



Asia and Pacific Regional Bureau for Education
Bangkok Thailand



NEEDS ASSESSMENT OF ICT IN EDUCATION POLICY MAKERS IN ASIA AND THE PACIFIC

Towards the Development of a Toolkit for Policy Makers

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**Needs Assessment of ICT in Education Policy Makers
in Asia and the Pacific**

Towards the Development of a Toolkit for Policy Makers

1. Policy-making 2. Education 3. ICT 4. Evaluation 5. Asia
and the Pacific

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chapter *one*

Executive

Background and Rationale

The ICT in Education Policy Project is aimed at assisting UNESCO Member States in the Asia and the Pacific (ASP) region in the formulation of ICT in education visions and masterplans. A 2003 seminar for high-level decision-makers on the integration of ICT in education showed that a toolkit that provides support for decision- and policy-making would be a valuable resource. The present study defines and documents user needs as a necessary part of the effort to ensure that the tools developed are useful and used.

Methodology of the Study

Policy makers' information needs in the Asian region have been tracked by interviews with 14 policy makers from eight South-East Asian countries. Data from two additional questionnaires and from the UNESCO Bangkok Meta-survey on the Use of Technologies in Education (2003-4) have also been taken into account.

Summary

Results: State of the policies and policy-making process

■ State of the ICT in education policies

According to the Meta-survey findings, twelve UNESCO Member States in the ASP region have no ICT policy at all, and 11 Member States are in the process of developing an ICT in Education policy or have a national IT policy, including a section on Human Resource Development/education. Twenty-one Member States have an ICT in education policy; some of them are, however, of very poor quality. Most of the eight South-East Asian countries interviewed in the main study have an ICT (in education) policy or at least a draft version. In several of these countries, the use of ICT in education is already quite developed (notably Malaysia, Thailand, the Philippines and Indonesia). In contrast, four of the five respondents to an additional survey of Pacific Island Countries do not yet have an established ICT in education policy. Of these four, two are currently developing such a policy.

■ **Policy development process**

The process was described in most interviews as internal to the government or to the Ministry of Education, involving different departments with few outside stakeholders. The use of external resources was rarely mentioned. The complexity of the process leading to the ICT in education policy varied greatly. In some cases, it was clearly a top-down procedure; in others, the first input stemmed from the needs of the different departments.

■ **Access to information by the policy makers.**

The interviews showed that access to necessary and useful information was no problem. The high-level decision- and policy makers did not really seem to search for information by themselves due to lack of time, but rather they had their subordinates do the searching. For those mid-level policy makers who searched by themselves, finding what they were looking for seemed to be an easy task.

Results: Information needs.

■ **Interest in exemplary ICT policies from countries with similar profiles.**

The main concern of the participating policy makers was knowing more of the experiences and policies of other countries. In all cases, respondents were only concerned with other countries that have similar characteristics to their own country. The location of these countries did not appear to matter.

■ **Policies or experiences from other countries.**

Interviewees from countries where ICTs were less developed (e.g. Cambodia, Laos and Viet Nam) seemed to be more interested in exemplary policies; whereas countries with more developed ICT infrastructures (e.g. Indonesia and Philippines) preferred to learn about the experiences of other countries.

■ **Other issues.**

Other issues that emerged were, in order of importance, content development, evidence on the effectiveness of ICTs in education, teacher training, and ideas for fundraising.

Results: Possible roles of UNESCO.

■ **Technical assistance by UNESCO.**

One of the suggested roles of UNESCO is that of technical assistance in order to develop guidelines, policies and regulations related to ICT in education. UNESCO has been considered an appropriate agent in this sector. Other suggested roles included assistance in the preparation of content based on the curriculum or the assessment of the efficiency in the use of ICT in teaching and learning.

■ **Compilation of information.**

Assessment results also showed that UNESCO could compile and give access to a database of experiences, policies and scientific knowledge from other countries. This would especially help the countries to avoid repeating others' mistakes.

■ **Networking, evaluation and development.**

As an international organization, UNESCO was advised to network experience, compare systems of different countries, and to facilitate the development of contents which are common to every country, such as mathematics.

Recommendation

The principal recommendation suggested was that the toolkit should contain exemplary ICT in education policies. These might include links towards other contents, such as scientific evidence, evaluation, cost benefit analysis, etc.

chapter **two**

Background and Rationale

A needs assessment on the requirements of South-East Asian policy makers with regards to the formulation of policies on the integration of information and communication technologies (ICTs) in education was conducted from November 2003 to February 2004. The tasks of the international consultant were to conduct studies among policy makers, identify their needs and suggest recommendations for the development of an ICT in Education Policy Maker Toolkit.

The ICT in Education Policy Project¹

The ICT in Education Policy Project aims at assisting selected UNESCO Member States in Asia and the Pacific region in the formulation of ICT in education visions and masterplans.

As stated in the project documents, it is not enough to equip schools ad hoc with personal computers (PCs) and train teachers in their use to prepare pupils for the demands of the 21st century. ICT in itself is not going to radically change education systems for the better. An overall view of what education should be seeking to achieve is needed for ICT to be utilized to their full potential within education systems. Thus, the policy project component intends to assist decision and policy makers in re-formulating necessary and appropriate policies.

A key UNESCO concern is to ensure that ICT does not become a source of further inequality, with the digital divide accentuating already existing disparities. Access to computers, the Internet, and the capacity to make use of it depend largely on socio-economic and/or ethnic background, as well as on gender, age, educational background and geographical location. The project intends to promote successful policy models and strategies of ICT integration, with special emphasis on removing barriers to participation, and the learning of girls and women, out-of-school youth, the disadvantaged, those with special needs, and the poor.

The objectives of the policy project include: (1) to enhance awareness and vision, mobilizing leadership: advocating high-level decision-makers to make judicious use of ICT in education; (2) to develop a strategic vision and a masterplan of participating countries: enhancing the capacity of mid-level policy makers to formulate a national ICT in

¹Large parts of this and the following sub-section were taken from different unpublished UNESCO texts, with the aim of reflecting the objectives of the project as defined by UNESCO.

education policy, appropriate strategies and measures through a consultative process involving key stakeholders; (3) to facilitate the implementation of other JFIT programme components in the selected countries; and (4) to ensure UNESCO's involvement in international policy discussion and the integration of this initiative into networks of policy planners.

To achieve these objectives, a series of high-level seminars, analysis of the relationship between ICT, development of policy tools and publications were carried out and evaluated to formulate the model of the ICT policy. UNESCO is first concentrating on assisting countries with no specific ICT in education policies or plans at all, or countries that are either in the stage of developing their policies or have just developed their policies without yet implementing them.

The ICT in Education Policy Maker's Toolkit

The toolkit was initiated as a result of a 2003 seminar for high-level decision-makers on the integration of ICT in education. The seminar indicated that an integrated and needs-based toolkit providing support for decision- and policy-making would be a valuable resource.

The main objective of the toolkit is to have usable, contextualized and relevant knowledge available and used by Ministries of Education, international organizations and researchers, to extend the reach and improve the quality of education in cost-effective ways through improved decision-making in developing countries. The toolkit will also be used by UNESCO in its advisory services for Member States and by other participating organizations in their ICT-in-education work.

The present research defines and documents user needs as a necessary part of the effort to ensure that the tools developed are useful and used. The research did not intend to target a general population of Asian ICT in education policy makers. Such a goal would be too ambitious for a limited needs assessment and hardly achievable. The intention was to build on existing research findings, and to gain access to diverse policy and decision-makers whose input could enrich the understanding of policy makers' needs and interests, in order to design a relevant toolkit.

Objectives

The purpose of the needs assessment was to provide necessary information to guide the development of the toolkit. It should provide answers to the following main questions:

- Who participates in the development of ICT in education policies? What processes are involved?
- Which resources and materials are used (publications, Internet, experts, meetings)? Does the use of resources depend on the level of the policy and decision-maker?
- What information on ICT in education are the decision and policy makers interested in? In what format?
- How could UNESCO assist?

Rationale of the needs assessment

a) Use of research findings in the policy-making process

According to the “rational model” or “linear model”, policy-making is a linear process in which research findings are central. Policy makers would take into account all options, and seek evidence allowing it to identify the best solution (Stone, Maxwell and Keating, 2001; Sutton, 1999). Following this model, policy makers would have a high need for research output and actively search for useful scientific evidence needed to make a decision. In this context, even a toolkit limited to an accessible presentation of useful scientific evidence would prove useful and used.

The validity of the rational or linear model to describe the policy-making process has largely been criticized (Lindblom, 1980; Hall, 1990; Evans and Benefield, 2001). These critics are part of a larger challenge of the validity of the rational approach to decision-making in social contexts.

One of the critical assumptions of that model is the central role of comprehensive scientific evidence. According to critics of this model, research findings do not play a central role. In addition, only a limited number of research findings would be taken into account, with a preference for those findings that confirm what is already believed (Kingdon, 1984; Lindquist, 1988; Sutton, 1999).

b) Promotion of research findings

There is a strong call for an improved dissemination of research findings in order to increase their use in policy-making (NERF, 2001; Hovland, 2003). This promotion could be done by the researchers themselves; but part of the scientific community is conducting research for its own sake, unconcerned with its possible policy applications, even if it can be relevant to policy-making. This type of research requires an active dissemination by an intermediary (Stone, Maxwell and Keating, 2001). This could be done by international institutions, which are highly valued sources of information for policy

makers (Dinello and Squire, 2002). ICTs may play an important role in dissemination mechanisms (WEDC, 2000).

The effective promotion of research findings needs to take into account the target to be addressed. Different targets may require different dissemination strategies. For example, evidence shows that policy makers in higher levels have less time to access information (Bardach, 1984; Oh, 1997). They will usually receive information that has passed a chain of advisers and bureaucrats who condensed and modified the original information. To gain direct access to high-level policy makers, special material might be needed like short, concise and easy-to-read resumes. Language also has to be adapted to the target (Leung, 1992).

The access to policy makers is made even more difficult by the fact that there is no clear standard about who policy makers are and to whom research should be addressed. Case studies collected by the Global Development Network (GDN, 2003) illustrate that policy makers are a heterogeneous group in which different opinions coexist; they may include not only government officials, legislators and civil servants, but also civil society, the judiciary and the media. In addition, the literature review from S. Neilson (2001) shows that the understanding of who are the main decision-makers changes from one conceptualization of the policy process to another.

c) Usefulness of a needs analysis

In order to elaborate on a dissemination strategy, more has to be known about the needs and characteristics of the policy makers, i.e. the potential users of the research, and their environments (Saywell and Cotton, 1999; WEDC, 2000; McComrick, 2003).

Knowledge about policy makers' needs and interests will be useful in the development of a policy maker's toolkit. Notably:

- It may help to determine the content of the toolkit based on expressed needs of policy makers;
- It may help promote the toolkit; and
- It may help organize the content of the toolkit, making it more interesting to potential users.

The studies

Data for this needs assessment proceeds from several sources. The main source of data is an interview study with 14 policy makers from eight South-East Asian countries, carried out in December 2003. Complementary data stem from two questionnaire studies.

The studies did not intend to offer representative data for the whole region or subregion considered. The results should therefore not be taken as a representative sample of the opinions of the educational policy makers of Asia and Pacific, but rather as a source of information helping to decide which tools might be useful and which tools are less likely so.

In studies of this kind, a necessary assumption is that respondents' statements are reasonably close to what an observation would have shown. Needless to say that factors, such as a desire to present one's country and oneself in a positive light or a particular political interest, may evoke answers for which this assumption may be incorrect. The results, therefore, must be taken with caution.

The following sections describe in detail the different studies used for this investigation, starting with the main source of data.

1. Interviews with the participants of the SchoolNet meeting, 15-18 December 2003

a) Respondents of the interview-study

Fourteen interviews were conducted with one or more representatives of each of the eight countries that participated in the meeting on "South-East Asian ICT Advocacy and Planning Workshop for Policy makers and National ICT Co-ordinators", on the 15-18 December 2003. The countries were: Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, and Viet Nam.

Of 26 participants who attended the workshop, eight were high-level decision-makers from the Ministries of Education², seven of which attended only the first day of the workshop. Eighteen other participants were national ICT co-ordinators and the collaborators of these co-ordinators. They stayed for the whole four-day workshop. Most but not all of them were policy makers or participated in the policy development process.

The interviews were announced officially at the end of the morning session of the first day. Three high-level policy makers were interviewed. Three others sent the interviewers to the national ICT co-ordinators, while two were not available due to their tough timetables. Eleven interviews were conducted with national ICT co-ordinators. The others did not accept interviews considering that they were not the appropriate persons and sent the interviewers to the other country-participant.

b) Instrument and its administration

The interviewers covered a list of subject areas fixed in an interview framework and elaborated by the consultant in collaboration with the UNESCO Bangkok ICT in Education Team. The framework included the following subjects:

- **State of the ICT policy and background of the interviewed policy maker.**
- **The policy-making process, focusing especially on the resources used.**
- **Information policy makers would be interested in.**
- **Possible roles of UNESCO**

Interviews were conducted by the consultant and a member of the ICT in Education Team. The interviewers were free to adapt the interview framework to the circumstances like the time constraints or the position of the interviewee.

Interviews lasted between 10 and 45 minutes, depending on the availability of the interviewee and his or her involvement in the ICT in education policy-making. The initial questions of the interview framework were slightly modified during the interviews to try to take into account the first results and get as much useful information as possible. All but one interview were recorded and transcribed.

2. Complementary study: the Pacific questionnaire.

A short questionnaire was drawn up from the interview framework. This questionnaire was distributed by Mr Sheldon Shaeffer, Director of UNESCO Asia and Pacific Regional Bureau for Education, during a meeting of Ministers of Education of the Pacific Island Countries in January 2004.

Five countries sent back their answers in time. These were: the Cook Islands, the Marshall Islands, Palau, Papua New Guinea, and Samoa.

When data from this study are used, they are clearly identified as proceeding from the Pacific questionnaire.

3. Complementary study: the evaluation questionnaire

An external evaluation of the previously mentioned UNESCO Bangkok High Level Seminar and Workshop for Decision-Makers and Policy Makers was conducted from October to December 2003. The questionnaire used for the evaluation included a small section with questions about the needs of the policy makers. These questions provided useful complementary information for the needs assessment.

For this evaluation study, all participants of the workshop were contacted repeatedly and by different means in order to increase the response rate. At first, the participation was requested by e-mail. Several e-mails and, when possible, phone calls were made as reminders. The interview-questionnaire was delivered by e-mail or by fax, since several participants who were not too fluent with English felt more comfortable with a print version than with a phone interview. At the same time, this mechanism allowed the evaluators to reach remote areas with difficult phone access. Participants could choose between sending back the completed questionnaire and answering the questions by phone.

Of the 25 policy makers who participated in the workshop, 13 completed the questionnaire. They came from nine countries: Afghanistan (1 questionnaire), Cambodia (3), Indonesia (2), Mongolia (1), Pakistan (1), Philippines (1), Republic of Korea (1), Thailand (1) and Viet Nam (2).

Only data referring to the needs of policy makers were taken into account. These results are clearly identified as originating from the evaluation questionnaire.

chapterthree

Discussion of Results

The results are organized in four general sections. The first section briefly presents the interviewed policy makers and the state of the national ICT policies. Results regarding the policy-making process are covered in the second section. The third section details the information policy makers are interested in, and the fourth section addresses the possible role of UNESCO in the policy-making process.

The results are derived mainly from the interview study. Data from the additional survey of Pacific states or from relevant questions of the evaluation questionnaire are identified as such.

Background of Interviewed Policy makers

1. Respondents' characteristics

The participants of the interview study were:

- 3 high level decision-makers (a Secretary of Education and two Directors-General)
- 4 Directors of Departments related to education or information technologies
- 7 mid-level policy makers (division heads, assistant directors, senior officers, senior programme specialists)

Two of the respondents were woman. For the analysis, respondents have been grouped in a simplified typology:

- 7 high-level officials, including the Directors of department
- 7 mid-level officials

2. National ICT in education policies

ICTs seemed to be an important issue in most or all of the countries. But some consider that, even if ICTs are a big issue, there are “too many big issues”.

Most of the interviewed countries have an ICT or ICT in education policy, or at least a draft version. In several countries, ICT in education is already quite developed (notably in Malaysia, Thailand, the Philippines and Indonesia), at least in the capitals or big cities.

Of the five Pacific states of the additional survey, four do not yet have an established ICT in education policy. Of these four countries, two are currently developing an ICT in education policy.

Policy-making Process

1. Developing the ICT in education policy

a) First input

In some cases, the policy-making process was more a top-down procedure; in other cases, the first input came from the needs expressed at lower levels.

In the Philippines, the leader provided the vision and objectives; he proposed a certain general policy. Then, the general policy went down to lower levels with technical people, managers and consultants giving their input.

In Thailand, representatives of all departments of the Ministry of Education were invited to state their requirements concerning ICTs. The obtained information was then synthesised into a first draft of the policy.

Sometimes, both methods were applied, depending on the issue. In Malaysia, often the “decision has been made at the top and is delegated to the lower level ... But there are things starting from the bottom, for instance the teacher training. In order to carry out the teachers’ training, we have to [analyse] what the teacher needs are and then [the] teacher’s training division takes it up and brings it up to the higher level to make the decision for the segment [of] teacher’s training for ICT” (respondent from Malaysia).

b) Process

The complexity of the process leading to the ICT policy or the ICT in education policy varied. In some cases, it seemed to be a straightforward process with one team or office designing the policy.

In other cases, the policy was elaborated in a more complex process, for example in Thailand. Here, after an initial phase in which each department of the Ministry of Education collected its information, representatives of all departments were invited to state their requirements concerning ICTs. The information obtained was then synthesized by the ICT unit into a draft masterplans. This

draft was shown again to every member and revised. Then this draft masterplans was presented to the ministry board during a workshop. The high-level executive put in ideas. Experts from outside were also invited at this occasion: experts from the ministry of ICT, university professors, and representatives from the national policy-planning committee. After the experts considered the masterplans feasible, it was examined by several committees. At the end, it was approved by the Minister of Education and transmitted to the Minister of ICT who integrated it in a more general masterplans of ICT.

c) Participants

The most frequently mentioned participants in the policy-making process were representatives of the different departments of the Ministry of Education. As described, policy-making was an internal governmental process, often contained within the Ministry of Education. This was especially true at the beginning of the process, which involved the different departments but few outside resources or stakeholders.

There were exceptions like Laos, where general consultants from outside the ministry helped develop the policies. For example, organizations and consultants from Germany provided technical assistance in writing ICT policies. Assistance was also provided from the private sector and development agencies like UNDP. This type of assistance might also exist in other countries but had not been mentioned in interviews, perhaps because this type of assistance might be perceived as presenting the country in a less positive way.

The private sector was mentioned in few of the collected descriptions of the policy-making process. The research community and experts had a very small presence in the descriptions and other important stakeholders like teacher-unions were never mentioned. This could indicate that stakeholder participation was selective.

2. Access to information and resources used

The main information resource was the Internet, especially websites from other countries and organizations like UNESCO. Websites presenting policies seemed to be of special interest: “I search on the website and find out the policy of ICT in education in the country, print it out and find out what can be suitable.” More technical information about ICTs also came from e-mail updates and ICT forums.

Other important resources were experts and consultants from governmental and nongovernmental agencies and the private sector.

The least mentioned information resources were informal meetings with colleagues, workshops, meetings and seminars, contacts in the ICT community, study visits to other countries, and organized discussions with professors and teachers from universities and schools.

According to interviews, access to the needed information was not problematic. The high-level decision and policy makers seemed to have little time, hardly searching for information themselves, but letting their subordinates do it instead.

For mid-level policy makers who did their own research themselves or for their superiors, it appeared to be an easy task:

- Finding and accessing the information is regarded “not so much of a problem”, “not an issue”, and “kind of easy”.
- “It is easy to select the information because it is there for you to open up and just read it”.

In the Pacific Island Countries of the additional survey, access to the needed resources was not so unanimously described as “easy” (see Table 1). This difference could be linked to the fact that in this case, resources included also the human resources.

Table.1 Resources for ICT in education policy-making (Pacific questionnaire, N=4).

	Yes	No
Are the resources you need for ICT in education policy-making easily accessible?	2	2
Are the resources sufficient for your policy-making needs?	1	3
Are available resources of good quality?	2	2

Information Needs

1. Key information for policy makers

The main concern of interviewed policy makers was knowing more of the experiences and policies of other countries that have similar characteristics as their own countries. Other important issues were – in the order of priority – content development, effectiveness of ICT in education, teacher training, fundraising and the procedure.

a) Exemplary ICT policies of countries with similar characteristics

The desire to know more about policies or experiences in other countries appeared in a spontaneous manner (e.g. not introduced by a question from the interviewer) in six of the 13 interviews, corresponding to six different countries (out of a total of eight). In all these cases, the respondents were interested in other countries that had characteristics similar to their own country. Whether the other country is located in Asia or in another continent did not seem to matter.

Respondents from countries where ICTs were less developed (e.g. Cambodia, Laos, and Viet Nam) seemed to be more interested in exemplary policies, whereas countries with more developed ICT infrastructures (e.g. Indonesia and the Philippines) asked for the experiences of other countries.

The following quotations were illustrative of the interest of policy makers in countries with similar characteristics:

- “If UNESCO Bangkok could provide some other model of ICT policy in another country [with] a situation very similar to Cambodia ... We would really appreciate if you could identify us that: this is the model of ICT policy in this country - some country in South Africa or Asia, everywhere [sic]”. (Cambodia)
- “We collect the information from many countries and see how they’re doing it because the best way is difficult to say”. (Viet Nam)
- “I think that it’s very, very important, the experiences from other countries, scientific knowledge. The policies. So we don’t make the same mistakes”. (Indonesia)
- “I’m looking for something that’s parallel to ours, the same as our situation. ... If Mexico did it, what made it work? ... The

actual technology is easy. ... It's how the other economies are using it. And did it work and if it didn't work, why it didn't work. Because in a country like ours where resources are very, very difficult, we have less leeway". (Philippines)

The distrust for information coming from countries with dissimilar characteristics appeared to apply not only to policies and experiences but also to studies. A respondent dismissed an American study, saying: "That's the context of the U.S., it might be the reverse [in the Philippines]".

The importance given to exemplary ICT policies of countries with similar characteristics is confirmed by the results of the additional questionnaire distributed to the Ministries of Education in the Pacific Island Countries. In a question on the usefulness of additional information resources, the exemplary policy is unambiguously ranked first.

Table.2 Useful additional informational resources (Pacific questionnaire, N=5).

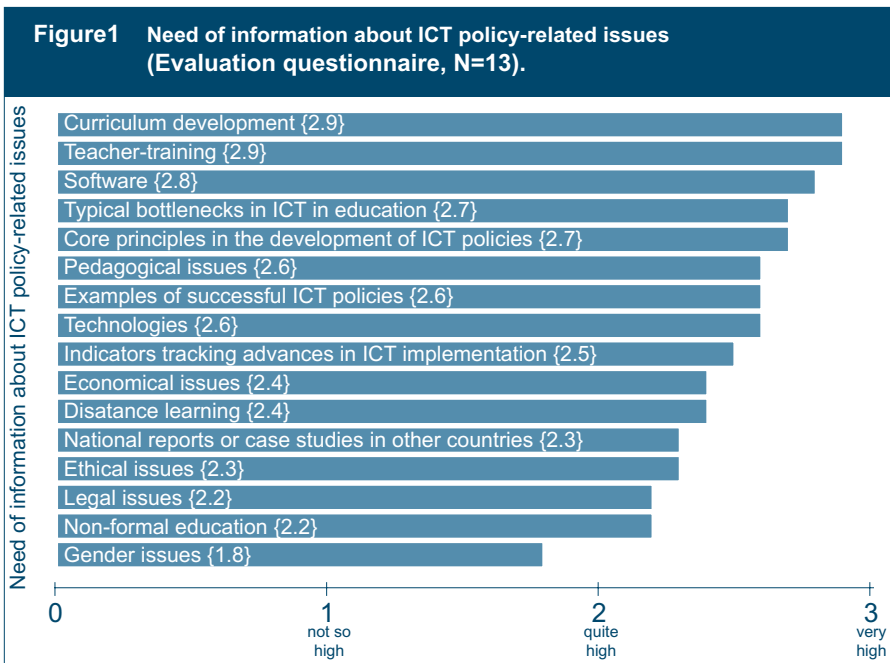
Useful additional informational resources would be:	Number of times chosen	Mean rank
Sample ICT Policy of a country with similar characteristics	4	1,0
Content development principles (when to buy, adapt, develop)	4	3,0
Fundraising, private-public partnership scenarios	4	5,5
Policies (guide for vision and strategy development)	3	3,0
Scientific evidence on the effectiveness of ICT in education, cost benefit analysis	3	3,7
Teacher training policies and strategies (examples, criteria, strategies)	3	4,3
Technology (hardware, software)	3	5,0
Examples of good classroom practice (video), quality softwares etc	2	6,5

Note: Respondents had to choose among the items and rank them in the order of importance. The order in the table, above, reflects the importance, according to the number of respondents who chose it and the attributed ranks. The identification of the most and least important items is obvious, but the hierarchy is less clear in the middle.

However, the relatively low score obtained by “*examples of successful ICT policies*” in the evaluation questionnaire (see Figure 1, below) could contradict the previously cited results. In this study, though, the “*examples of successful ICT policies*” did not specify that they would be from a country with similar characteristics. According to the importance given to the comparison, this could explain why the sample policies did not achieve the first rank in this study, as they did in the interviews and in the Pacific-questionnaire.

b) Content development

In the Pacific questionnaire, the “*content development principles (when to buy, adapt, develop)*” appeared to be the second most useful resource (see Table 2, above). In the interviews, content development has not been mentioned as an issue for which information is required, but it was given as one of the possible fields of technical assistance from UNESCO (see below, III.D). Results of the evaluation questionnaire also pointed to the importance of content. When asked to rate their need for information based on a list of ICT in education policy related issues, “*curriculum development*” and “*software*” were among the highest scored issues (see Figure 1).



Note: The mainly positive formulation of the items of the scale had been chosen to avoid a “ceiling effect” due to the observed tendency to give positive answers.

c) Effectiveness

Another issue highlighted in the interviews was the evaluation of the potential effectiveness of ICT in education. Four respondents from three countries expressed concern on this issue. They would like to know “how to use ICT in education usefully and effectively”, get “evidence showing effectiveness of ICT integration in education”, and “studies on what works and what doesn’t”. In the evaluation questionnaire, two respondents added this issue to the initial list of issues in Figure 1, above.

d) Teacher training

Teacher training was one of two highest rated issues (the other was curriculum development) in the evaluation questionnaire (see Figure 1). According to the interview study, however, if teacher training was an important issue, there would have been little need for information or specific assistance. Only Laos wanted assistance in teacher training.

e) Fundraising

The need for information on fundraising was mentioned by two interviewees from two different countries but not in a spontaneous manner. It was also mentioned in the evaluation questionnaire. In the questionnaire distributed in the Pacific, “Fundraising and private-public partnership scenarios” was chosen by four out of five respondents, but ranked as less important (see Table 2). This is probably because funding is seen only as a temporary and partial solution, as suggested in one of the interviews: “Do you think they will help us forever? No. We have to stand on our own”.

f) Procedure

Respondents to the evaluation questionnaire also mentioned that there was a need for information on general procedure: “From where to start, when, how, who should take the initiative”. This concern did not appear in the interviews. In the Pacific questionnaire, only one out of five respondents stated that “they did not have a clear idea about how to proceed”.

g) Gender issues

Gender issues scored the lowest in the evaluation questionnaire (see Figure 1). This result is confirmed by the total absence of these issues in the interviews. Gender did not seem to be a concern in the policy-making process, in contrast to the high priority accorded to it by UNESCO (see, for example, the “Policy project proposal for the ICT in Education programme funded by JFIT” cited earlier).

2. Preferred format of information

All formats of information – online, CD-ROM, workshops, experts, print – were regarded as useful and should be used, according to the interviews.

According to one respondent, all means should be used because each has its advantages and disadvantages: Online is seen as “somehow one-way”, making it more difficult to communicate. Workshops would allow better communication (“we need discussions because ICTs are very new”) but demand more time and money.

Some mid-level policy makers regarded printed material as less useful for two reasons: First, in the world of fast changing technologies, this medium is slow: “when the book comes to my desk, it’s like at least a half year late”. Second, access to printed material is more limited and it can easily get lost: Nevertheless, printed material seems to play a more important role for high-level policy makers who seldom use internet as an information source.

In the questionnaire distributed to the Pacific Island Countries, one question asked for the ranking of different types of resources, corresponding to different formats. Only three respondents ranked the types of resources, while the other two did not respond. According to the results, the resources considered most useful were human resources (experts and consultants), followed by training and workshops. Digital resources were ranked third (Internet and CD-ROM).

The order of preference of resources in the Pacific Island Countries was the reverse noted in the South-East Asian countries (see the above section about the used resources, III.B.2). Given these varied preferences, it would be useful to make the resources available in several formats.

Possible Roles of UNESCO

The proposals emerging from interviews about UNESCO’s possible roles were of three types, of which technical assistance was the most prominent. The types were:

- Technical assistance (mentioned by six respondents from five countries),
- Compilation and provision of information (three respondents from three countries), and
- International roles (two respondents from two countries).

1. Technical assistance

a) Technical assistance in policy-making

The desire for assistance from UNESCO in the policy-making process appeared twice in the interviews, once in the evaluation questionnaire and once in the Pacific questionnaire. This seemed small if one took into account that the studies were explicitly about the policy-making process.

In the interviews, Indonesia said that UNESCO could suggest guidelines or even policies. These guidelines should contain “information about how to develop the policies and what should be included in the policies”. Because of the autonomous system of the regions in Indonesia, it was important that the guidelines on policy be designed for the central, provincial, and district levels. “The level is very, very important to support the school to use the ICTs [sic]”. Adding to the difficulty was the fact that variations among districts needed to be taken into account.

In Laos, assistance was required to elaborate the regulations related to the education sector, to fine tune policies, and to determine the use of ICTs “efficiently and effectively”. The need for assistance was linked to a lack of qualified ICT specialists in the Ministry. UNESCO was considered the “most appropriate agent” and “specialized” in ICT in the education sector.

b) Technical assistance in related areas

Other suggestions of technical assistance emerging from the interviews were less detailed or included demands that were beyond the framework of policy-making, such as help in preparation of contents based on the curriculum, or the assessment of the efficient use of ICTs in teaching and learning.

The three main areas identified were:

- Content and curriculum development (mentioned four times in the evaluation).
- Planning and managing the implementation of ICT into education, project development, and evaluation of strategies (mentioned three times in the evaluation questionnaire and once in the Pacific questionnaire).
- Teacher training (mentioned three times in the evaluation questionnaire and once in the Pacific questionnaire).

Assistance in distance education was mentioned once in the evaluation questionnaire, as was assistance in fundraising.

2. Compilation and provision of information

The interviews indicated that UNESCO should also provide information, ideas, recommendations and suggestions. The respondents expressed keen interest in sharing of experiences, policies and scientific knowledge of other countries. This might greatly help countries to avoid repeating others' mistakes.

One of the Pacific Island Countries wanted workshops to assist education staffs in integrating ICT into schools, particularly with respect to the management side of this process.

3. International roles

UNESCO was also regarded as an international agent. Malaysia suggested that UNESCO could "link all the countries together", enabling the countries to learn from each other as well as to share good practices and experiences.

Viet Nam felt that the role of UNESCO as an international organization would enable it to assist in two ways: First, UNESCO could assess the experiences of all countries to gain an overview. E-learning systems were cited as an example: a country would try only one or two systems, but UNESCO could evaluate all the systems to decide which ones worked and which ones did not. Second, UNESCO should organize the development of the contents which are common to every country, like mathematics, physics, and chemistry. The idea was that the development of a common software for everybody would make it cheaper.

chapter *four*

Conclusions

1. It comes as a surprise that the policy makers did not express difficulties in accessing the needed information in a field in which so many uncertainties remain and where new questions arise rapidly through technological changes.
2. Moreover, interviews showed that the policy makers remained generally doubtful of the effectiveness of ICTs in education and would like to have more evidence about this aspect. How to understand this seeming contradiction? Perhaps it reflects the idea that reliable evidence about the effectiveness of ICTs in education in the context of Asia Pacific region is rare (some studies showing evidence are already coming out from developed countries). The “easy-to-access information” could then be mainly technical information about ICTs. In light of the large number of ICT publications discussing the potential of ICTs rather than showing evidences of effectiveness, this opinion is perhaps closer to reality. A largely evidence-based UNESCO policy maker toolkit would be helpful to making a change.
3. Obviously, policies also serve political goals: It might be good for a country to at least have an ICT in Education policy if a genuine implementation of ICT in Education can not be achieved.
4. One of the UNESCO concerns is to ensure that ICT does not become a source of further inequality by widening the “digital divide” between the “haves” and the “have nots” (girls and women, out-of school youth, the disadvantaged, those with special needs, and the poor). The needs assessment showed that gender issues did not rate well in the interviews and in the questionnaires. But there is another widening digital divide between developing and developed countries. To fight this divide, a developing country will be tempted to invest the scarce resources in the excellence, neglecting by the same token the digital divide between the “haves” and the “have nots” within the country. The toolkit should therefore guide users to intelligent investment of limited resources, taking into account the digital divide between and within countries.

chapterfive

Recommendations

TResults of the needs assessment suggest several recommendations for the development of an ICT toolkit.

1. Since policy makers are especially interested in sample policies, the toolkit should include exemplary ICT in Education Policies. These could contain links towards other contents, such as scientific evidence, evaluations, cost benefit analysis, etc. The policies would not only come from the Asia-Pacific Region but also from other regions with similar profiles (e.g. Africa, Latin America and the Caribbean).
2. Exemplary policies must include the characteristics of the country where they were used. This could be done using a tool permitting the choice of exemplary policies based on criteria such as country size, population, infrastructures, etc., chosen and weighted by the user.
3. Since ICT in education policies seemed to inspire other policies, it could be useful to have a comparative study of policies existing in other countries (what is similar, what is different), as well as a comparative evaluation (what works in what country context). Moreover, exemplary policies could be divided in different sections, with various examples or elements per section to choose from.
4. Means have to be found to prevent policy makers from doing a fast cut-and-paste job instead of undertaking a genuine development of a country-specific, realistic and achievable masterplan, designed and owned by the key-stakeholders. Links from relevant elements of the exemplary policies could emphasize the importance of a genuine development and stakeholder involvement by pointing to examples of successes and setbacks related to these issues.
5. The toolkit should address the issues of content development, teacher training, and fundraising as related to policy-making.
6. Given the desire to have information in the local language and lack of fluency in the English language of respondents, there is a need to use an easy-to-understand level of English for the toolkit.
7. Use different approaches (Internet, CD-ROM, workshops, print) based on the concept of multi-channel learning. However, it would be useful to emphasize the use of ICTs (e.g. online workshop, interactive toolkit) within a “practise what you preach” approach.
8. Given that mid-level policy makers often do their own research on internet, the use of a tool in a digital format (Internet, CD-ROM) is recommended. The high-level decision and policy makers, on the other hand, appear to

have little time, making them unlikely to browse a CD-ROM or use the Internet extensively. For them, alternative means, such as meetings, study visits, information exchanges, should be explored. A concise and easy to read publication, condensing key ideas in such a format, would be one such example. Another way would be to exert an indirect influence on experts and employees who have an influence on the high-level decision-maker.

9. Given the little attention paid to ICT issues relating to gender, UNESCO should exert extra effort to highlight the importance of gender equality and equity by presenting evidences of best practices from other countries.



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■ Annexes

Annex *one*

Terms of Reference for the Needs Assessment

Work assignment

In addition to the work assignment described in fee contract no. 845.018.3 (03/359) (F) (831), the contractor shall:

6. extend his research in the decision and policy maker needs, their daily tasks, the processes, challenges etc. in the field of ICT and education policy making.
7. Outline of the Needs Assessment Tasks:
 1. The contractor will develop a questionnaire and interview grid.
 2. He, with help of UNESCO staff, will conduct interviews with the participants of the upcoming schoolnet meeting, 15-18 Dec. 2003. The interviews are to be recorded with the agreement of the interviewees. They shall be transcribed by UNESCO before 20 January 2004.
 3. He will then analyze the transcribed interviews and submit a report analysing and summarizing the interim results, and prepare a PowerPoint presentation including speaker notes, before 14 February 2004.
 4. Based on the results, he will further develop the questionnaire. The new questionnaire is to be used to get both policy makers' and policy experts' input from the February meeting (24-26 Feb. 2004). The additional interviews shall be transcribed until 12 March 2004.
 5. He will write a final report summarizing and analysing the findings and presenting recommendations for the toolkit, before 31 March 2004.
 6. The study will include a short literature review summarizing existing findings.
 7. The contractor will also assist the ICT in education policy team in the conception of the ICT in education policy and decision maker's toolkit.

8. The contractor will stay in Bangkok at least until 18 Dec. 2003. After that period, he might work at a distance, unless his presence is requested during the meeting in February to conduct the interviews or for any other matter. During his stay in UNESCO Bangkok, the contractor will have a work space including a computer available. During the entire period of his assignment, he will have an UNESCO Bkk email account.

9. Purpose of the study:

The study should provide information allowing to translate the elements of a UNESCO knowledge base on ICT in education in a format which can and will be used by decision and policy makers. It should provide answers to the following questions:

1. Which information on ICT in education are the decision and policy makers interested in, in which format?
2. Who participates in the development of ICT in education policies? Which processes are involved, which resources are being used (thematic publications, Internet, experts, meetings)? Does the use of resources depend on the level of the policy and decision maker? How could UNESCO assist?
3. What are their daily real tasks, materials the decision and policy makers work with (books, internet research, info networks)?
4. How do they proceed when they have information needs or questions on ICT in education? Which resources do they consult? Which resources would they need?
5. What beliefs and perceptions do they have about ICT in education?
6. What impact has the country situation, and the role and implications of the individual policy and decision makers, in the policy-making-process?

10. Deliverables:

The contractor will develop:

1. A first questionnaire and interview grid to be used during the schoolnet meeting, 15-18 December 2003.
2. An interim report in which he will present the preliminary findings, analysis and related recommendations to the ICT in education policy team. A PowerPoint presentation will be prepared too. Important changes may be requested upon presentation of the interim report.
3. A second questionnaire and interview grid to be used during the February meeting.
4. A final report to be submitted at the latest on 31 March 2004. Important changes may be requested upon first submission of the final report. Minor adjustments can be requested later.

Annex **two**

Interview Framework

Initial questions:

- Has your country established an ICT in Education policy?
- *If yes:*
How did/do you proceed to develop an ICT in Education policy?
- *If no:*
Are you thinking of developing an ICT in Education policy in your country?
Have you figured out how to proceed?

Identification of target audience

- *Ask only to national ICT co-ordinators (not to high-level policy makers):*
What was/is/will be your role in the process?
- Who are/were involved in the development of this ICT in Education policy? Could you describe the team/network involved in the development of ICT in education policies?

About information sources

(Several of these questions might be asked for the individual and team level)

(Basic information about the content of the policy may be collected at the same time)

- What type of resources (material and human) do you use to get the information you need (for the development of the ICT in Education policy)?
 - Thematic publications, books
 - Internet, CD-ROM
 - Experts, meetings
 - Training, workshops
 Who does what in the team: who reads thematic publications, who relies on meetings...
- Do you get easily all the information you need?
Are you satisfied with the resources you use?
Are the resources sufficient?
- What additional resources would be useful?
- How could UNESCO assist?

About content of the policies

(If basic information about content has not been obtained before)

- Which information (on ICT in Education) do you need/would be useful?
General areas which should be addressed (they could be part of the toolkit):
 - scientific evidence about ICT in education
 - policies (examples, bottlenecks, principles, issues)
 - technology (hardware, software)
 - budget and fundraising
- Do you find it difficult to access this information/to select the useful information?
- Are there specific country factors which the ICT policy has to take into account?
What is the impact of the country situation on the ICT policy?

About day-to-day tasks

(If time is left)

- What's your typical day/week like? (Meetings, administration, reading...)

Annex *three*

Questionnaire Distributed to the Ministers of Education of Pacific Island Countries

Dear Minister,

I thank you for the opportunity given to me to discuss our projects and, with your permission, I would like to highlight one for which we urgently need your feedback. The project I am referring to is the [ICT in Education Policy Maker's Toolkit](#).

This project was initiated as a result of a 2003 seminar for high-level decision makers. This seminar assessed the most important planning and management responsibilities associated with the integration of Information and Communication Technologies (ICTs) in education and policy makers' needs for support in these tasks. A clear output of this meeting was a recommendation that tools be developed to help policy makers carry out this important task. We learned that many policy makers are overwhelmed by the proliferation of ICT in education publications and have very limited time to browse and look for the information they need to make appropriate decisions. But what information or resources do you actually need? It was agreed that a needs-based toolkit, translating the expertise of key specialists and organizations into applicable principles providing support for decision making, be a valuable resource. This toolkit could also be used by UNESCO in its advisory services for Member States and by other participating organizations in their ICT in education work.

To ensure that the tools develop as part of this effort are useful and used, we consider it necessary to better define and document user needs. The attached questionnaire is part of this process. Your comments and inputs will be highly appreciated and will provide invaluable guidance for the development of this toolkit.

We have tried to make the questionnaire as simple and easy to complete as possible and sincerely thank you for your time. I would greatly appreciate if you could fill it out and return it to me during this meeting. Alternatively, you may send your completed forms to my colleague, Mr. Cedric Wachholz. His complete contact address is as follows:

Mr. Cedric Wachholz
UNESCO Bangkok
Mom Luang Pin Malakul Centenary Building
920 Sukhumvit Road, P.O. Box 967, Prakanong, Bangkok 10110 Thailand
Fax: + 66 2 3910866, email: c.wachholz@unesco Bangkok.org

I thank you for your assistance and the ideas you have provided during this meeting and those that I hope will be found in your responses on the questionnaire. UNESCO looks forward to serving your needs and to more collaboration in the future.

Yours sincerely,

Sheldon Shaffer

Questionnaire

Country: _____ Position Title: _____

1. Does your country have an established ICT in Education policy? Yes No

If not, why? (Please rank with numbers, if several apply.)

 Not a priority Insufficient planning resources Limited availability of ICTs in schools Limited budget Scepticism about benefits of ICTs in education Others: Please specify: _____Is your country developing or revising an ICT in Education policy? Yes NoDo you have a clear idea about how to proceed? Yes No

2. If you have developed an ICT in Education policy, what type of resources (material and human) did you find useful? If you are still in the planning process, which resources will you most probably use? (Please rank resources with numbers, if several apply.)

 Thematic publications, books Internet, CD-Rom Short, concise publication for decision makers Experts, consultants Training, workshops Others: Please specify: _____3. Are the resources you need for ICT in education policy-making easily accessible? Yes No4. Are the resources sufficient for your policy-making needs? Yes No5. Are available resources of good quality? Yes No

6. What additional informational resources would be useful?

(Please rank with numbers, if several)

 Scientific evidence on the effectiveness of ICT in education, cost benefit analysis Sample ICT Policy of a country with similar characteristics Policies (guide for vision and strategy development) Teacher training policies and strategies (examples, criteria, strategies) Content development principles (when to buy, adapt, develop) Technology (hardware, software) Fundraising, private-public partnership scenarios Examples of good classroom practice (video), quality softwares etc. Others: Please specify: _____

7. Do you have any specific suggestions or requests for expertise in the area of ICT for education, which UNESCO could meet in the future?

Thank you!

