 hours
✓ **Average Asynchronous:** (above plus Flash, JavaScript, animated GIF's. etc): 191 hours
✓ **Average Synchronous:** (above plus Flash, JavaScript, animated GIF's. etc): 147 hours
✓ **Complex Asynchronous:** (above plus audio, video, interactive simulations): 276 hours
✓ **Complex Synchronous:** (above plus audio, video, interactive simulations): 222 hours
Note that these are averages, thus any one program might take as little one hour or up to 500 hours depending on the person's design skills and knowledge of the subject, amount of

material to be converted, and the type of transformation needed.

SWOT Analysis

A SWOT analysis of the proposed new educational norm is necessary as it highlights at the same time all key features, characteristics and constraints of the proposal. Following this reference, the strengths, weaknesses, opportunities and threats are epitomised as follows:

Strengths

Universal accessibility

Global perspective

Global sharing of knowledge

Sustainability and environmental protection

Affordable tuition fees

Flexibility

Continuous and life long learning

Multicultural experience

Degree building opportunity

Weaknesses

Poor knowledge of technology

Digital literacy

Lack of faculty expertise

Gradual and slow adaptation to change

Start-up expenses

Legal and bureaucratic constraints

Opportunities

Increased student enrolment

Continuous improvement process

Space for constant development and expansion

Use of new technologies

Collaborative learning

Threats

Traditional universities' skepticism

Lack of cash flow

No marketing and management experience

Professional and regulatory issues

Administration and decision-making

Political obstacles

Online safety / awareness

Implementation Plan

To fulfill its grand objectives, "Global Degree" will need to exploit the latest breakthroughs in education methodology and innovative learning that were highlighted. Delivering a complex class to thousands of people simultaneously demands a high degree of expertise.
The following implementation steps should be realized in order to forward the **"Global Degree Project"**:

- Establishment of an international steering committee
- Creation of an **International Consortium** in the form of a not for profit Organization under the name of **"Global Degree"**
- Institutionalization of the **"International Academic Credit (IAC)"**
- Development of a liaison network with Universities, International Organizations and Private and Public Entities
- Signing of the relevant "**International Academic Treaty"** which will put the **"Global Degree"** into effect

Concluding Remarks

The proposal for the establishment of a "Global Degree" which was presented in this paper, as it was highlighted in the introduction, will create by definition a new institutional model for higher education. It is also a concise and innovative proposal that will revolutionise international higher education and at the same time blend conventional learning with distance learning without abolishing any of the existing structures.

By utilizing all the latest innovative developments of technology and all the modern educational methodologies such as, open learning, the social media, mobile learning, blended learning, augmented reality etc., the "Global Degree" initiative will also bring a new stream of positive thinking regarding the future of education. As Plato said: "Do not train children to learning by force and harshness, but direct them to it by what amuses their minds, so that you may be better able to discover with accuracy the peculiar bent of the genius of each."

Apart from the obvious benefits, graduates with a "Global Degree" will also be able to:

- Recognise and achieve goals and ambitions, especially in response to global challenges;

- Enhance their knowledge with a global perspective;

- Recognise that they belong to an international community and use this understanding effectively to understand multiculturalism;

- Practice their skills and creativity beyond their regional environments.

In conclusion, the "Global Degree" would lead to a better knowledge of the world around us and should assist us to better cope with it. As Salman Khan said: "This is the information revolution. It's crazy that every other field is getting revolutionised except education".

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