



Successful Development of Global Education within Ian Donald School of Ultrasound

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***Editors' Note:** The Ian Donald Inter-University School of Ultrasound serves as a model case study for global education initiatives. Its success in establishing over 140 international chapters across 70+ countries demonstrates the potential for replication worldwide. By pioneering distance learning programs and adapting to new technologies, the school showcases how to facilitate lifelong learning and adapt to the changing educational landscape. This model can be replicated by other educational institutions seeking to expand their global reach and provide quality education to diverse populations.*

Abstract

Ian Donald Inter-University School of Ultrasound is a living tribute to Ian Donald, the visionary physician who pioneered ultrasound in obstetrics and gynecology. The School is dedicated to the improvement of all aspects of perinatal and gynecologic care. The discovery of ultrasound has enabled us to see and care for the fetus as a patient as well as visualize pelvic organs noninvasively—and has therefore brought obstetric and gynecologic diagnosis out of the dark ages. The School has evolved to almost 140 international Chapters or Branches which permits the spread of knowledge throughout the world. With the rapid development of information and communication technologies, industrial nations are transforming into societies in which knowledge, although intangible, is the most valuable commodity. The traditional choreography of learning, with its long, rigidly defined school, job, and university educational periods, is already obsolete. The most important factors which have influenced the changes occurring in education have been the installation and development of the Internet, electronic multimedia techniques and artificial intelligence. Donald Schools have to reinvent themselves in order to remain relevant to the current generation. The distance learning campaign (which extensively developed in the last three years of the COVID-19 pandemic) aims to establish a distinct visual identity for Ian Donald School and to unify all its various branches and entities into a single voice.

1. Introduction

We live in a troubled world in which national, cultural, religious, and political differences

separate people—sometimes to the point of disastrous wars and/or pandemics (1). With all that mankind has achieved, it is amazing that such parochial differences continue to do so much harm. There is much that the leaders of the world can learn from the global success of the Ian Donald Inter-University School of Ultrasound (2-8).

This School is a living tribute to Ian Donald—the visionary physician who pioneered ultrasound in obstetrics and gynecology. The School is dedicated to the improvement of all aspects of perinatal and gynecologic care (9-14). The discovery of ultrasound has enabled us to see and care for the fetus as a patient as well as visualize pelvic organs noninvasively—and has therefore brought obstetric and gynecologic diagnosis out of the Dark Ages. It has been suggested—with very little exaggeration—that the three greatest contributions to modern obstetrics and gynecology have been ultrasound, ultrasound, and ultrasound.

Our school is based on state-of-the-art science as well as a collegiality that transcends national, cultural, religious, and political differences. Teachers and students alike are united in our efforts to improve the care of women throughout the world. The international brotherhood and sisterhood that exists among physician leaders from over 70 of the world's 192 countries is a special bond that represents globalization at its best. Instructors donate their time without reimbursement, as their educational efforts are truly a labor of love.

We are grateful to all the doctors who have given so much of themselves to make the Ian Donald Inter-University School of Ultrasound a testament to the power of the human spirit to work collaboratively throughout the world for the betterment of mankind. We believe that Ian Donald is smiling down from heaven at the School that bears his name (9-14).

2. Remarkable past of ID School as a predictor of bright future

In 1981, during the 4th European Congress on Ultrasound in Medicine and Biology held in Dubrovnik, Croatia, a multidisciplinary group of enthusiasts met at the Inter-University Center for Postgraduate Studies (IUC) in Dubrovnik and established an advanced course in medical ultrasound which was named after Ian Donald and planned to have annual meetings within this unique institution.

The first Ian Donald course was held in 1982, co-organized by Asim Kurjak and George Kossof, and attended by 152 participants from 42 countries. Ian Donald and his wife Alix attended the first 12 courses held at the School. Since its foundation, the School has organized numerous advanced courses in Dubrovnik and throughout the world. After George Kossof's retirement, Frank Chervenak was named co-director.

One of our many guests, Professor Tommy Thompson, former president of The World Federation for Ultrasound in Medicine and Biology, wrote:

“Recently, I had the opportunity of taking part in a rather unique and outstanding ultrasound conference held in Dubrovnik, organized by the Ultrasonic Institute, Medical School University of Zagreb. The Ian Donald course was outstanding in that it presented the most up-to-date, state-of-the-art information on ultrasound that is available today. The faculty

was exceptional in that world leaders were brought together from more than a dozen different countries. The subjects covered included prenatal diagnosis and therapy of congenital fetal abnormalities, ultrasonic-guided puncture techniques, ultrasound in the management of female infertility, fetal, uterine, and ovarian blood flow determinations and application, and a round-table on controversies in obstetric ultrasonography. There was a free flow of information and an unusual amount of participation by the audience, most of whom were authorities on many of these subjects in their own rights. This was an intense 5-day meeting dedicated to the higher levels of ultrasound knowledge and thinking in the world and it took place in a unique and beautiful setting on the Adriatic coast. It was by all standards a superb conference geared to the leading edge of present-day ultrasound knowledge. The Ultrasonic Institute from Zagreb should be congratulated for having developed a most timely, informative and well-presented international ultrasound school."

The School has evolved to have almost 140 international Chapters or Branches. This permits the spread of knowledge throughout the world. Each Ian Donald Chapter has developed according to the character of the respective country and culture. This structure permits international cross-fertilization of ideas while remaining sensitive to the uniqueness of each participating country throughout the world.

We believe that the Ian Donald School in its 40th year of existence has had a remarkable past and we look forward to a brilliant future.

3. Ian Donald School: Education in the Globalized World

At the time of fast globalization, it is clear that no human endeavor is more adapted to the globalized world than science and medicine, for their very nature is global (15–17). This is an immense privilege, but equally an immense responsibility for the development of humanity.

Globalization is both inevitable and usually desirable and contains advantageous and disadvantageous issues. It is a source of both hope and apprehension and is an accelerating process in the flow of information, technology, goods and services as well as production means. It refers to the process of increasing interconnectedness between societies such that events in one part of the world increasingly have effects on peoples and societies far away (15-17).

Reconciling global economic growth, especially in developing countries, with the intensifying constraints on global supplies of energy, food, land, and water is the great question of our time. A new global growth strategy is needed to maintain international economic progress. If the supply of vital inputs into the economy is constrained or the climate is destabilized, prices will rise sharply, industrial production and consumer spending will fall, and world economic growth will slow, perhaps sharply. But if the world cooperates on the research, development, demonstration, and diffusion of resource-saving technologies and renewable energy sources, we will be able to continue to achieve rapid economic progress (15-17).

What's happening in the world today? The answer is simple and apparent to everyone: a crisis (wars and pandemic), without precedent in modern history. The world has been hit by the worst crisis in the last half a century, probably the worst one since the Great Depression of the 1930s.

“The increasing speed at which we acquire new knowledge, insights, and abilities is forcing ‘learning’ to evolve.”

The crisis is without precedent, because for the first time in history, it is world-wide due to the close interconnectedness and interdependence of the global world. It is also without precedent because it is multidimensional: mankind hit by the pandemic of COVID-19 and the Ukraine war is at the same time faced with a crisis of world finances, global economy, international affairs, global security, a crisis of liberal capitalism and the relationship between cultures and civilizations (1, 3 – 5, 13).

It is clear that in the 21st century developments will fundamentally change many aspects of today's world. Modern communications technologies are changing societal and economic structures, and our knowledge is growing at a speed that would have been unthinkable only a few years back (1). Consequently, industrial nations are transforming into societies in which knowledge is the most contested and valuable good (1, 16, 17). Knowledge has become the decisive location factor for a company competing globally. Indeed, only a highly developed national economy leading to global competition, which has weathered the structural changes in the labor market, its ailing solidarity system, and the onslaught of state regulations, can remain prosperous. In this context, education is the most important investment in the national economy (4). Anyone who doesn't invest in it lags behind and has to accept gradual losses. The result is poverty. A lack of knowledge should be viewed as a risk factor (4).

With the rapid development of information and communications technologies, industrial nations are transforming into societies in which knowledge, although intangible, is the most valuable commodity (1, 3, 4). The increasing speed at which we acquire new knowledge, insights, and abilities is forcing 'learning' to evolve, as the traditional choreography of learning with its long, rigidly defined school, job, and university educational periods is becoming obsolete (1, 3, 4). Self-directed, lifelong learning is the new standard of excellence and success (6).

Rapid knowledge production is the driver of world development, as the half-life of knowledge is constantly shrinking and a person's knowledge becomes antiquated several times during his or her lifetime (3 - 5).

It has been estimated that the European Union (EU) produces almost one third of the world's scientific knowledge (2). The EU has acknowledged expertise in medical research and environmental sciences and leads the world in many areas of chemistry, physics, pharmaceuticals, aerospace, telecommunications and transport. We need a coherent approach to build a Europe of knowledge whose main engines are research and innovation. This

shows that public spending on research represents not a cost, but an important investment in Europe's future (2-4).

4. How to respond to new challenges of education: an example of Sarajevo School of Science and Technology (SSST)

SSST is committed to developing the intellectual capacity, creativity and professionalism of our students, immersing them in the rich diversity of human experience and aspirations, thereby preparing them to shape the future of our world while adding to the knowledge base of humankind.

The new academic culture at universities is changing the master-student relationship (18, 19). The student has new sources of knowledge at his/her disposal and sets before the master the task of keeping pace with progress. Students now expect from their academic teachers help, motivation, and suitable approaches to new problems (3, 4). Students enter into dialogue with their masters and expect argumentation which facilitates their intellectual development (3, 4).

The authority of the masters is no longer based on titles and distinctions; just the opposite—the merits of the master are verified by a new generation of students who reject faith in masters, but instead expect to be convinced by scientific arguments.

This culture requires both traditional direct contact and indirect contact—created by virtual space. This space facilitates a system of asymmetrical education, paradoxically, even from dead masters.

Many EU students now have the opportunity to study in the education systems of various countries. Mobility during students' years will encourage innovativeness later (3, 4). Attending university in another country provides students with new experiences and energizes behavior by "forcing" them to think in another language as a result of adaptation to different cultural conditions (2-4).

The distance learning campaign aims to establish a distinct visual identity for SSST and to unify all its various branches and entities into a single voice (1, 20). It seeks to engage, inspire curiosity and raise awareness about SSST and supports its continued growth, giving it higher visibility and helping people everywhere to understand its work and its future goals. In general, classic on-site teaching and distance learning are reflecting a universal human need to learn and understand the world around them (1, 20).

They will help develop strategies to establish new and enduring educational patterns, initiating actions and concrete solutions to rise to the 21st century global challenges, and acquiring the ability to anticipate future challenges (1, 20).

5. Education as a Treasure: Investment for the Future of ID School

Immanuel Kant made a statement about education: "It is the education of a personal character, of a free being, who is able to maintain himself and to take his proper place in society, keeping at the same time a proper sense of his own individuality." (21).

While we are living in a very different society from Immanuel Kant's, his wisdom remains so true today. With the rapid development of information and communications technologies, industrial nations are transforming into societies in which knowledge is the most contested and valuable good—and the need for continuing education is even more important. At present, creativity and ingenuity comprise at least 50 percent of the value-added chain. Just a few decades ago, the value of a machine tool was determined in large part by its material value and the cost of producing it. Today these factors account for only about 20 percent, while the biggest portion of the share consists of development, software, design, and downstream services—that is, value-added factors with a high knowledge intensity (2–4). Knowledge has become the decisive factor for any institution competing globally (4). Do globalization and the enormous acceleration of social, economic, and political transformation processes demand a different kind of education? It is clear that education is the most important investment in the national economy (16, 17). Anyone who doesn't invest in education is left behind.

Learning means change, new modes of behavior, new structures, unfamiliar situations, and creativity. The increased speed at which we have to acquire new knowledge, insights, and abilities is forcing us to divide learning into novel, shorter phases. The traditional choreography of learning with its long, rigidly defined school, job, and university educational periods is already obsolete (2–4). Self-organized, lifelong learning is becoming a necessity (6). Education is needed more than ever to give the individual the proper orientation to make good judgments. Only on this basis can he or she think and act self-sufficiently, self-confidently and self-effectively (2–4, 20).

The most important factor that has influenced the changes occurring in education has been the installation and development of the **Internet, electronic multimedia techniques and artificial intelligence** (1–4, 20). Traditional education as well as contemporary education are supported by informatic technologies in a unique system of flexible education. In order to use the advantages of flexible education, it is necessary to combine different forms of learning (1–4, 20).

Indeed, Donald Schools have to reinvent themselves in order to remain relevant to the current generation. The focus in an Ian Donald School is on knowledge augmentation and not on grades. Great learners are the product of great educators. It is hoped that Ian Donald School educators will be true, dedicated “human amplifiers”, turning education into a memorable experience.

In our newly formed Fellowship program (Sarajevo, Zagreb, Doha, Dubai, Khartoum), upon graduation, student laureates will earn a specialized diploma in Ultrasound in Obstetrics and Gynaecology, with a leadership position in the workplace. This is done with the belief that education must be driven by innovative thinking, adaptability, and worldwide collaboration (2–4). Wherever thinking happens, ideas follow, knowledge grows, and people discover new ways to unlock their potential. Although in its infancy, the fellowship program has blossomed with its wide acceptability.

The distance learning campaign (which extensively developed in the last three years of the COVID-19 pandemic) aims to establish a distinct visual identity for Ian Donald School

and to unify all its various branches and entities into a single voice (1, 20). It seeks to engage, inspire curiosity and raise awareness about the Ian Donald School and supports its continued growth, giving it higher visibility and helping people everywhere understand its work and its future goals (1, 20). In general, distance learning is reflecting a universal human need to learn and understand the world around them. In our new virtual school the campus will be virtual—students will be able to attend classes from around the world (1, 20). The Ian Donald School will be administered through a plexus of real-time information arteries. Campus activities and class sessions will be monitored to gauge educator performance and student learning progress (1, 20). Advanced ultrasound technologies will be immersed in the learning process (8). It will certainly help to develop a “lifelong learning way of life” (6).

With distant learning, we are creating a constructive, open forum for Donald School students that do not usually have a chance to interact, to create innovative, appropriate, and current solutions for the changing needs of diagnostic ultrasound in the global community (1, 20).

Innovative approaches to major education challenges should be highlighted and expanded globally (2 – 4). This will help develop strategies to establish new and enduring educational patterns, initiating actions and concrete solutions to rise to the 21st century global challenges, and acquiring the ability to anticipate future challenges (2 – 4).

We hope to identify opportunities to shape a global educational vision for the 21st century under the theme of Donald School distance learning (1, 20). The future is built on the past. The Ian Donald School has a remarkable past. It is important that teachers and students stay as futuristically thinking scientists and teachers.

In a knowledge society, where competitive edge is directly tied to innovation, the Ian Donald School has to move forward (2, 18, 19). The slumber is over. The renaissance has been long overdue. Immanuel Kant is right, now more than ever!

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