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“Advancing knowledge for human security, peace and development”

A Better Future for All: Roles of Education and Science in Broadening Understanding

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A Copernican change has taken place with regard to the position of universities and other higher education institutions (HEIs) such as polytechnics, teacher training colleges and specialized medical schools. No longer do national systems of higher education lend prestige to their constituent parts, the institutions. Rather the opposite is true: it is the internationally acknowledged qualities of individual institutions which lend prestige to the national systems they belong to. It is in line with this trend that in Japan and many other countries governments have given universities both more freedom and more responsibility for their own activities and future. Improved transparency, accountability and accreditation are crucial for enhanced self-organization, responsibility and autonomy.

We are living in a time of profound change; in an increasingly interlinked world. The rapid development of improved systems of communication and transport has changed our world from a complex and sometimes chaotic blanket of territories and borders to a hierarchical system of nodes and channels. The frequency and volume of the exchange of goods and the mobility of people, money and ideas have created a situation in which no one, even not the strongest nations, can allow him-, her- or itself to live in isolation.

Our world is becoming ever more globalized and knowledge-based. Our society is getting more complex and heterogeneous, consisting of individuals characterized by intriguing sets of multiple identities, based on their gender, ethnicity, religion,

nationality, profession, hobbies, etc. Together, we are set out on an unsustainable course, using so much of our planet's resources, that the future of younger generations is jeopardized. The pressure on the limited resources available, leads to more and more political tensions, between 'haves' and 'have-nots,' within countries and between countries. Climate change is no distant threat anymore, but an immediate danger and in many places: a reality.

These changes are for better and worse. The positives can also be negatives and the negatives positives. When international terrorism can strike from a great distance, good can also be done over great distance. Together we can make the choice to contribute to a better future for all, a better life and a safer world for all... now, and for our grand children and theirs. When we ourselves live in an affluent society we cannot ignore poverty, either in our own society or in poverty-stricken countries. We can no longer ignore the interlinkages between globalization, trade, poverty, development and environment: the five highly interlinked topics on which the 'World Summit on Sustainable Development' five years ago in Johannesburg rightfully focused.

This is what *complexity*, *diversity* and *sustainability* are all about: to understand the whole, diverse, complex reality and to act in adequate, informed ways. And it is clear: there will be no sustainability, when there is no peace, democracy, tolerance, dialogue; no understanding and acceptance of each other around the world, within our country, but also within our village, town or city. That is where education comes in; also to be aware of our individual responsibilities to contribute, to make responsible choices, to respect other people, nature and diversity. Universities and other HEIs, training teachers and informing the curricula, have indeed a great responsibility.

Universities

Universities and other HEIs, as major centres of creativity and innovation and as the privileged schools to prepare the next generation for their future, are increasingly called upon to address the challenges facing us, our children, grandchildren and theirs. We cannot afford ourselves, anymore, to continue our 'business-as-usual' approach. This is what sustainable development and education for sustainable development are all about. This is why the General Assembly of the United Nations declared 2005-2014 to be the Decade on Education for Sustainable Development. Why UNESCO, UNU, UNEP and many others are working so hard, together, to make

this UN-Decade a success.

The universities and other HEIs must engage themselves and must contribute in adequately addressing the challenges of all humankind. In our globalizing world they also find themselves, increasingly, in a position from where they have to both compete and cooperate internationally. They have to prepare their students for globalizing labour markets. Their campuses are becoming increasingly international. This challenge goes far beyond what is generally understood as ‘internationalization’ in universities, mainly only meaning having more foreign students.

The universities themselves must become international, in many ways multi-lingual institutions, as they were always intended to be. The rise of the modern state and the relation established between certain university degrees and specific professions have led over a century to universities that have become increasingly ‘national,’ which are often even called the ‘National University of’ That is not what universities, throughout a millennium and longer, were meant to be, and it will not be enough for our increasingly globalized and knowledge-based future. Creativity and innovation are not bound by national borders. Research and development need openness and exchange rather than limitations.

Higher education, once seen as the privilege of the elites, is now viewed by most nations as an indispensable tool for shaping, directing and promoting economic growth and even beyond that to secure the future of our societies, but only - and only then – when this education is up to the international standards. The President of John Hopkins University, William R. Brady, called this trend “College goes Global.” “New Agri Varsity will help fulfill the need for experts,” said the Minister for Agriculture and Agro-based Industry of Malaysia, Tan Sri Muhyiddin Yasin, only three weeks ago. “We need more research universities. This would be good for the nation,” said his colleague, Datuk Mustapa Mohamed, Minister for Higher Education, the same day. Just days before, four universities in Malaysia, had been given the special status of “research university,” with additional funding to enable them to achieve international, competitive standards and strengthen their capacity for creative and innovative contributions to society. It is an illustration of the fact that those who see universities only or primarily as teaching institutions are lagging far behind. Some countries, from India to Qatar, even try to attract universities from the US to enhance their status and international competitiveness.

Knowledge-Intensive Society

Globalization, indeed, dominates more and more the agenda of the universities. A second process dominant in the long term, shaping our society and its education and science, is the increasing knowledge-intensiveness of society and science itself. This does not require great elucidation. Roughly speaking, it rests on three basic assumptions:

- (1) that *more and more knowledge* will be produced: estimates say the amount of knowledge now doubles in less than every five years;
- (2) that the *shelf-life* of knowledge is *declining rapidly*: it is indicative, here, that American publications cited in the patent rolls in 1975 were eight years old on average, but only six and a half years old on average ten years later; this process has even accelerated since;
- (3) that *average levels of education* are *rising*. The whole concept of education is shifting as a result of this knowledge intensification. *Multiple careers* and learning throughout the course of one's working life will play an important role. As a consequence the profile of the student population, as well as the learning styles and study programmes of schools and universities must change fundamentally. The internal organization and external presentation will have to follow.

The *knowledge-intensive economy* is replacing the work-intensive economy and the capital-intensive economy. The Government of the Netherlands was one of those to have already – very early! – stressed the increasing importance of education and science to our future society: “*Today we are witnessing waves of important discoveries. These are so significant that some people even compare them to those of the first industrial revolution*”. This fundamental change seems to occur in the newly industrialized countries even far more rapidly than in many developed countries; in this way the knowledge gap between these two groups of countries seems to be closing rapidly.

Indeed, education and science themselves have also become highly knowledge-intensive. Managing education, knowledge, processing other people's research, and staying abreast of development elsewhere are all becoming increasingly important. The profession of *knowledge-broker* stands in the wings. Whole infrastructures will change. Polytechnics and, indeed, increasing numbers of universities, will in their regions and countries focus on this function rather than on pursuing fundamental research. Education and science have to contribute to next generations of locally-

rooted, but well-informed global citizens capable to ensure jointly “peace and progress,” the ultimate aims of the UN. Those working in agriculture are really no exception to this general trend and become increasingly part of an international system of production, marketing and consumption.

Good academics have always *pushed back frontiers*, not only in the sense that the limits of human knowledge and ability are expanded, but also in the sense that political and geographical borders are continuously bridged. As increases in scale and globalization progress further, as well as the knowledge-intensivity of our society, we do not only need good academics to do this, in fact all citizens should be adequately prepared to contribute to bridge frontiers, in order to create a better future.

Ethics and Values

There is a third process going-on, which has a profound impact on the roles education and science can perform in broadening understanding to create a better future for all. Here, we understand peace as far more than the absence of war between states: and as including the absence of civil strife and violence within states; positively - *the growth of a Culture of Peace*, the prevalence of tolerance and harmony. To win such a peace is not an easy, straightforward task, in an increasingly complex world and global society. Many new dilemmas and paradoxes have come up, sometimes precisely as a consequence of economic, scientific and technological progress. New issues that, themselves, do create confusion and tensions.

We are, therefore, increasingly confronted with questions about the direction which education and science must take on a number of crucial issues: bio-ethical dilemmas, bio-diversity and bio-technological questions, access and benefit sharing, legal and equity issues, social and cultural aspects of our interconnected world. Indeed, one of the major issues today is *cultural diversity*. In our diverse, and intensely interconnected, world we have many neighbors, nearby and faraway, neighbors who often come from very diverse backgrounds. More than ever, a strong development of international activities and relations is needed. This is crucial today, in particular, to promote better understanding, as *fear is often the consequence of a lack of knowledge* and a lack of precise information. It will, thus, be essential to increase and improve knowledge and information. It will be crucial to increase and improve knowledge and information about other people, cultures and societies. To achieve this, one must be prepared to engage actively *in dialogue*; unconditionally and with a

truly open mind. *Not trying to “win” as in a debate, but trying to understand the other by listening carefully.* Such broader understanding is crucial for development, as development can not just be achieved by introducing new varieties or new technologies. This must be properly adopted by the local population, embedded in their ways of doing things, which in themselves may change over time.

A core value, today, is *democracy*, as present-day society is, increasingly, made up of diverse groups. In fact, all societies today are diverse, even if they are ethnically more or less homogeneous, because social and economic differences do exist and will continue to exist everywhere. To create a better future for the present and future generations, we must learn to live with all the diversity that is characteristic for our complex world. In our diverse societies, the needs and preferences of the different groups will need to be reflected in political decisions in order to maintain equality of opportunity and with this, ultimately, to sustain peaceful societies. The best way to ensure that different preferences can be introduced into the political debate is to *give every member of society a voice*. This is obviously what *democracy* is about: to give voices to all and to facilitate compromise as a means to accommodate diverse preferences. It may be clear that this is most urgent for *the most diverse society on Earth: the world community!* However, for such democracy to function well, the *understanding of diversity, nuance, complexity and sustainability* is crucial. Dialogue is at the basis of such understanding. The democratic system should not erase diversity through the application of the “one winner takes all” principle, but rather protect diversity.

Broadening Understanding

Increasingly, therefore, universities must grow into international platforms for dialogue; platforms for opening, analyzing and exchanging new ideas. The globalizing, knowledge society brings into focus new themes in education and research well beyond the regular discipline-based programmes: ICT, bio- and nano-technology; ethics and values; ageing and migration; issues of cultural diversity, dialogue and integration; intercultural leadership and entrepreneurship; climate change and sustainable development; disarmament, reconciliation and peace-building; among others. Indeed, new themes must be addressed, new challenges taken on, but globalization also creates major opportunities for a broader understanding, exchange of knowledge, cooperation to advance teaching, research, services to society, at an ever faster pace.

Universities must truly become international to keep up and fulfill their mission as centres of creativity and innovation, to serve their societies well, in many diverse ways. To achieve that, however, they must also enhance their capacity for syntheses. The progress of modern science is characterized by a seemingly endless fragmentation. Without a better capacity to bring all available fragmented knowledge together in meaningful ways and ultimately in a coherent worldview, science and scientists in the humanities, social and natural sciences, including engineering, might miss their ultimate goal to understand better the human condition, and ultimately lose the support of the larger public, as has been observed many times by among others Dirk van Delft, the leading science-journalist of the Netherlands.

The International Conference “Pathways towards a Shared Future: Changing Roles of Higher Education in a Globalized World,” organized by the United Nations University, jointly with UNESCO, in Tokyo’s UN house on 29-30 August, focuses on these issues. A Copernican Change Challenges Our Universities. Their response is crucial for our lives and future.

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