Welcome Remarks at Opening Ceremony, ICT-BASED LESSONS AND MATERIALS DEVELOPMENT WORKSHOP (STRENGTHENING ICT IN SCHOOLS AND SCHOOLNET PROJECT IN ASEAN SETTING)
St. John's Group of Institutions, Vipavadee Rangsit Road, Bangkok 1090019-23 July 2004, Bangkok, Thailand
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Mr. Chainarong Monthienvichienchai, Vice Chancellor, Saint John's niversity,
Distinguished Guests,
Participants, Friends, Colleagues and
Ladies and Gentlemen,

It is my great pleasure and honor,
on behalf of Mr. Sheldon Shaeffer, Director of UNESCO Asia and Pacific Regional Bureau for Education, UNESCO Bangkok, the Japanese Government and of my own, Manager of ICT in Education Team in UNESCO Bangkok, to welcome all of you to the present Workshop on 'ICT-based lessons and Materials Development (Strengthening ICT in Schools and SchoolNet Project in ASEAN Setting).'

As you know well the present Project is approved by the Japanese Government and UNESCO HQs as one of the key projects, which should consider the networking capabilities aside from the teaching learning in ASEAN Countries, which is surely expected to be one of the major trends in terms of ICT and its related technologies, or ICTs, and develop its model taking an example of ASEAN countries into account,

aiming at

(1) contributing to Bridging and Tapping the 'digital divide' and
(2) promoting 'digital inclusion.'

Under this general framework of the JFIT_ICT Programme, I understand that the objectives of present Workshop are:

1. **To develop a framework for systematic integration of ICT into science, mathematics and language curriculum**
2. **To develop interactive ICT-based lessons in science, maths, and language in secondary level for use in pilot testing the ICT integration in the pilot schools of the CLMV countries**
3. **To develop knowledge and skills of teachers in the techniques and strategies for developing interactive ICT-based lessons and materials based on high order thinking skills**

As to the objectives upstated, the 'integration' of ICT into the respective subject matter curriculum in the 1st objective, 'interactive' lesson plans in the 2nd objective, and development of knowledge and skills pursuing the 'higher order thinking skills' are all exactly the key-words when we consider about the development of ICT and its related materials.

In addition, as you might have more information from resource persons, in responding to the current trends of education, all of these three key-words will be considered with the concept of community, family and lifelong learning.

Ladies and gentlemen, to be frank, I am the first pioneer to introduce ICT into science education in this region. Yes, it is me that wrote in 1981 one article titled "Improvement of Science and Mathematics Education with the Use of Computer Assisted Instruction(CAI) System," in the Journal of Science and Mathematics Education in Southeast Asia, Vol. IV, No. 1.

Since then, strictly speaking, nothing has been changed in the field of ICT utilization in the school science curriculum. Cases in mathematics and language are the same in terms of Pedagogy embedded explicitly and/or implicitly in the software. Top priorities of the software evaluation criteria are in roughly speaking (1) how many foreseen/expected answers are prepares responding to each learner, and (2) how many divergent thinking be allowed to each learner. These are completely depending on the database designed and prepared, consisting from different types of learning style, record of learning history, learner's daily achievement records, etc.

It has been said that it is mainly due to the limited functions with high cost and low speed of microcomputers and the less capabilities of displays, when considered and compared to the factors affected to the effective and optimum learning and teaching, or simply due to the complexity of education phenomena, which is formed by the integration of and interaction between (1) the variety of characteristics of each learners, (2) those of teachers, (3) those of contents, derived from and directly related to (4) the specification of the teaching learning objectives.

But, ladies and gentlemen, all of these problems seem to have been solved; the spec of the personal computers are almost saturated with remarkable functions of multimedia technologies and the Internet with higher performance and low-cost; namely multimedia technologies enables us to experience the situation as if we were living in the real time world of phenomena or the Virtual Reality without no critical time delay, using our four major symbol systems such as (1) characters/texts, (2) moving images, (3) still images including graphics, and (4) sound images, all of which we in daily life use to solve the problems in principle. You can easily imagine the progress of ROBOTICS technologies, it is exactly the real time simulation designed to respond to these humane symbol system and the tele-communication technologies represented by wireless and control/sensor technology.

The word in the title of present workshop 'ICT-based lessons and materials' means that 'lessons and materials, which are highly considered and designed in order to reflect and utilize the outstanding features of ICT and its related technologies.

This may bring us tough tasks to be solved.

Aside from understanding the current technologies represented by both
(1) the Internet with variety of databases and (2) the microprocessor with ubiquitous- oriented trends and perspectives, namely ubiquitous networking environment, which connect all the home-use appliances, including TV- and camera -embedded mobile phones, you have to consider the trends of education curriculum which include (1) educational objectives, (2) contents and (3) pedagogy;

(1) educational objectives have been changed from (a) those developed by teachers to those by learners, and specific to general or even open when teacher have to develop for his/her lesson plan, (b) low-level cognitive objectives to higher order cognitive ones and rather (c) cognitive domain to affective and psychomotor domains, while (2) contents changed from (a) subject oriented ones to integrated areas consisting from several existing subjects, which lead us to consider the closer communication with community people and collaboration with others.

With regard to the (3) Pedagogy, errorful learning will easily come up to our mind as one of its examples, since the most important feature of current ICTs is marked as its stronger interactivity, which means ICT and its related technologies are designed to immediately respond to the user's sensitivity.

Aside from this errorful learning, you may try to include such mechanism as mastery learning, discovery learning, guided discovery learning, self-discovery learning, meaningful learning, situated learning learning based on social constructivism, whatever you call it, as learning strategies, while as to the teaching strategies you may design to include explicitly or implicitly plenary, group, individual, explanation, experiment, discussion, debate, higher-order/open-ended questioning, simple question and answer and quiz as well.

Regarding the learner's point of view, this is one of the issues in terms of Paradigm shift in education, to tell the truth, those who have much more advantage in understanding events through static characters and still images will enjoy themselves in reading the brochure in your Workshop packet before you, while those who are good at understanding with the small display may explore WebPages at UNESCO Bangkok for example.

As we all know well, one of the fundamental aspects when we talk about Education and media including ICTs is this interaction called ATI, Aptitude, Treatment Interaction, in terms of micro level consideration.

In this regard you may prepare several kinds of resource materials to realize the concept of ATI in your ICT-based lesson plan/software and materials as well.

With regard to the creation of a model, as we all know well that this Region, the Asia and the Pacific Region, is a vast one, living here over three billion people, or containing almost 60 per cent of the world's population, and only 28 per cent of the world's wealth. It is the largest of the UNESCO regions in terms of both geographic size and population, and includes two countries, each with a population in excess of one billion people, as well as many small nation states. Countries of the region differ greatly in ethnicity, social characteristics and the extent of their recent economic development, with striking differences between rich and poor countries, and between rural and urban areas.

In addition, as all of us are aware that family- and community- based society, which contain tangible and intangible treasure for education and human sustainable development, is another dominant feature in this region, which is completely different from western culture and society, even though among younger generations in this region this feature is becoming lost.

Because of that, for example, in the global age teaching and learning about indigenous or local wisdom and knowledge or how to integrate these

knowledge into the curriculum are becoming one of the key issues in this region, leaving the declaration of principles by the WSIS 2003, World Summit on the Information Society, Geneva December 9 2003 out of consideration.

Taking another example, on the other hand, one of the features of education system in this region, which is called as multi-grade teaching-learning system, is identified so far as the disadvantage among all educators both in this region and in other regions. But highlighted from the specific functions and capabilities of ICTs, it will be able to change into the advantage, or rather we will be taken such disadvantage into account for the coming multimedia or ubiquitous network society so as to make it advantage by utilizing ICTs.

In this context, you may design and utilize existing resource materials so far developed in your daily teaching learning activities.

The diversity, disparities and such dominant features of education, culture and society in this region mentioned here, as examples, are also clearly reflected in this Project in principle from the macro-level consideration of education and media including ICTs.

The detail, on the past activities and its outputs, which will lead us to the right track in this present Workshop, will be explained and shared by resource persons and other colleagues later.

Last but not least, I wish all of you enjoy yourselves to develop ICT-based lesson plans and materials in this innovative and challengeable Workshop, though I am sure it is touch,
bearing in your mind that the objectives of the networking are to identify yourselves and respect others in social, cultural, political, and economical aspects of their living and thinking through the global and local communication and collaboration with such activities as finding and formulating problems, collecting, selecting, ignoring, classifying information to construct their own relevant information and presenting them in proper ways.

In this context, again, the research on ATI, the interaction between the learners' characteristics and media, show us that not all students gain the benefits from the media utilization; rather it requests us to select appropriate media according to the learner's characteristics, the nature of the task, and several factors which indicate the learner's performance.

Therefore, our important challengeable hypothesis is described as follows; not all teachers and learners utilize ICTs in all their situations, but all teachers have confidence to improve their teaching by selecting media, responding to the objectives, the nature of learners and those of tasks including subject matters and new areas for leaning.

This will lead us to consider and develop a comprehensive lesson plans and materials.

Consequently, in terms of teacher education and media utilization including ICTs,

(1) Without ICT, teachers have the will to improve their teaching skills and teaching competencies with properly writing down the lesson plans, which follow the principle of instructional design.

(2) Without ICT, teachers have the will to improve their teaching and learning environment based on the systematic way of thinking. For your information, this reminds you that another important aspect for ICTs in education; ICTs for research tool, namely data collection and keeping, computing and analysis and reporting.

Again, the design technology and control/sensor technology such as both with related to the virtual reality and pattern recognition including the real-time simulation, the voice recognition, the image to text conversion and the variety of kits and templates, are now in the market. With the remarkable trends in the integration of the audio-visual technologies like digital still/video cameras and mobile phones with such cameras and TVs, which will be used within/outside the home as well as on/over our human bodies with more user-friendliness, and the computer and communication technologies with higher capacity and speed capabilities like DVD-R/W and optical fibers as well as the satellite system technologies and liquid crystal and plasma technologies, the ubiquitous networking environment represented by fully equipped wireless house system and the broadband networking environment will be realized within 5 to 10 years.

All of these will be considered and realized during this Workshop.

Thank you for your attention.