



FUTURE EDUCATION

ROME 2017

REPORT

*2nd International
Conference
on Future Education*

**Effective Learning in
an Age of Increasing
Speed, Complexity and
Uncertainty**

Co-Organizer:



Collaborators:



Rome, Italy | November 16-18, 2017

2nd Intl. Conference on Future Education

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ROME 2017

Effective Learning in an Age of Increasing Speed, Complexity and Uncertainty

A new paradigm is urgently needed to shift emphasis to student-centered, active, collaborative learning, critical and original thinking and creativity, and knowledge that is value-based, multidisciplinary, contextual and integrated.



– **Heitor Gurgulino de Souza**
WUC & WAAS President

Each one of us today has more information accessible on our cell phones than was available to all of humanity in earlier times. Yet, our education system still largely follows the model introduced at the University of Bologna in 1088, at a time when all knowledge was in the possession of a very small number of scholars, transfer of information could only be done through oral lectures, and books were hand-written and so rare that they were kept chained to library shelves.

The 2nd international conference on Future Education, held in Rome on November 16-18, 2017, recognized the need for a radical paradigm shift in the way we teach and learn in order to meet the multi-dimensional challenges confronting global society in the 21st century. It concluded that a massive quantitative extension and a radical qualitative shift in education are indispensable.

In conferences spanning the last five years, the World Academy of Art & Science (WAAS) has been repeatedly asking the same critical question, “If you want to create an accessible, affordable, relevant and world class system of higher education open to all

human beings, how would you do it?” The founding of the World University Consortium in 2013 marked a milestone in a long search for effective answers to this question.

The Rome Conference is the second in the series which began in October 2013 at University of California at Berkeley. More than 300 speakers and participants came together in Rome to discuss important questions, formulate conclusions and practical recommendations designed to transform the educational system to enhance its reach, accessibility, quality, relevance and employability to meet human needs, fully develop human potential, and prepare today’s youth for the challenges and opportunities of tomorrow.

The Rome Conference was organized by WAAS, WUC and Roma Tre University (RTU) in collaboration with the International Association of University Presidents, Kyung Hee University (Korea), Person-Centered Approach Institute (Italy), The Mother’s Service Society and Global Institute for Integral Management Studies (India), Inter-University Centre (Croatia), and others.



Participants in this conference include all the stakeholders. Our role is to act as facilitators for transition to a new paradigm in education that is person-centered and empowers the individual.

– **Alberto Zucconi**
WUC Secretary-General; WAAS Treasurer

The essence of education is knowledge of human accomplishment in every sphere of life, the essence of what is needed to be productive, successful, secure, content, healthy, responsible human beings building effective, responsible, harmonious sustainable societies.



– **Garry Jacobs**
WUC and WAAS Chief Executive Officer

The uniqueness of this multi-stakeholder conference lay in the fact that it brought together eminent thinkers, researchers, university administrators, professors of education and other disciplines with representatives from the business community, labor unions, international NGOs and government. It also included large groups

of students from Roma Tre University and Kyung Hee University in Seoul representing the voice of the future. Students are the consumers and beneficiaries of the educational system, whose future lives would be powerfully affected by the type and speed of evolution in the global educational system.

Contours of the Needed Paradigm Shift in Education

Old Paradigm

- Subject-centered
- Passive transfer
- Competitive individual learning
- Standardized competencies
- Information
- Abstract knowledge
- Mechanistic, reductionist thinking
- Transfer of mental knowledge
- Fragmented & compartmentalized knowledge

New Paradigm

- Student-centered
- Active learning
- Collaborative group learning
- Customized, creative individuality
- Value-based Knowledge
- Understanding & critical analysis
- Organic, integrated, & transdisciplinary thinking
- Development of the whole person
- Contextual knowledge

Contextual, Relational, Human-Centered Knowledge



All issues are interdisciplinary, and can be understood only within a context and when linked to everything else. Specialization has its place, but so does interdisciplinarity... Also we

need to link all these studies to the human being. The human trinity includes the species, the individual, and the society, the three inseparable realities. Each of the three can only be understood in relation to the other two. This relationship must be embedded in our education...We cannot

effectively address the complex problems humanity faces if we disconnect science and the humanities. We need to reconnect the physical and metaphysical... Piecemeal attempts at solving problems that ignore the human context and interrelationships between issues are of no avail. Real education must equip the mind to synthesize information from many sources, understand relationships, and see the whole.

– Edgar Morin

Philosopher & Sociologist, Theory of Knowledge and Complex Thought (France)

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Education to meet Societal Needs

The functionalities of the school are individualistically competitive, teacher-centric, curriculum-centric, passive, contextless and focused only on teaching technical skills like basic literacy and numeracy. These defining features of schools are imprints of the industrial age. This is irrelevant to the life of the children and the community they live in. It is at odds with the reality and results in disengaged teachers and students. We must also take the standpoint of the society to understand the problems generated by the present system.



– Peter Senge

Systems Scientist; Senior Lecturer, MIT Sloan School of Management; Founder, Society for Organizational Learning (USA)

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Next Steps

The conference generated a significant number of important conclusions and recommendations for consideration by educational institutions, governments, businesses and civil society.

It also identified many questions that still need to be seriously considered and researched in order to arrive at satisfactory answers in the form of solutions, policies, strategies and methods for application.

The Future Education Conference in Rome is best conceived as a step—an important meaningful step—in a wider process to establish a global educational system that can provide accessible,

affordable, relevant and quality education to all. Future work has to move from conception to implementation, from leadership in thought to effective action.

The next immediate step will be publication of the conference papers in both electronic and print format in both English and Italian.

Already WAAS-WUC have received invitations to conduct four additional conferences in Latin America, Eastern Europe and Central Asia to further the translation of its recommendations from theoretical conception into practical action.

Understanding Complexity



What does it mean to live in interdependency? Complex living systems are by nature interdependent. They are required to engage in interrelational,

communicational interaction. However, our way of studying has largely been to study out of context.

Research has developed as a way of pulling things out of context, studying them in detail and getting wonderful knowledge. The problem is that we do not know how to put them back together and we do not know how to develop relational information that reflects the interdependency of the different aspects of our knowledge. Without that information, we are not able to understand or respond appropriately to the complexity of the world we live in. We need to create a context for contexts. Education has to provide another place in which we can inquire, explore, discover and share insights across generations about how the contextual process takes place.

– **Nora Bateson**

**President, International Bateson Institute,
Filmmaker, Facilitator, Writer & Educator;
WAAS Associate Fellow (Sweden)**



Joy of Learning

We must reinvent the school. It should be a school that transforms every child, a school that integrates. Education should be about the joy of learning. The school we reinvent will not exclude, but include, every type of child. The biggest effort required to accomplish this is intellectual, not economic.



– **Emil Constantinescu**
**Former President, Romania;
WUC and WAAS Board Member**



Educating for the Unknown



What is worth learning? What informs, empowers and enlightens learners? Literacy and numeracy are essential, but beyond that, what kind of learning will matter in the lives that learners are likely to live?

There is no one right answer to the question. We live in an amazingly well connected world, which brings a profound level of complexity and uncertainty into our lives. The small world paradox

The Small World Paradox

As our collective world gets smaller, the worlds we individually engage become more numerous and complex



is that as our collective world gets smaller, the worlds we individually engage become more numerous and complex.

So what learning matters to children who grow up in this kind of world?

- A good theme or lesson gives insight into the way the world works.
- It offers actions that can be taken based on the learning.
- It has an ethical side to it, and
- It offers opportunities.

If a theme can meet these four criteria, then it is worth learning.

We need to construct frameworks to work in, feel our way forward smartly, and face the challenge of educating for the unknown, so that we give our youth an education that truly prepares and energizes them.

– David Perkins

**Professor of Teaching and Learning, Emeritus,
Harvard Graduate School of Education (USA)**

Active Learning



Students are not the objects of education, they are the subjects. They are the centerpiece of education. Education begins with the students. 90% of learning depends on the richness of student

interchange. Effective learning takes place when the teacher simply poses a few well-chosen, stimulating questions. The capacity of posing good questions helps students identify and

anticipate problems, makes them think about consequences, and enables them to make good choices and take effective decisions. Learning is optimal when the flow of information and ideas is horizontal and multidirectional, rather than top down and unidirectional as in the lecture model. *True education takes place when students freely exchange ideas and insights, collaborate and learn from each other and work together rather than compete.*

– Winston Nagan

**Chairman of the WAAS Board of Trustees;
WUC Board Member**



Education for Full Employment in the 4th Industrial Revolution

How can education equip youth for knowledge and skills needed for jobs that do not even exist today? This question represents a major challenge to business, students and educational institutions. The increasing speed of technological innovation and application is widening the gap between education and employment. Companies around the world complain of a growing shortage of employable skills.



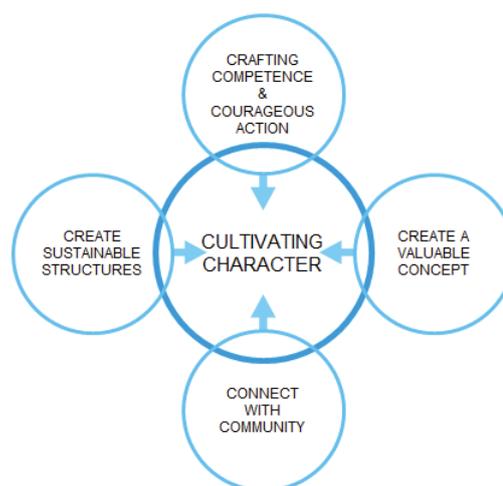
The onset of the 4th Industrial Revolution is generating demand for new types of technical skills. Numerous studies project drastic changes in employment markets, giving rise to many new types of jobs that do not even exist today. Many are calling for a dramatic increase in the place of digital technologies at all levels of the curriculum. But this alone will not solve the problem.

– **Luigi Perissich, Director-General, Confindustria Innovative & Technological Services (Italy)**

Companies are also reporting that technology-related knowledge and skills are not sufficient for employment in the emerging job market. Businesses are also looking to recruit individuals with strong communication and interpersonal skills, the capacity to collaborate and work in teams, problem-solving and decision-making capabilities, and who know how to keep learning—skills that all too often are not being developed through current educational curriculum.

Moreover, in an age of rapid change, the capacity for innovation and creativity have become critically important. The process of learning and discovery becomes more important than the content that is taught. Students need to learn how to think out of the box, to question underlying assumptions, to challenge prevailing

THE KAOSPILOT MODEL



conceptual systems, to integrate and unite apparently unrelated and contradictory phenomena. Finally, leadership skills are needed both for those seeking to found new businesses and those who want to rise to managerial positions within existing companies.

Changing needs of the job market pose serious challenges to individuals and societies. Those that respond most effectively to these challenges will be the economic leaders of the 21st century.

Our goal should be to an education that fosters creative leaders, social innovators, responsible entrepreneurs and community builders by supporting the students in making sense of their journey and realizing opportunities and potential.



– **Matthias Straub-Fischer
Kaospilot, Switzerland (Italy)**

Transdisciplinarity to Address Complex Real World Problems



The globalisation of information, of work and of ecologic aspects has made a tremendous impact on our life. Problems have become more complex and their solutions require a new thinking which has to take into account the influences from multiple sources in our world. Interdisciplinarity and Transdisciplinarity matter because, in the real (as opposed to academic or university) world, most scientific, technological and social problems span different disciplines: in future, post-graduates have to operate in a multi-disciplinary environment, unknown

in the past. The primary function of universities should be to educate students and perform innovative and horizon-broadening research. Universities also need to be flexible enough to establish new interdisciplinary, interdepartmental centres for working on the scientific fields of tomorrow. To foster interdisciplinary research, institutions within the university should adopt a flexible structure with close contact and good communications between departments and disciplines.

– **Marcel Van de Voorde
Professor, University of Technology Delft,
Netherlands; Executive Advisor to Minister for
Education & Research, Serbia; WAAS Fellow**

Creativity in Science and Technology



Science is no longer geared to look at laws of nature and encourage curiosity, but science is focused on knowledge that can be turned to product or services. Technoscience has become

the main vector of economic growth and wealth accumulation. All the grand challenges we face today, from climate change to sustainable living, are complex by nature. Complexity is the impossibility of separating a system from its context, a living being from its environment, and an object from its measuring instrument. Only a curious mind can gain insights on complexity in its entirety. Curiosity is the seed of critical thought, culture of doing and the spirit of enterprise.

– João Caraça

Senior Advisor, Calouste Gulbenkian Foundation; WAAS Fellow



In providing global public goods, science, technology, education and innovation serve as a crucial driver for rising prosperity and improving national competitiveness. Innovation and technology are needed to transform countries from reliance on the exploitation of natural resources to technological innovation as the basis for development. Many of tomorrow's professional fields are not known today, and are even hard to predict. Fundamental solutions for the higher education sector need to be developed to ensure that students acquire the capacity for continuous self-education throughout their careers. Future education needs to emphasize the importance of adaptability, flexibility, creativity, curiosity and lifelong learning.

– Momir Đurović

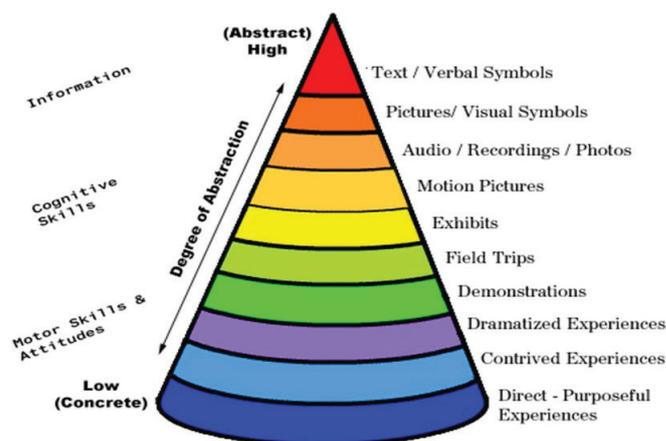
Former President, Montenegrin Academy of Sciences & Arts; WAAS Board Member

Active Collaborative Learning

When the television was first introduced, TV news programs were much like radio news programs had been before, a news reader read the news, only this time viewers could see the reader apart from hearing him or her. It took decades before photos, charts, tickers, visuals from the spot of action and interviews were introduced, leveraging the potential that the new medium made possible. Similarly, our education today still follows the thousand-year-old lecture model that developed at a time when knowledge was possessed by a very small number of scholars. Anyone who wanted to learn had to listen to the scholar speak. Today, we have access to all the information humanity has ever created in the palm of our hands, in our phones. But we largely continue to use the teacher as the source of information and the time spent in class for transfer of information. Audio and visual material, the internet and virtual reality offer a much more powerful and effective learning experience. Easy access to unlimited information makes it possible to get the facts on one's own, so that time spent in the classroom can be much more effectively utilized for inquiry, discussion, and peer learning.

The Cone of Experience developed by American educator Edgar Dale, depicts the relative concreteness of various forms of learning experiences. It shows that text and verbal symbols employed by the traditional learning method are abstract, whereas the use of photos, audio, video, models and direct experiences make for more concrete learning experiences. A demonstration, dramatized presentation or practical work can dramatically increase the effectiveness of learning and retention. The impact of active learning where the student is an active participant in the learning process is seen even in online education.

Edgar Dale's Cone of Experience



MOOCs that offer discussion forums, group activities, peer learning and a high level of interactivity achieve far higher completion rates.

“As all teachers know, we learn most when we share our knowledge with others. Paradoxically, we have an education system that maximizes the learning of the teachers, not the students! Our education today should flip the paradigm and enlist the interest, release the energy and actively engage the faculties of each student, to learn for themselves and help others learn.”

– Janani Ramanathan

WAAS Associate Fellow; Senior Research Analyst,
The Mother's Service Society (India)

Responsible Education



The WAAS motto 'leadership in thought that leads to action' is most appropriate for the times we live in, because we urgently need action now. For the first time in history, we face irreversible processes. The academic and scientific community can no longer remain a spectator. We must become responsible actors to transform the world we live in. Future education must be for all, including all sections of society, both men

and women. Education for the 21st century must teach the student to learn to be—to be a human being, to be free and responsible—and learn to know—how to acquire knowledge that is not mere information but rather the essential insights needed for effective living. Future education must recognize and appreciate the uniqueness of every human being, and enable all to think, imagine, anticipate, innovate, create—create the design of his or her own destiny.

– **Federico Mayor**
Former Director-General, UNESCO;
WUC Board Member; WAAS Fellow

Ideas change the world



We need to understand the power of ideas and of intellectual development. Educators are at the forefront of development. The honour and responsibility of assisting and guiding promising minds falls to us, and we must bear it with utmost dignity and integrity. And if faced bravely and openly, I see a great future for education and research, for educators and for the world.

– **Kakha Shengelia, President,**
International Association of University
Presidents (IAUP); WUC Board Member (Georgia)

Radical Rethink

Society cannot hope to deliver health, education and sustainable well being without addressing them with a radical rethink. We must address not only the issues but also their root causes. One of the important requirements is investment in health—healthy schools, healthy hospitals, healthy living and working environment. Another enabler is multi-partner cooperation which aims for coherent policies, shared accountability, exchange of information and experience.



– **Elizabet Paunovic**
Head, WHO European Centre for Environment &
Health, World Health Organization (Germany)

Inclusive Education



Universities still function as an elite ivory tower serving the privileged few. Education must not be the instrument for reproducing inequalities in the society. University participation largely correlates with economic status, and social mobility between generations is very low. Women and ethnic minority groups are grossly underrepresented

in the academic positions. Universities must act as a catalyst for the social development and education should be the instrument for providing opportunities and promoting ideals of progress. Universities must be more inclusive and aid international mobility. Complexity of issues that we confront requires interdisciplinary approaches rather than narrow subject specific specializations.

– **Walter Lorenz**
Professor of Social Work; Former Rector,
Free University of Bozen-Bolzano (Italy)

Insights into Early Childhood Learning



The single most important factor that determines whether or not any child will be educable and will be capable of success in school is the child's brain development during the first three months and first three years of each child's life.

Children whose brains are exercised in the first months and years of life by having caring adults talking, reading, and directly interacting in clearly responsive ways, have much stronger—and even physically larger—brains by age three. Developmental programs

for children aimed at increasing the basic intelligence levels of a child that begin after age four are too late to have significant impact on basic core learning capabilities and intellect strength. The foundations of personality development have to be laid in the early years.



– **George Halvorson, Chair & CEO, Institute for InterGroup Understanding (USA)**
Robert J. Berg, Advisor, WAAS Board; Distinguished Fellow, The Stimson Center (USA)



There is a direct parallel between the physical and emotional care given and the mental cognition. Family and care-givers of children must be taught and trained to nourish the child emotionally.

– **Anna Aluffi Pentini**
Professor of Social and Intercultural Pedagogy, Roma Tre University (Italy)

Digital devices are not only delivery systems but they are effective tools in enhancing interaction and communication between young students, teachers and parents. Multi-sensational, continuous, adaptive learning environment can be created by effective use of digital tools in pedagogy.



– **Marion Voillot**
Student, Paris Descartes University (France)

The findings of 30-years of research on speech behavior document the dual nature of speech—constructive and destructive. The unconscious, automatic brain system is the cause of negative interactions, anger and violence between people. Human beings possess an inborn ability to switch from unconscious/automatic speech to conscious/rational speech. That ability can be consciously developed by education. We can acquire the capacity to consciously switch from the lower system of unconscious speech to the higher system using our rational mind and emotional will.



– **Liora Weinbach, Head, Unit for Ethics in Thought, Language and Action, Interdisciplinary Center for Health, Law and Ethics, Haifa University (Israel)**



Learning is an enjoyable experience for children driven by natural curiosity. The Mother Service Society's early childhood schooling program at Primrose School in Pondicherry, India has demonstrated that children who have an early start can read fluently by age 7 and acquire a wide range of knowledge out of native interest without parental or teacher pressure or compulsion.

– **Janani Ramanathan**
WAAS Associate Fellow; Senior Research Analyst, The Mother's Service Society (India)

We need to find better strategies to use technology to engage students and provide personalized learning. Interaction and attention help the child grow. Technology has a unique capacity for reaching individuals and its power has to be harnessed correctly to reach kids. Internet has opened up access for girls, minorities and disabled people, giving them platforms to express themselves.



– **Julie O'Donohue**
ELC Coordinator, European Azerbaijan School (Azerbaijan)



C. Blanco



R. Fiorini



R. Poli



R. Pricopie



D. K-Passigli



L. Pietromarchi



C. A-Pereira



S. Grønmo



R. Weiler



E. Çepni



M. Ramirez



A. Curaj



B. Gills



J. Engelbrecht



D. Pinheiro & SS Sreejith



Z. Bochniarz & G. Leśniak-Łebkowska



U. Segestråle & V. Senthil



N. Senthil, S. Senthil, M. Usico & P. Asokan



L. Etheredge



L. Levi



R. Nelson



S. Padolecchia



E. Hoedl



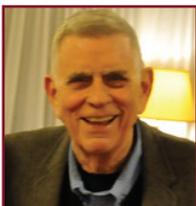
M. Popovich



S. Brunnhuber



Y. Kahane



G. Gutenschwager



J. Cayón Peña



A. Krumberger



S. Inbarajan



K. Skelton



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Educating Minds for Independent Thinking, Innovation & Creativity

Everyone will acknowledge the importance of creative thinking skills, but few truly understand the process of creative thinking. Creativity is not merely an act of genius or luck. It is a process, a process that can be learned. The [roundtable](#) on “Mind, Thinking and Creativity” conducted at Dubrovnik on Nov 6-8, 2017 examined many of the mental processes that lead to the discovery of new relationships, unperceived opportunities, untapped potentials and defined creativity.

- Creativity is the capacity to think beyond the limits of an existing conceptual system.
- Creativity discovers causality where others see chance and randomness.
- Creative thinking discovers relationships between apparently unrelated facts and reconciles contradictories as complementaries.
- To be creative is to understand that the subtle, invisible and intangible are more powerful than the visible and tangible.
- Integration and Unification are acts of creativity.
- Creativity expresses in the application of mind to consciously conceive, plan, organize and perform new types of institutions and activities.
- Creativity arises from embracing ambiguity and discovering reason in the irrational.

Roundtable Recommendations on Education for Creativity

The conclusions of the Dubrovnik roundtable were presented and discussed in Rome.

Active, student-centered learning:

Creativity of mind occurs in an atmosphere of freedom, engagement and interaction. Activities in the classroom should be structured around the students, rather than subjects, giving them freedom to raise questions, voice their ideas and interact with one another in pursuit of knowledge. This will develop students the capacity to see beyond what exists and open their minds to new ideas.

An interactive classroom fosters active, experiential learning, whereas the current system of education encourages rote memorization and regurgitation of facts.

Teaching strategies should develop and exercise the students' mental faculties for conceptualization, judgment, analysis, discrimination, organization, problem-solving, value-based decision-making, integration of knowledge and imagination.

The focus should be on learning how to learn by learning about the validity of different ways of thinking and viewing reality.

Understanding complexity, reconciling and integrating differences:

It is difficult for mind to perceive relations of cause and effect when the causes are complex. Creativity is needed to integrate knowledge of complex phenomenon and to evolve effective solutions that embrace all contributing factors, avenues and opportunities.

From early childhood, the emphasis should be to develop in the child an understanding of the complex interrelationships and interconnections that govern the way the world works and to look for underlying principles and factors that relate and unite things that appear unconnected, opposite or even contradictory.

Seeing the whole picture in context:

The key to comprehending complexity is to view phenomena in context rather than merely understand

them in abstraction. Specialization divides, focuses, narrows and limits understanding to its individual component parts, fragmenting knowledge in the process and separating it from the contextual reality to which it applies.

Discovering how to derive abstract generalizations from myriad diverse facts should be balanced by the capacity to apply abstract principles appropriately to fit the complexity of the real world, rather than reducing action to simplistic formulas.

Transdisciplinary education helps us become aware of the limitations and traps of compartmentalized knowledge.

Independent thinking:

Real creativity requires the capacity to question established beliefs, prevailing theories and conventional wisdom.

Learning is a social activity which is too often constrained by the authority of those who teach and the social acceptance of that which has already been discovered.

At its heart science is a process of endless discovery of greater knowledge, rather than a set of orthodox truths to be passed on and accepted religiously.

Students should be encouraged to question, explore, challenge, debate and rediscover for themselves rather than to memorize, accept, repeat and regurgitate what they are taught. develop the capacity to acquire skills that can be applied to many fields and be flexible.

The ultimate aim of education is not transfer of knowledge but rather development of an independent mind and individual personality capable of making conscious value-judgments and acting on deeper convictions.

Rather than merely a means to a job, education is the process of learning how to live successfully, happily and harmoniously as an individual and responsible contributor to the progress of society.

Contextual, Relational, Human-Centered Knowledge

Excerpts from the special address of **Edgar Morin** (Philosopher & Sociologist, Theory of Knowledge and Complex Thought, France) on November 18, 2017.



Our education gives us knowledge, mostly scientific knowledge, but it does not supplement it with a context or perception. This system prevents us from seeing the complete picture due to its emphasis on compartmentalization and objective facts. In such

a system, our emotions, feelings, ideology, beliefs, and our organization of reality do not find a place. In reality, no issue can be understood in isolation. All issues are interdisciplinary, and can be understood only within a context and when linked to everything else. Specialization has its place, but so does inter-disciplinarity.

Sometimes the study of history reduces the individual human being to an automaton of society. Psychology may ignore society focusing exclusively on the individual. Science becomes a subject of study without reference to anything else. We need to add to all these studies the link to the human being. The human trinity includes the species, the individual, and the society, the three inseparable realities. Any of the three can be understood only in relation to the other two. This relationship must be embedded in our education.

Similarly, it has to recognize that pure reason does not exist. All humans are a mix of reason and passion. Passion without reason slips into delirium; a reason without passion tends towards rigidity. It is not possible to separate the human being from his or her beliefs—be they ethical, moral or religious. We may often seem to be solely interested in our own well being, but we are also capable

of selfless generosity. We are neither entirely rational nor entirely irrational. But some the subjects we teach, such as Economics, ignore this truth. Education must make this aspect of our conceptual framework explicit.

Our education also witnesses a widening gap between science and the humanities. We cannot effectively address the complex problems humanity faces if we disconnect the two streams. We need to reconnect the physical and metaphysical. The contribution of literature and poetry to the formation of human consciousness is significant. Piecemeal attempts at solving problems that ignore the human context and interrelationships between issues are of no avail. Real education must equip the mind to synthesize information from many sources, understand relationships, and see the whole.

Errors and mistakes in taking decisions, managing relationships, career or politics can have great negative consequences. It may not be possible to teach an infallible method for avoiding mistakes. But it is possible to teach about the ways of thinking and ways of knowing that commonly lead to errors and illusions.

To bring about these changes, a government decree is not enough. We need to implement these reforms, beginning with pilot projects. We need to supply real life experiences to students, not just information in textbooks. Correspondingly, teachers need enriching training. The role of teachers will continue to be valuable. Computers, internet, Wikipedia and Google search can supply students with information, but humans will always need human contact. Students will always benefit from the presence, the contact of the teacher. Many a student has been inspired and transformed by the teacher.

Higher Learning for Tomorrow



The only feasible way in which we can improve the world situation is to enter into the gate of common prosperity on the basis of enlightened self-interest. In pursuance of the founder's ideals,

KHU has always been aware of the responsibility of universities towards the wider global society. It believes in conscious higher education. Global citizenship education has always been at the heart of the higher learning in the KHU campus.

– **Stephen Yong-Seung Park**

Dean of International Affairs, Kyung Hee University; WAAS Associate Fellow (Korea)

Higher education today prevents students from inquiry and thinking for themselves. Much of the education system is conditioned and manipulative. Education and truthful learning, along with values such as justice, hospitality, peace, sympathy and human rights are rapidly giving way to profit. In this transition in higher education throughout the world, values and human consciousness are the first victims. We see this in the cutting down of humanities courses in many universities. A holistic perspective with sympathy towards other people is an important point for a new paradigm in education.



– **Minwoong Kim**

Professor of History of Civilizations and World System Theories, Kyung Hee University (Korea)

Online and Hybrid Education

When Massive Open Online Courses (MOOCs) made headlines five years ago, they were received with responses that ranged from glowing acclaim to scathing criticism. Today, online learning is silently and steadily revolutionizing education globally. Comprehensive repositories of information are available online, accessible even from the phone.

Online courses are no longer video recordings of classroom lectures, as **Kathryn Skelton**, Director of Strategy, FutureLearn, UK stresses. Today they consist of interaction, online discussion, assignments, peer learning, college credits. They make transdisciplinary, lifelong learning possible.

A large majority of people today believe that digital learning assistants will be widely used in future,

and though universities will continue to exist, more learning will take place online than offline. Online education comes with its own drawbacks, namely the dependence on gadgets, the negative physical, social and psychological consequences of such a dependence, and the disappearing human relationships.

However, if we are to radically improve the quality of education and make it accessible to all in the shortest time possible, it can only be done through leveraging the potential of online education.

Hybrid education that combines the possibilities that online education offer with the best of the traditional classroom methods is the best bet for a paradigm change in future education.

Education to meet Societal Needs

*Excerpts from the special address of **Peter Senge** (Systems Scientist, Senior Lecturer, MIT Sloan School of Management & Founder of the Society for Organizational Learning, USA) on November 18, 2017.*



Our world is full of interdependent and interconnected networks, and we need to understand the system better to avoid negative outcomes. Educational institutions of the industrial age were built to train factory workers. They were never expected to be the source on innovation.

The Industrial Age is coming to end as we recognize its fundamental disharmony with living systems on a social and ecological level and its disconnect from wider societal needs. We cannot be free of this era without making deep changes in the primary and secondary education. As John Dewey said, education is the fundamental method of social progress and reform.

We must take both an outside looking in and an inside looking out perspective, to see the mismatch between school and reality. The functionalities of the school are individualistically competitive, teacher-centric, curriculum-centric, passive, contextless and focused only on teaching technical skills like basic literacy and numeracy. These defining features of schools are imprints of the industrial age. This is irrelevant to the life of the children and the community they live. It is at odds with the reality and results in disengaged teachers and students. We must also take the standpoint of the society to understand the problems generated by the present system.

To what extent are we satisfied with the models of civilization that we are creating and perpetuating through our education pathways? At no time in human history

are children more aware of the state of the world. They understand the turmoil going on locally and globally. With unstable models of public leadership in the age of profound disruption, kids are faced with the dilemma of going down a path of education that does not fit or equip them to succeed in the emerging society in which they live.

Educational innovators are building new models with project-based, learner-centric, contextual learning that are deeply rooted in the reality of the child's life. They are bringing the focus on the development of the person.

A lot of guidance is needed to steer the process that will come from outside looking in perspective, when schools step up to fulfil the needs of society. Harmonizing the forces for innovation internally with the imperatives for change externally is the key.

The educational model built by the IB network of schools is global and cross-cultural. It has 6000 programs around the world, helping students learn to create the world in which they want to succeed. Primary and secondary school students understand complexity and interconnectedness in global issues like water. IB network teaches to build Compassionate Systems—compassion for the self, other and the larger social system. It integrates social and emotional learning, rooted in mindfulness and awareness.

Technology platforms are really important to democratize education, like the revolution brought by MOOCs of MIT. Technology is an enormous enabler for the innovation needed in education. It can be effectively used to foster learning communities like Teach for all, ULab, J-WEL that bring deep, lasting, ongoing innovation in global education.

The Challenges of Future Education: A Student Perspective



Education should be based on three main pillars, Knowledge, Competency and Values & skills.

Knowledge: Students should be given knowledge of the globalization process, including its benefits and negative effects. They should also have knowledge of human history and philosophy, and internalize the most important and universal human values.

Competency: Students need the capacity for critical thinking—to deal with complex problems, analyze them with an open mind; and reconsider their opinion when shown new evidence. They need the ability to see problems and facts from different points of view. Competency in intercultural communication, and the ability to work in teams and deal with conflicts are vital.

Values and skills: Self-esteem and self-confidence are essential, students should understand the opportunities that arise from challenges. They also need to be shown their social and environmental responsibility.

Here are a few proposals for facilitating higher education to provide students with all the skills and the abilities needed:

Global connections between universities. Student exchange programs, hosting researchers and professors from other parts of the world and introducing students to online learning and MOOCs ensures interchange between different countries and cultures.

Making students work on a project. Students should learn how to work both alone and in a team.

Making sure students have access to cultural anthropology courses. This subject can provide students with the right tools and knowledge to understand cultural relativism: there is no hierarchy between cultures and knowing this is fundamental in order to create a valid cooperation with other countries.

Marco Holsen
Student, Roma Tre University (Italy)

What do Students Need?



As students, we do not feel we are in touch with the most relevant and reliable sources of information that would prepare us for the future social challenges. We do not learn about the complex processes that define our society in a connected and integral way—interlinking economy, politics, history with other social and humanistic sciences. Students of the future need a strongly built wide basis of knowledge before a particular narrow specialization.

Students want to be equipped with the means for economic security and stability, a meaningful space for

expression of one's passions and individual potentials and knowledge about society and about nature that would provide a maximum of physical security.

For all of this we need knowledge and skills that dynamically evolve over time. The new paradigm of education requires stepping out of the current concept of education and realizing that school is a framework that can be made for the purpose of preparing the students for real life challenges. This is where the motivation to go to school should come from.

Marta Nešković
Doctoral Student, Ethnology and Anthropology,
University of Belgrade; WAAS Junior Fellow (Serbia)

Feedback from participants at the Future Education Conference, Rome

I learnt that the challenges facing education in a developing country like Nigeria are actually global. At the conference I learned feasible ideas for making a difference in my classroom.

Kehinde Olojede, Deputy Provost,
Federal College of Education (Nigeria)

The most valuable things about the conference were international participation from lots of countries, multidisciplinary participation from many different fields, and humanistic solutions.

Elif Çepni, Head, Nisantasi International,
Nisantasi University; Partner, Foresight Consult;
WAAS Associate Fellow (Turkey)

The most valuable things were the international representation and the expertise of the speakers and the participants. The thematics and the subjects discussed were really relevant, many new questions were raised, and new ideas discussed.

Marion Voillot
Student, Paris Descartes University (France)

The most valuable things about the conference were excellent presentations, meeting young students, and discussion with some of the most brilliant minds in the world.

Yehuda Kahane, Professor Emeritus,
Tel Aviv University; Chairman & Founder, YK Center;
WAAS Fellow (Israel)

Feedback from Kyung Hee University Students

Kyung Hee University, Seoul, is a collaborator partner institution of WUC and WAAS and co-organizer of the Rome Conference. KHU's President Inwon Choue, a recently elected WAAS Fellow, sent two deans and 23 students of the university to Rome and organized a special plenary session on "Higher Learning for Tomorrow: Challenges Ahead". Prior to the conference, KHU students surveyed hundreds of their classmates to identify core issues of concern regarding the future of education and met as a group several times to discuss and prepare recommendations. In Rome they interacted with student representatives of Roma Tre University, speakers and other participants and presented their views in plenary and parallel sessions. The following is an assessment of their experience at the conference prepared by the KHU students following their return to Seoul after the conference.



'Discuss future education in Rome, the city of millennium history'. This sole sentence on recruiting poster for Rome Conference was really critical for us, KHU student representatives, as it was our first step to Rome. We have been standing together, sharing serious issues of the current education system and discussing solutions. So, we would like to thank you first, for giving us the honor to quench our thirst for seeking new education paradigm with world-renowned scholars, especially in the beautiful city, Rome.

We have studied and participated in a lot of events about future education for last three months. We not only did whole school survey, but also did heated discussion surrounding various issues related to this topic—such as the cause, side effects and solutions. Based on those activities, we participated in the conference in Rome with three goals. Firstly, to listen to renowned scholars' discourse on issue of future education. Secondly, to share our study and contemplation with scholars and students of Roma Tre University (RTU). Thirdly, to find better solutions through our experience.

Rome conference was an amazing event to KHU students. We had opportunities to have a personal relationship with the world's erudite scholars: listening from them, delivering students' thoughts and discussing future of higher education.

While communicating with them, we saw a bright future for higher education. We spoke about the topics which had been discussed before coming to the Rome since we felt that education system would not be changed only by students' efforts. At the Rome, we had a chance to meet scholars who have been trying for positive change in the

education system. They delivered a speech about the problems of education system, addressed the solution. Most of speeches were very realistic and enough to give students more reasons to put much efforts for education in the rapidly changing world. And we found that some of the scholars exactly know what is the main problem of education system, and the cause of conflict between young and old generation. It was an unforgettable memory. We are certain that our generation will overcome difficulties that we are facing. The various sessions helped student to find out the main topic of the education: person-centered education, creativity, transformational leadership, value-based education, transdisciplinary education, and etc. After the conference, we are making actions to achieve those values, which were expressed at the conference.

After the Rome conference, we, the students of KHU were able to deepen and intensify the concerns and questions we had on education. We started to think about what we could do in practice for the enhancement of the future's paradigm of education. We are in the process of writing a proposal that is comprised of feasible alternatives for future education. Also, at an influential debate, we have presented our own opinions on how education reform should take place. We are also planning to directly deliver to the president of our university a holistic review of our deep insights and consciousness in education, along with a feasible direction and alternative for future education. We would like to sincerely express our gratitude to WAAS, for giving us such an opportunity to expand our insights on education. We too hope that one day, the education system will be completely free from its current concerns once and for all. We will continue to strive for the improvement of education with all our might.

Preparing for Life in the 21st Century

In order to be prepared for life in the 21st century, we need the following changes in our education.

- We need to help students and professors understand the times we live in and the challenges we are facing, as well as the skills and values that we need to address them within the educational system.
- We need to teach new generations to live together, to understand the existing differences between societies around the globe and embrace them.
- Different scientific disciplines must be seen as complementary and interrelated, allowing the development of a transdisciplinary approach to social problems.
- Students need to learn media and information literacy, so they can develop the ability to differentiate important from unimportant information.
- The educational system has to be revised constantly to keep in tune with societal changes.

- Higher education programs need to provide working experience during the bachelor studies. Students need flexibility in choosing their classes.
- Creativity needs to be encouraged by reforming the evaluation system and by changing the notion of time and space of education; Learning should be seen as the way of living, and not limited by hours spent at the university.
- We need an education that will take us out of the “consumerist and conformist” era. Youngsters must feel their social and environmental responsibility in the world.



Ivana Lazarovski

**Masters Student, Sapienza University, Rome;
WAAS Junior Fellow (Serbia)**

Report of the WAAS-WUC Students' Survey



WAAS-WUC conducted a survey of students in an attempt to assess their view of the effectiveness of the current education system and to identify issues that need to be addressed before the Rome Conference. Seventy-four students from various education

backgrounds (high school to PhD), different ages (17-61) and diverse parts of the world (South Korea, Europe, Middle East, USA) shared their views, and proposed common topics of exploration and implementation in the future education program. The following is a list of changes proposed by the students:

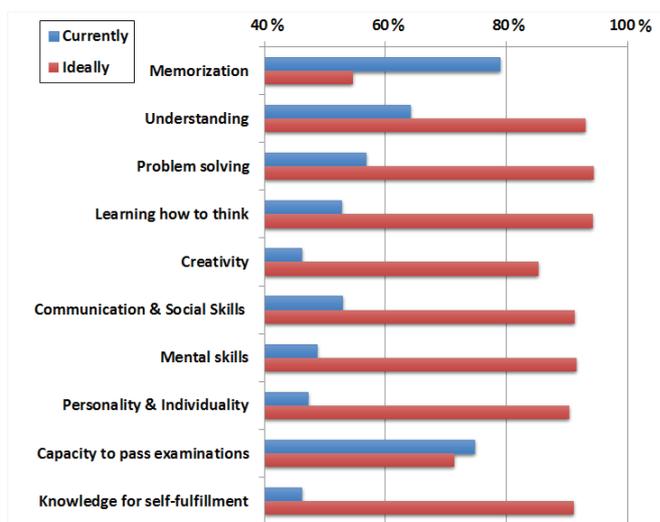
Real-life knowledge: Practical knowledge should be taught in schools (e.g. handling taxes, finances, cash flow, writing CVs), students should be able to apply what they have learnt in practice.

Job-market knowledge: Students need a clear idea of the future of the job market and the rapidly changing society. They should be taught to develop visions of new jobs.

Development of individuality: Individuals must be enabled to discover and develop true passions and creativity. “One way” lecturing should give way to more open, critical, genuine debates.

Mental well-being: Education should foster in students the mental skills and tools (mindfulness/meditation) that promote self-love, self-acceptance, and socio-emotional well-being.

Physical training + Self-care: Physical education should become a priority for students to feel healthy, strong & confident. Self-care skills from nutrition to sleep are needed for activating optimal cognitive functioning.



Empowerment of women: No more gender discrimination with ‘male’ typical subjects. We need more female leaders, so women can share their voices in all fields, and young girls have role models.

Re-building grading system and exams: Grades do not and should not be used to define individuals’ capabilities. The purpose of exams should be to spark individual creativity, promote deep insight and applicability.

Universal Accessibility: Reduce costs of higher education. Accessibility to higher education should be a basic human right.

Freedom & motivation for teachers/professors: Educators need freedom to teach in their own way, a way in which they can stay motivated and true to themselves.

Sara Isaković

Olympic Silver Medalist (Slovenia); Performance Director, Fitsmind; WAAS Junior Fellow (Norway)