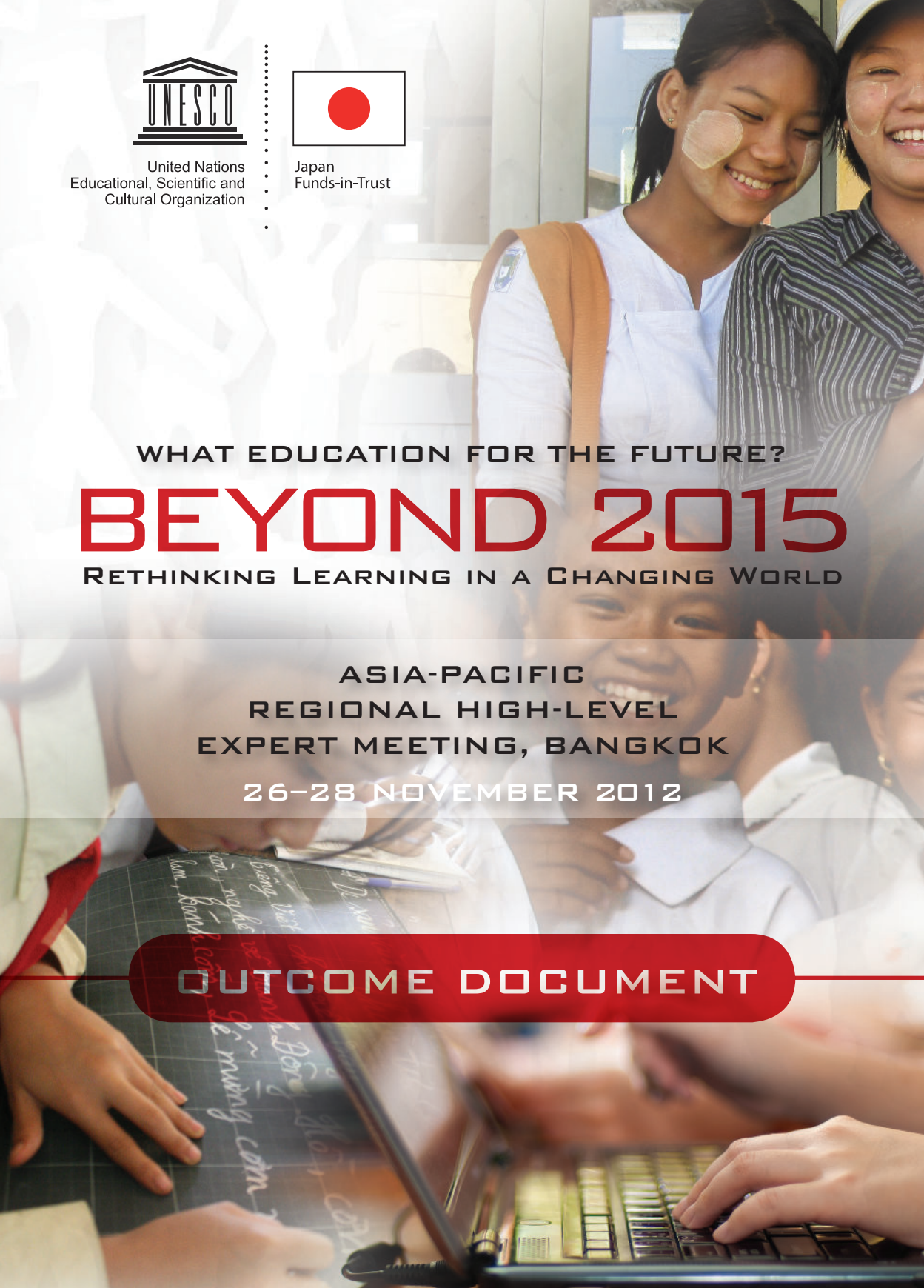

United Nations
Educational, Scientific and
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WHAT EDUCATION FOR THE FUTURE?

BEYOND 2015

RETHINKING LEARNING IN A CHANGING WORLD

ASIA-PACIFIC
REGIONAL HIGH-LEVEL
EXPERT MEETING, BANGKOK

26–28 NOVEMBER 2012

OUTCOME DOCUMENT

Executive Summary

This regional high level expert meeting, held from 26 – 28 November 2012 in Bangkok, was organized by UNESCO Bangkok with support from the Japanese Ministry of Education, Culture, Sports, Science and Technology. It was the second regional high-level expert meeting organized by UNESCO Bangkok within the framework of UNESCO's ongoing work on stimulating reflections around a new vision of education and the development of a post-2015 education agenda and built on the findings of the previous meeting.

Considering the renewed concern for quality of education and a growing recognition that effective and relevant learning for all should be one of the areas of emphasis in shaping future education goals and strategies, the meeting brought together experts from diverse areas such as education, neuroscience, learning sciences, economics and technology.

Some 60 officials and renowned experts representing national institutions, research institutes and international organizations engaged in a multi-disciplinary dialogue on learning, looking beyond the traditional confines of education and training and aimed at answering the ultimate question: 'How can people learn better and continue to learn in a changing world?'

The main messages from the meeting are:

1. **Deep societal and economic transformations have impacted education requirements.** Consequently, education systems are called upon to equip young people not only with traditional knowledge and skills, but increasingly with competencies and attitudes required to function in rapidly changing societies and labour markets. This implies that **education for the future should go beyond academic achievements and cognitive skills to value 'non-cognitive' [1] and application skills and competencies** such as critical thinking, problem solving, collaboration, communication and technological literacy **as well as education for social cohesion**. More attention needs to be given to the definition and assessment of such skills.

2. In this vein**, lifelong learning,** as a key principle of education, gains renewed focus due to rapid economic, demographic and environmental changes which require learners to continue to explore and master entirely new skills throughout life. Lifelong learning is further supported by technological change, strengthening the concept of **learning occurring in multiple settings and at any time**. This, however, does not diminish the key role and mission of schools to support learning**.** Education systems will have to reflect on how to best to harness and integrate informal learning that takes place outside the classroom.

3. There is a need to re-emphasize **the centrality of quality learning** including learning processes, learning environments and learning outcomes in the discourse of education and in shaping the post-2015 education agenda.

[1] There is an ongoing debate around the term 'non-cognitive skills'. Alternative terms have been suggested, including '21st century skills', 'non-academic skills', 'higher-order skills' and 'transferable skills'. In the absence of an agreement on a different term, 'non-cognitive skills' will be used in this document to refer to skills that are non-academic and might include respect for diversity, personal skills, creative thinking, entrepreneurship and global/responsible citizenship skills.

4. New insights from **neuroscience and the emerging interdisciplinary 'science of learning' carry many opportunities** with implications for learning which can be harnessed to inform pedagogy and education policy and practices. However, these research findings should be used with caution and as indications or suggestions only for potential applications in classrooms and schools, also taking into account local context and the diversity of learners.

5. **Early learning is crucial as it has a significant impact on future life outcomes.** On the other hand, findings from neuroscience indicate that there are no 'critical periods' when learning must take place but rather 'sensitive periods' as well as the brain's neuroplasticity, i.e. its capacity to change in response to external demands and thus its potential for learning throughout life. While recognizing the importance of early childhood care and education (ECCE) as yielding significant rates of return, there should be no tradeoffs as regards investing in all levels of education, including higher education.

6. **Information and Communication Technologies (ICTs) not only provide new avenues for pedagogical approaches and learning** but can also change the nature of learning**.** However, ICTs by themselves in a classroom will not improve learning – they need to be embedded in a quality teaching-learning process to become effective enablers of learning. Similarly, there should be no stand-alone policy for ICTs, but rather integrated policies for education in which ICT is an integral component.

7. **Quality learning requires quality teaching**, therefore a highly professionalized teaching force, supported by effective learning environments, remains key to improved learning. Countries need to build and sustain the necessary institutional and professional arrangements for teachers for learning to happen.

8. **Learning is culturally situated** and thus**,** the way learning is taking place in certain social/cultural contexts needs to be considered in education policy and practice. Understanding better how social/cultural factors influence learning could help to address learning disparities in the region.

The meeting recommended the following actions and next steps:

Research on key areas identified during the meeting should be undertaken, including on diverse cultural understandings of learning in Asia and implications on learning processes and outcomes; non-cognitive skills; learning sciences, neuroscience and implications on pedagogical approaches; and on ICTs in education policies.

The meeting highlighted the following **considerations for the post-2015 agenda**: Quality learning should be a key area of emphasis; lifelong learning should be a key principle; there should be a global agenda for education post-2015, relevant to all countries while target-setting and implementation processes should be context-specific.

The outcomes of the meeting provide important regional perspectives on ways in which a **new vision of learning** may be developed within the current policy discourse on education for the future. Its findings will be made available to UNESCO Member States and a wide array of stakeholders and will also **feed into the regional and global discussions on education in the post-2015 development agenda**. UNESCO will further strengthen its role as a **knowledge broker** and **clearinghouse** as well as **catalyst to academic cooperation** around the forging of a vision for education for the future and in shaping the post-2015 education agenda.

PURPOSE OF THE DOCUMENT

This document summarizes the key points of the discussions and findings of the high-level expert meeting, 'Beyond 2015 – Rethinking learning in a changing world'. It captures the thinking of participants on what may be required to ensure effective learning in the future (including the four pillars of learning to know, learning to do, learning to be and learning to live together), to better prepare learners for a changing world, and to build stronger evidence on learning. This document will be disseminated to UNESCO Member States, key development partners, civil society organizations (CSOs) and the wider public for their consideration in the various consultations on the place of education in the post-2015 development agenda. More widely, its outcomes provide food for thought and point to ways in which a new vision of learning may be developed within the current policy discourse on education for the future. The recommendations of this meeting will also feed into the regional and global discussions on education in the post-2015 development agenda.

SUMMARY OF THE MEETING

This meeting, held from 26 – 28 November 2012 in Bangkok, was organized by UNESCO Bangkok with support from the Japanese Ministry of Education, Culture, Sports, Science and Technology. It was the second regional high-level expert meeting organized by UNESCO Bangkok within the framework of UNESCO's ongoing work toward stimulating reflections around a new vision of education and the development of a post-2015 education agenda. It built on the findings of the previous high-level expert meeting[2], which identified learning as a core focus in shaping future education goals and strategies.

The meeting brought together some 60 high-level experts from diverse areas such as education, neuroscience, learning sciences, economics and technology to engage in a multi-disciplinary dialogue on learning in school and beyond with the ultimate aim of answering the question: 'How can people learn better and continue to learn in a changing world?'

More specifically, the meeting explored cutting-edge findings from research about learning that have emerged from a variety of disciplines. There was discussion of an integrative, interdisciplinary science of learning that integrates knowledge across disciplines, including neuroscience and other disciplines not usually included in conventional conceptions of 'learning sciences'. It examined the role of ICTs in education as a means to support learning and how to best harness the great potential of ICTs in education for the future. It debated learning

[2] The meeting was held in May 2012 in Bangkok, Thailand. Details can be found at http://www.unescobkk.org/education/new-vision-education/new-vision-education-erf/

outcomes and requirements for the future from individual, social and economic perspectives, and looked at implications of recent findings for education policy and practice. It discussed how new insights can be applied in the Asia and Pacific region taking into consideration its great diversity, cultural specificities and understandings of the purposes of learning. It further shared concrete examples on possible responses to new requirements based on country presentations from the region. It discussed lifewide and lifelong learning, and documented learning taking place beyond the classroom. It developed recommendations on what may be required to build effective learning systems in a changing world and what further research might be required to advance knowledge in this area.

SYNTHESIS OF FINDINGS

1. Education and economic development

Speakers at the meeting discussed the correlation between education and economic growth, with the example of the Republic of Korea presented. Such correlation has also been demonstrated in empirical studies providing robust evidence that it is the quality of learning and not merely duration of schooling which contributes to economic growth. Taking the discussion one step further, studies confirm the importance of both cognitive and non-cognitve skills and competencies for economic development.

Another issue that was discussed related to the implications of greater societal transformation and integration of economies and labour markets on education and training. In light of these changes, it was considered that training for pre-established job-profiles and specific job markets was no longer possible due to today's rapidly changing market requirements. Thus, the question was how education could play a proactive role in shaping the future by developing the necessary knowledge, skills and competencies for rapidly changing labour markets and creating new profiles which will spur new economic sectors in a knowledge-based economy.

The basis for preparing young people to become lifelong learners and to be able to adapt to changing realities has to be constructed in the early years of life. However, while recognizing the importance of ECCE as yielding significant rates of return, the meeting also argued that while investing in ECCE, there should be no tradeoffs as regards investing in all levels of education, including higher education, as each level builds upon the previous and all are required to strengthen the social and economic well-being of a society.

2. What knowledge, competencies and skills for the future?

Given the above, the meeting emphasized that education systems for the future must equip young people with the skills required to adapt to fast changing societies and labour markets

and, ultimately, to an ever-changing world. Learners should be trained to be innovative, able to assimilate change and to continue learning. Young people require a new set of skills to be competent in a connected and constantly changing world which include critical thinking, problem solving, collaboration, communication and technological literacy. A new and broadened conceptualization of learning is required and education for the future has to go beyond academic achievements and cognitive skills to include non-cognitive and application skills and competencies, as well as education for social cohesion.

A set of skills and competencies, commonly referred to as "21st Century Skills", has been receiving increasing attention in the design of curriculum as well as intended learning outcomes and their assessment. The meeting stressed that future curricula should go beyond focusing on traditional forms of knowledge; they should encompass a wider range of learning domains. The new Australian Curriculum is an example of how this can be done through an integration of multiple learning areas, including traditional subject areas (e.g., math, languages, sciences, etc.), general capabilities (e.g., ICT competence and critical and creative thinking) and cross-curriculum priorities (e.g., sustainability). This cross-domain curriculum design sets out the core knowledge, skills, attitudes, values and ethics considered important for all Australian students' future learning, growth and active participation in the community. This new curriculum is coupled with a flexible approach for its use by the teacher. The move toward a more comprehensive understanding of learning outcomes, comprising knowledge, ethics and physical fullfilment can be seen in East Asian countries (e.g. Japan, Republic of Korea and People's Republic of China).

Possible approaches to ensure high-performing education systems for the future were suggested which include, among others, a holistic approach to human learning combining cognitive skills development with non-cognitive and social skills, innovative and adaptive pedagogies, linking formal with non-formal learning and a systemic culture oriented towards success and achievement instead of selection and failure.

3. Creating an ecosystem of learning

While societies and economies have undergone profound transformations, education systems have been slow to adapt to the new requirements of the knowledge-based societies. The meeting discussed the need for education systems to adapt to new socio-economic conditions, taking into consideration the very diverse contexts that exist within the Asia-Pacific region. At present, education systems generally do not appear to adaquately keep pace with the changing requirements of rapidily evolving labour markets. While the social function of education will remain relevant in the future, it was argued that the centrality of educational institutions should be reaffirmed as part of a broader ecosystem for learning. As a result, one important

policy consideration was the further development of an infrastucture for learning and in particular where such infrastructures do not currently exist, which includes other types of and pathways for learning.

4. Towards lifelong learning systems

Learning can occur in any space and at any time and is not confined to educational institutions as 'transmitters' of knowledge. Student learning outcomes can be developed in many different ways and increasingly research shows how informal learning can play an important role in contributing to those outcomes. Learning outside school matters for learning inside school. Schools do not become redundant in this context, but they have the responsibility to consolidate and harness informal learning that takes place outside the classroom, bridging the gap between the school curriculum and informal learning that is facilitated by student-parent or student-student interaction.

Based on the increased recognition of learning ocurring in multiple settings, there is a move towards developing an open, holistic learning system that is society-centered and built upon the concept of life-wide learning. This is particularly well aligned with the lifelong learning framework, which emphasizes the integration of learning and living.

The importance of lifelong learning as an approach to education was emphasized throughout the meeting. While this idea is not new, the meeting pointed out that the renewed interest in 'learning across the lifespan in different contexts' is based on the changes in the economic, demographic and environmental landscapes which have significant implications for what kind of education and learning is required for the future. A key challenge to the lifelong learning concept is to operationalize it at both the level of policy and practice. Operationalizing the concept of lifelong learning would require a sector-wide education reform as well as the creation of learning opportunities in all settings or modalities (formal, non-formal and informal) for people of all ages (infants, children, adolescents and adults). In addition, the lifelong learning concept raises the issue of how skills and learning outcomes are defined, assessed and validated. This requiresa concerted effort from ministries of education, civil society organizations (CSOs), employers, business and communities.

5. Learning as the core focus of education

The meeting re-emphasized the centrality of quality learning including learning processes, learning environments and learning outcomes in the discourse of education and in shaping the post-2015 education agenda. While a focus on learning is not new in the world of education, the recent interest of the international development community is based on the recognition

that the traditional focus on the provision of education and training has tended to neglect the results of education in terms of effective and relevant learning. Learning requires rich support systems, including a highly professionalized teaching profession and countries need to build and sustain the effective institutional and professional arrangements for learning to happen. Recognizing that the world is increasingly interconnected, complex and unpredictable, participants argued that a new 'renaissance' of education is best fostered at the crossroads of various disciplines – thus the importance of bringing together diverse approaches and creating links between them. One key aspect for education is the creation of innovative minds. If the future can no longer be easily predicted, it is paramount to develop innovative and curious minds and build the confidence to explore entirely new skills. In this view, creativity and discovery skills, which include questioning skills, observing skills, experimenting skills and the ability to connect and associate problems and ideas were considered key.

6. New insight on the how and when of learning – educational neurosciences

There is an increasing body of knowledge on how people learn, on factors which may affect it such as sleep and nutrition, social-cultural foundations as well as on the time dimensions of learning (timing and sequence). Findings from neuroscience demonstrate that the development of each individual's brain occurs at their own pace but there are sensitive periods when, if the environment is right, particular skills and capabilities emerge. Understanding when these periods are likely to occur can help us to intentionally and strategically support child development, particularly in the early years. The "neuroplasticity" of the brain also means that it is constantly changing in response to experiences and stimuli (or the deprivation of such), emphasising the potential for continuous and lifelong learning. The meeting suggested that evidence from biology, neuroscience and cognitive sciences can inform policy and practice, yet it warned that these research findings can often only offer indications and suggestions. Participants underlined the need to be aware of the quality and relevance of evidence and apply it cautiously, taking into account local context and the dangers of 'neuromyths'. At the same time, this emerging field carries many opportunities with strong implications for learning. The need for greater exchanges and connections regarding learning between different disciplines such as biology, neurosocience, behavioral and cognitives sciences, social sciences and education was pointed out. In addition, another important challenge is the building of a greater dialogue and coordination between policymakers in different ministries, practitioners, learning scientists, business and civil society in order to ensure a successful application of research findings in this field to education and to make sure that the students' learning needs are met.

While participants at the meeting strongly pointed out that early learning is crucial as it has a significant impact on long-term life outcomes, findings from neuroscience show that the brain has the capacity to continue learning in response to changes and demands throughout life. There are various 'sensitive periods' when a person is particularly receptive to engage in specific learning activities, rather than only one 'critical period' in which learning must take place.[3] Indeed, 'neuroplasticity' implies that the brain has tremedous potential for lifelong learning, with key implications for policymakers and practitioners. It underlines that provisions must be made for learning opportunities throughout life, regardless of age.

7. ICTs and learning

With the exponential growth in new information and communication technologies (ICTs), sources of information have greatly diversified, knowledge has become easily accessible, and digital media have come to greatly facilitate communication. ICTs have also impacted the way people learn and have opened new avenues for pedagogical approaches and learning beyond traditional education channels. In some societies, students can adopt hybrid learning models with learning inside school, at home and elsewhere with the use of mobile technologies such as smartphones and tablet computers. At the same time, the potential of newer ICTs has yet to be fully investigated and used in education systems. The meeting pointed out that ICTs should be considered as a means, widening the scope of opportunities to strengthen learning when used appropriately, but should be embedded in a quality teaching-learning process. It was also pointed out that ICTs, while having a great potential for fostering learning, are relatively cost intensive and are not value neutral. More technology in the classroom will not lead to better learning in and of itself. In other words – ICTs are not replacing teaching, they are facilitating it and can enhance learning. In this vein, the meeting recommended that there should be no standalone policy for ICTs, but rather integrated policies for education in which the appropriate use of ICT plays an important part.

The meeting further recommended that the use of ICTs should be appropriate and relevant to the local context. Countries with more developed mobile broadband penetration can better harness the potential of ICTs for active learning such as mobile learning beyond the classoom while less developed countries need to ensure that an investment in ICTs is based on their contextual requirements and feasibility. Moreover, the meeting pointed out that, depending on the context and the development of the ICT infrastructure, ICTs for learning are concerned about not only "high-technology" (e.g. broadband Internet access and smart mobile devices)

[3] OECD. 2007. Understanding the brain: The birth of a learning science. Paris: Centre for Educational Research and Innovation, OECD.

but also "low-technology" (e.g., short messenging service (SMS),educational TV programmes and Video Compact Discs (VCDs)).

Mobile learning was discussed as another important means which can both facilitate and extends the reach of teaching and learning. Countries may acknowledge mobile learning opportunities for development in their strategy documents and implement concrete strategic mobile learning measures, based on their specific national contexts.

Overall, the question remained: how can we best harness the potential of ICTs to create a new culture of learning beyond the traditional role of ICTs to enhance equal access to education and learning and what sort of policy implications for education systems should this entail?

8. The role of the teacher

Rethinking learning also means rethinking teaching. Teachers must continue to evolve from 'transmitters of knowledge' to 'enablers of learning'. At the same time, the central role of teachers in the learning process cannot be overstated and the increasing importance placed of technology in education must not overshadow the critical role of teachers. In this view, the meeting underlined the key role of teachers, and highlighted the fact that effective learning can only take place when guided and supported by quality teaching. Given their key importance, all efforts should be undertaken to aim for the development of highly professionalized teachers through high-quality pre- and in-service training and professional motivation. Policies to attract and retain high quality teachers are also needed, along with mechanisms to strengthen accountability of teachers and school administrators to improve school-based management. Information and communication technologies (ICTs) must also be integrated into teacher training and into classrooms.

In addition to teachers, other stakeholders, such as employers, play an important role in facilitating learning and the workplace needs to be considered as a space for learning as well. In several countries in the region, that are significant labour shortages for jobs that are in demand by employers. Therefore, there is an obvious need to involve employers in promoting access and quality of what is taught and to equip youth and adults with the skills in demand.

9. Impact of shadow education

The meeting also addressed the far-reaching role and impact of the 'shadow education' system of private supplementary tutoring. Policymakers in the Republic of Korea, for example, have long been conscious that much learning related to formal education systems takes place in tutorial centres and similar institutions that parallel formal schooling. Shadow education is also increasingly visible in other parts of the region. On the one hand private supplementary

tutoring provides opportunities and contexts for young people to expand their learning, particularly in academic domains, but on the other hand, it can create excessive pressures and imbalances in individual and social development.

10. Culture and learning in the Asia-Pacific region

The Asia-Pacific region is complex and diverse in terms of population, traditions, languages and socio-economic development. Participants at the meeting agreed that it is important to promote more than one approach to learning. Indeed, the different cultural contexts and understandings of learning should be taken into consideration to better fit the specific educational needs of countries when designing education and learning for the future.

A key observation during the meeting was that learning is culturally situated, and thus the way learning takes place in specific cultural context needs to be considered in education policy and practice. When considering why students in East Asia do so well in international assessments, for instance, it is important to understand the culture in which learning is produced. Taking the 'Chinese learner' as an example, the fundamental purpose for learning was described as "perfecting oneself morally and socially"[4]. In sum, learning in Confucian societies is commonly characterized by: attention, effort, practice, extrinsic motivation, and achievement motivation linked to family.

Three examples gave some insights to different learning approaches in East Asia: the Japanese principle of 'Zest for Life', a concept which integrates solid academic prowess, humanity, health and fitness in the learning process; the traditional Chinese perspective which attaches importance to the five dimension of wellness (moral, intellectual, physical, social and aesthetic); and the Korean interpretation of 21st century skills including the ability to embrace diverse thoughts and innovation; creativity; problem solving skills; responsible citizenship and morality.

The meeting concluded that the sharing of different approaches, accomplishments and challenges in the design of learning for the future by different societies can facilitate the development of appropriate and relevant learning/education policies.

RECOMMENDATIONS FOR FOLLOW-UP ACTION AND NEXT STEPS

1. Avenues for research

The meeting emphasized the need for the education sector to increase investment in research to support evidence-based policy making and practice. In particular, considering that different

[4] e.g. Chan & Rao http://www.fe.hku.hk/cerc/Publications/CERC-25.htm.

disciplines can inform a deeper understanding of learning from various perspectives, the meeting recommended that interdisciplinary research and comparative studies on learning should be encouraged.

Possible areas of research to be undertaken as a follow-up to the meeting include:

- The diverse cultural understandings of learning in various Asian societies and implications on learning processes and learning outcomes;

- The way in which non-cognitive skills are defined, promoted, and measured in diverse educational systems through curriculum design, teacher training, school management and assessment frameworks;

- Neuroscience and learning: biological and brain basis of learning; neuroplasticity and its implications for learning across the life-span;

- Implications of findings from learning sciences for pedagogical approaches;

- ICTs in education policies and strategies, the way in which curriculum design and teacher training are embedding the use of ICTs, as well as the potential tradeoffs that this might represent.

2. Considerations for the post-2015 education agenda

Based on the discussions held, the meeting recommended the following areas to be taken into consideration for the development of the post-2015 education agenda:

Quality learning should be a key area of emphasis in the post-2015 agenda and embrace both learning processes and learning outcomes. The agenda should also reflect the importance of cognitive skills, non-cognitve skills, learning to live together, and learning to live in a sustainable world. The agenda should go beyond universal primary education and include all other levels of education including technical and vocational education and training (TVET), and higher education.

There is need for a global agenda for education post-2015 which is relevant to all countries while target-setting and implementation processes should be context-specific. In particular, cultural contexts should be taken into consideration for the Asia-Pacific region.

Global partnerships for learning and education among different stakeholders such as governments, NGOs, business, individuals and societies should be promoted in the agenda. There is a need for greater exchange and connections regarding learning between different

disciplines and strengthened dialogue and coordination among researchers, policymakers and practitioners to ensure a successful application of research findings.

Lifelong learning should be a key principle. The agenda should reflect the need for concerted efforts of different stakeholders to define lifelong learning policies and modalities for implementation in response to changes in the economic, labour market, demographic and environmental landscape.

3. Next Steps

The outcomes of the meeting provide important regional perspectives and views on how a new vision of learning may be developed within the current policy discourse on education for the future. Its findings will be made available to UNESCO Member States and a wide array of stakeholders.

The recommendations of this meeting will also feed into the regional and global discussions on education in the post-2015 development agenda such as in the 'Asia-Pacific Regional Thematic Consultation on Education in the Post- 2015 Development Agenda' to be held in Bangkok on 28 February and 1 March 2013, the 'Global Thematic Consultation on Education in the Post-2015 Development Agenda' which is planned to take place in March 2013 in Dakar, Senegal and in the ESCAP Regional Post-2015 Report. Ultimately, it will feed into the global UN report on the post-2015 development agenda.

As a follow-up to this meeting, further dialogues are planned around the key issues which emerged during the discussions as well as in areas of focus to UNESCO, bringing together government officials and experts in education, sciences and culture for devising multidisciplinary approaches to tackling future development challenges. A regional conference of ministers of education addressing the future of education development and cooperation is also planned.

4. UNESCO's role

UNESCO will further strengthen its functions as a knowledge broker and clearinghouse as well as catalyst to academic cooperation around the forging of a vision for education for the future and in shaping the post-2015 education agenda.