ICT: POLICY CHALLENGES FOR EDUCATION

PLANNING MEETING

AGENDA AND ISSUES PAPER

Room D, Chateau de la Muette
2, rue André Pascal
75016 PARIS

3-4 October 2002
1. AGENDA

THURSDAY 3 OCTOBER 2002

14.00 - 14.45 Welcome (Abrar Hasan, Head, OECD Education and Training Division)
   Introduction of participants
   Housekeeping matters
14.45 - 15.30 ICT: Policy challenges for education:
   Overview of the purpose of the meeting
   Brief overview of the activity
15.30 - 16.30 General methodological considerations, including relevant international meetings and relevant data sources
16.30 - 17.00 Coffee break
17.00 - 17.45 ICT and policies for inclusiveness and equity: Methodological options
20.00 Dinner
   Atelier Maître Albert
   1, rue Maître Albert, 75005 PARIS

FRIDAY 4 OCTOBER 2002

9.00 - 9.45 ICT and educational resource policies: Methodological options
9.45 - 10.30 Teacher policies and ICT: Methodological options
10.30 - 11.00 Coffee break
11.00 - 11.45 The institutional, regulatory and legal frameworks for education and ICT: Methodological options
11.45 - 12.30 Resource implications of participation in the activity
12.30 - 13.00 Review of timetable and outputs
1. INTRODUCTION

At its March 2002 meeting the OECD’s Education Committee endorsed a proposal [DEELSA/ED(2002)3] for a new activity on ICT: Policy Challenges for Education. An exploratory meeting of an expert group -- consisting of educational policy makers, educational ICT experts, ICT industry representatives and educational managers -- was held in November 2001 to obtain advice on the issues that the activity should encompass.

Purposes of the meeting

When it endorsed the proposal for the activity in March 2002, the Education Committee agreed that a further meeting should be held in autumn 2002. This meeting has three purposes:

- To allow countries to contribute to the activity’s methodology;
- To identify and co-ordinate the contributions that countries, and other parties, will make to particular elements of the activity; and
- To allow the timetable of the activity to be developed in light of these.

3. This paper:

- Gives a brief outline of the activity;
- Provides background information on a number of international meetings that have the potential to contribute to the activity;
- Outlines some sources of data that have the potential to contribute to the activity;
- Sets out some options for the activity’s methodology;
- Outlines some of the resource implications of participation in the activity; and
- Presents the provisional timetable for the activity that was provided in DEELSA/ED(2002)3.

2. BRIEF OUTLINE OF THE ACTIVITY

The broad aim of the activity is to identify and evaluate what education policy makers might do to better manage ICT inputs to the education process, and to better use ICT to achieve improved educational outcomes. It will examine the relationship between ICT and some key policy tools (resources,
teachers, regulatory frameworks) on the one hand and key educational outcomes (equity, quality teaching, quality learning outcomes) on the other. The activity will be structured around two broad and related questions:

- What policies are required to ensure that investment in ICT leads to effective educational outcomes? (This will try to understand how ICT can contribute to greater access to learning; to higher quality teaching; and to improved and more equitable learning outcomes).

- What impact is ICT having upon the operation of educational institutions and upon educational policy making? (This will try to reflect on issues such as useful institutional frameworks for school management; the regulatory structures for educational institutions; and teachers’ work arrangements).

5. Over a three-year period the focus will be upon four themes. Full details of these themes and of the issues to be examined in them may be found in DEELSA/ED(2002)3. In brief they are:

1. **ICT and policies for inclusiveness and equity.** This will examine two questions:
   - i. How can ICT help to improve access to learning?
   - ii. How can ICT help to improve outcomes for the weakest students?

2. **ICT and educational resource policies.** This will examine three questions:
   - i. How can ICT resource policies be built around educational need?
   - ii. What are the resource implications of all students having access to appropriate ICT when and where they need it?
   - iii. How does the interaction between educational infrastructure and the social organisation of educational institutions effect ICT use?

3. **Teacher policies and ICT.** This will examine two questions:
   - i. How can ICT improve the quality and effectiveness of teachers’ work?
   - ii. What is the impact of ICT upon teachers’ working conditions?

4. **The institutional, regulatory and legal frameworks for education and ICT.** This will examine three questions:
   - i. What types of policies result in the dissemination of good practice in the use of ICT use in education?
   - ii. How does the legal and regulatory framework of education affect the use of ICT?
   - iii. How do public policies in areas such as telecommunications and whole-of-government use of ICT affect the use of ICT in education?
3. **RELEVANT INTERNATIONAL MEETINGS**

6. A number of international meetings have been planned or provisionally proposed that are relevant to the activity. These are outlined below.

3.1 **OECD/Japan Seminar, Tokyo, 5-6 December 2002: The Effectiveness of ICT in Schools: Current Trends and Future Prospects**

7. Organised jointly by the OECD and the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT), this meeting will bring together policy makers, scholars and senior educational administrators in the field of ICT and education from Japan and other countries to share recent research, to discuss emerging policy issues, and to consider how ICT can respond to the challenges that schools and school systems present. The second day of the Seminar has been designed to allow Japanese and international experts to make an active contribution through debate and discussion to the development of the new activity. Overview papers have been commissioned on three of the four principal themes of the activity, and these will be presented at the seminar. They are:

- ICT and educational resource policies. Professor Walter Kugemann, Friedrich-Alexander University, Erlangen-Nürnberg;
- Teacher policies and ICT. Dr Hans Pelgrum, University of Twente, the Netherlands; and
- The institutional, regulatory and legal frameworks for education and ICT. Professor Martin Carnoy, Stanford University.

3.2 **Physical infrastructure and service provision: criteria and performance measures (Provisional title), OECD Project on Educational (Building PEB) and the Australian Department of Education, Science and Training, Brisbane, 24-26 March 2003.**

8. This experts’ meeting will concentrate on tertiary education, looking at how capital investment both in information technology (hardware and software) and in physical infrastructure (“bricks and mortar”) can lead to more efficient and effective ways of educational delivery. It will have particular relevance to the third issue of theme 2 of the activity.

3.3 **Information technologies in non-formal and adult education: Reaching out-of-school youth and adults, National Center on Adult Literacy, University of Pennsylvania and OECD, Philadelphia, February or May 2003 (To be confirmed).**

9. Discussions have been held between the OECD, the National Center on Adult Literacy at the University of Pennsylvania and the U.S. Department of Education on the possibility of jointly organising an international roundtable in the first half of 2003 to examine ways in which ICT can improve access to education and educational outcomes for out-of-school youth and for adults. It would draw upon the findings of the recently completed first round of the OECD’s Thematic Review of Adult Learning. This roundtable would be particularly relevant to theme 1 of the activity.

10. During discussion of the activity at the March 2002 meeting of the Education Committee, Switzerland raised the possibility of holding a major conference, in association with the ITU December 2003 meeting, to examine the third issue in theme 3 of the activity i.e. the impact of public telecommunication and whole-of-government policies upon the educational use of ICT. This option has yet to be confirmed.

4. RELEVANT DATA SOURCES

11. The activity will be able to draw upon a number of OECD and non-OECD data sources.

4.1 OECD sources

4.1.1 Project on international student assessment (PISA)

12. The first PISA results on the skills of 15 year olds were published for 32 countries in December 2002. The PISA survey instrument explored 15-year-olds’ interest in computers; their self-assessed attitudes and ability to work with computers; and their use of and experience with computers. In association with its other data, PISA potentially provides a rich source of information for further research on the use of ICT in schools. Two indicators on ICT using the PISA 2000 data will be published in the 2002 edition of Education at a Glance. PISA will be able to provide valuable background data for those parts of the activity that relate to schooling.

4.1.2 OECD International Survey of Upper Secondary Schools (ISUSS)

13. The International Survey of Upper Secondary Schools covers 17 countries. In addition to general questions on the characteristics of schools, it included items on computer availability for students; use of ICT by teachers; ICT activities as a part of student assignments; the role of ICT in teaching and learning; staff development; co-operation with other schools and organisations; and obstacles to using ICT in school. First results from ISUSS, covering 13 countries, will be released in 2003. The survey’s results could help to provide background data for those parts of the activity that relate to upper secondary schooling.

4.1.3 CERI case studies of ICT and educational innovation

14. As part of its work on ICT and the quality of teaching and learning, CERI has conducted a set of 93 case studies in 23 countries of the relationship between ICT and educational innovation, mostly in schools. A preliminary report on this work was made available in 2001. These case studies potentially offer a rich source for shedding light upon issues to be examined in all four of the activity’s themes.

---


4.2 Other sources


15. The Australian Department of Education, Science and Training has developed a searchable database that summarizes educational ICT policies in Australia; the United States Federal Government and selected States (California, Texas, Ohio, and South Carolina); the United Kingdom; Ireland; Sweden; Finland; Singapore; Malaysia; and the Canadian Federal Government and selected Provinces (Quebec, British Columbia, Ontario). Analysis and design of the database will be structured around five strategic action areas: (i) people, (ii) infrastructure, (iii) online content, applications and services, (iv) policy and organisational framework, (v) regulatory framework. An additional action area, ‘Overarching Strategies’, has been added to the analysis to incorporate strategic plans relating to the use of ICT in education and training. One option for the activity, with Australia’s agreement, would be to extend the database to incorporate data from countries participating in the OECD activity, and to update it during the activity.

4.2.2 Second International Technology in Education Study (SITES)

16. Undertaken by the International Association for the Evaluation of Educational Achievement (IEA), the focus of SITES is primarily the use of ICT in educational practice from an international comparative perspective, and is guided by several general questions, including: How, by whom, and to what extent is ICT used in education systems, and how does it develop over time? What differences in ICT-related practices exist within and between educational systems and how can these differences be explained? Which innovative practices exist that may offer educational practitioners achievable new targets?

17. Results from the first SITES module (the Indicators Module) were published in 2001\(^3\) and provide survey data on the availability and use of ICT in schools. SITES Module 2 has focused upon case studies of innovative practices in the use of ICT, and was conducted in co-ordination with the CERI case studies of educational innovation and ICT. A third module will consist of a survey of schools and teachers, with an optional student survey.

4.2.3 The DELOS project, E-Learning Action Plan, European Union.

18. As part of the European Commission’s E-Learning Action Plan, the Delos project is currently conducting an analysis of a very broad range of indicators of ICT and education. Its intention is to provide a coherent framework for the establishment of a sustainable observation system to accompany the European Union E-Learning Action Plan in its present and future development. The main expected result of the project is to bridge existing efforts to monitor and forecast developments in e-learning practice and policy.

5. METHODOLOGY

5.1 General methodological considerations

19. Commonly, many OECD activities such as thematic reviews ask countries to complete detailed background reports or questionnaires that describe present programmes and policies, and then complement this with national visits by expert teams to observe policies and programmes on the ground. These two sources of data are then used as the main basis of a comparative report to draw general policy lessons. Such an approach can be extremely useful for countries when they are reviewing current policy areas. In this activity it will certainly be important to gather information on current policy positions. The Australian database of national policies for ICT in education should be a way to gather this information and to continually monitor and update it without asking countries to complete national background reports or questionnaires. Whilst participating countries will not be asked to produce comprehensive national summary reports, they will be asked to provide brief written contributions to each theme or issue as background data for the activity. These contributions will be used to highlight examples of policy barriers or policy opportunities, and to examine innovations.

20. In planning this activity, strong advice was provided by participants in the November 2001 meeting that it should not only attempt to describe present policies, but also take a forward-looking approach. It will, as a result, attempt to think through what appropriate policy responses might be in the future to challenges that ICT is beginning to pose for education. A proactive approach will be of particular importance for the activity given the rate at which the educational use of ICT is changing in all OECD countries, and given the varying levels at which ICT is being used in education in OECD countries. For this reason the development of scenarios, “ideal types” or “vision statements” has been proposed as an element of the methodology of the themes on resource policies, teacher policies and regulatory frameworks. These will be used as tools to explore future policy options and opportunities for, and barriers to, policy implementation.

21. These will complement other methodologies in the activity. In order to assist policy makers to understand the best options for using ICT effectively and to produce a rich knowledge base for the activity, it will be necessary to analyse a diversity of experiences in the field of ICT. As a result, a methodology is proposed that will cross several sectors of education; formal as well as informal learning settings; the private sector as well as government; in education as well as outside of education.

22. The proposal is to examine each theme separately, utilising the already existing resources available within the OECD and different methodologies for each theme. A range of tools will be used to analyse formal national ICT policies, to understand how policies are implemented at the institution and the learner level and to examine emerging policy challenges and possible policy responses. It is proposed that the methods used would include: organisation of conferences and workshops; brief written contributions by participating countries; commissioning expert papers; establishing expert panels; scenario building; country or site visits; and literature reviews.

5.2 Theme Advisory Committees

23. For each theme, we suggest establishing an advisory committee composed of an OECD Secretariat member, two to four country representatives, and a limited number of experts. The advisory committee role would be to define, co-ordinate and supervise the development of each theme and to co-ordinate with other themes when necessary. Advisory committees would select topics for commissioning expert papers and supervise the outcomes. It is expected that in general they would conduct their business by e-mail, telephone conferences or video conferences.
5.3 **Methodological options for each theme**

**Theme 1: ICT and policies for inclusiveness and equity**

24. The detailed questions and issues to be addressed under this theme are provided in DEELSA/ED(2002)3. It is proposed that work under the theme’s first question focus upon adult learning and out-of-school youth. It is proposed that work on the second question focus upon schools.

25. *The first question* in this theme (How can ICT help to improve access to learning?) could be addressed through: site visits undertaken as part of the proposed second round of the thematic review of adult learning; re-analysis of national background reports and country notes produced for the thematic review of adult learning; a special parallel session to be arranged as part of the final conference of the thematic review of adult learning; and commissioned papers.

26. *The second question* (How can ICT help to improve outcomes for the weakest students?) could be addressed through commissioned synthesis papers; through analysis of the CERI case studies of ICT and educational innovation; and through examination of the SITES module 2 case studies.

27. *Both questions* could be the focus of an analytical meeting of policy makers and experts. One option for this meeting could be the roundtable on information technologies in non-formal and adult education proposed by the National Center on Adult Literacy, University of Pennsylvania. However if this meeting does not eventuate, expressions of interest in sponsoring it will be needed, and participants are asked to consider their interest in hosting such an event.

**Questions for discussion**

− What alternative methodologies might be considered for this theme?

− Which key partners might be involved?

**Theme 2: ICT educational resource policies**

28. The detailed questions and issues to be addressed under this theme are provided in DEELSA/ED(2002)3.

29. *The first question* in this theme (How can ICT resource policies be built around educational need?) could be addressed through the commissioning of consultants’ papers and through the establishment of an international expert panel.

30. *The second question* (What are the resource implications of all students having access to appropriate ICT when and where they need it?) could be addressed through the development of alternative scenarios for resource usage which will be used as the key input for a meeting of experts and policy makers. An additional approach could be to conduct case studies of the resource implications of different

---

4. DEELSA/ED(2002)3 should be read in conjunction with this paper.
ways of incorporating ICT into education using the ingredients approach to costing educational programmes.

31. The third question (How does the interaction between educational infrastructure and the social organisation of educational institutions effect ICT use?) could be addressed through a workshop to be held jointly with the OECD’s Programme on Educational Building; through analysis of PISA and ISUSS data; and through analysis of the CERI and SITES case studies.

Questions for discussion

- How should the expert panel that is suggested in paragraph 29 be established, what types of people should be invited to join it, and how should it operate?
- How might the scenarios suggested in paragraph 30 be developed in practice?
- What alternative methodologies might be considered?
- Which key partners might be involved?

Theme 3: Teacher policies and ICT

32. Work under this theme will focus largely upon initial education, but will also draw lessons from developments within tertiary education, and in particular from the impact of virtual learning upon the working conditions of tertiary education teachers. Work on this theme will be carried out jointly with the activity on promoting quality teaching and learning and will draw upon the experience developed within the Programme on Institutional Management in Higher Education. The detailed questions and issues to be addressed under this theme are provided in DEELSA/ED(2002)3.

33. The first set of questions in this theme (How can ICT improve the quality and effectiveness of teachers’ work?) could be addressed through the commissioning of expert papers and through the holding of a workshop of experts, teacher employers and teacher unions.

34. The second set of questions (What is the impact of ICT upon teachers’ working conditions?) could be addressed through: the commissioning of expert papers; the development of scenarios containing possible options for the organisation of teachers’ work to reflect different ways in which ICT might be used; and a joint meeting of teacher employers and teacher unions for which these would be a key input. One aim of such a meeting could be to examine how a model industrial agreement might be constructed that would allow effective educational uses of ICT.

35. Both sets of questions could be examined through analysis of the CERI and SITES case studies.

Questions for discussion

- How might the scenarios suggested in paragraph 34 be developed? How many might be needed?

---

5. This involves identification of the actual ingredients (staff time, resource materials, and capital costs, for example) used to provide services, and the estimation of their actual costs. See Levin, H. M. (1983) Cost Effectiveness: A Primer, Sage: Beverly Hills.

6. Such a meeting could be facilitated through the use of group process software.
Theme 4: The institutional, regulatory and legal frameworks for education and ICT

36. This theme will be informed by experience gained in addressing the other principal components of the activity, and will be the last to be treated.

37. **The first of its questions** (What types of policies result in the dissemination of good practice in the use of ICT use in education?) could be addressed primarily through commissioned synthesis papers drawing upon the literature on educational innovation. These could be complemented by an international seminar to draw upon national experience.

38. **The second set of questions** (How does the legal and regulatory framework of education affect the use of ICT?) could be addressed through two main approaches:

   - The development of “vision statements” or “ideal types” describing desirable effective educational uses of ICT from the perspective of the educational institution. These would be used to develop a set of analytical questions that could be used to investigate, from the institution’s perspective, how a number of factors governed by education’s regulatory frameworks and legislation (the curriculum, assessment practices, class sizes, accreditation and certification, attendance requirements and the like) help or hinder movement by the institution towards the effective uses of ICT embodied in the “vision statements” or “ideal types”. These instruments would then form the basis of a set of national meetings of educational managers and policy makers, combined with site visits, that together would explore how, in particular countries, regulatory frameworks can create opportunities for or provide barriers to the effective use of ICT in education.

   - The establishment of a study group of senior educational policy makers to undertake a set of site visits to public and private corporations that are at the leading edge of the flexible application of ICT to learning. Following the site visits a systematic and structured de-briefing of the group could be used to increase understanding of how the regulatory frameworks of education can provide opportunities for or impediments to innovative online learning within public education.

39. **The third question** (How do public policies in areas such as telecommunications and whole-of-government use of ICT affect the use of ICT in education?) included in this theme could be addressed, in co-operation with DSTI and PUMA, primarily through commissioned synthesis papers, and through an analytical meeting to consider the results of these papers. The meeting suggested by Switzerland, mentioned in paragraph 9, could serve this purpose.

7. The activity on national qualification frameworks will be examining how the use of e-learning for multi-site delivery of qualifications -- within national jurisdictions as well as across national jurisdictions -- affects accreditation and certification policies. It will also be examining the development of vendor qualifications in the ICT industry and their relationship to public qualification frameworks. The CERI activity on international trade in educational services is examining the relationship between cross-national e-learning and accreditation and certification within tertiary education. Lessons drawn from these two activities will be incorporated into the proposed activity.
Questions for discussion

- How might “vision statements” or “ideal types” be developed?
- What form might national meetings and site visits take?
- How should a study group of senior educational policy makers be established? How might it operate?
- What alternative methodologies might be considered for this theme?
- Which key partners might be involved?

6. RESOURCE IMPLICATIONS OF PARTICIPATION

40. Participating countries will not be asked to make a direct financial contribution to the OECD to support the activity. However as the activity is designed as a collaborative one between participating parties, there are a number of resource implications that countries, and other parties will need to consider. Specifically, consideration will need to be given to the resource implications of:

- Appointing a national co-ordinator;
- Participation in theme advisory committees;
- Providing brief written contributions on individual themes or issues as outlined in paragraph 19.
- Hosting workshops, meetings, seminars and site visits, including meeting the costs of expert participation and any internal travel;
- Nominating national experts to participate in the activity;
- Participation in the development of scenarios;
- Contributing data, for example to the database on national policies on ICT and education that is described in paragraph 15;
- Contributing to the commissioning of expert papers;
- Identifying and providing access to sites where innovation and good practices can be observed.

National Co-ordinator

41. Each participating country will need to appoint a National Co-ordinator to be responsible for:

- Communications with the OECD Secretariat about the activity;
− Communications within the country about the activity;
− In some cases, participating in theme advisory committees;
− Ensuring the selection of appropriate country representatives for each theme;
− Liaison with the OECD Secretariat about the organisation of visits;
− Attending international meetings and workshops associated with activity;
− Co-ordinating country feedback on draft materials produced through the activity; and
− Assisting with dissemination activities associated with the activity.

42. National Co-ordinators would normally be appointed from within the national Ministry of Education, and would preferably be an official with close involvement in the area of ICT and education policy.

Question for discussion

43. Countries, and other parties, are asked to indicate the particular themes and issues to which they wish to make a contribution, and the overall level at which they wish to participate in the activity.

7. **TIMETABLE**

44. The original timetable for the activity that was proposed in DEELSA/ED(2002)3 is set out in Table 1. It envisaged a set of discrete but overlapping activities for each theme over the 2002-2005 period, with a final policy dissemination conference at the conclusion of the activity.

45. This proposed timetable will need to be adjusted slightly in light of the delay to the commencement of the activity as a result of the present meeting. However it will also need to be adjusted in light of the practical commitments that countries, and other parties, are able to make to hosting meetings, workshops, site visits and the like. For example if a meeting were to be hosted, as suggested above in paragraph 10, in association with the International Telecommunications Union World Summit on the Information Society, this would have implications for the timetable proposed for theme 4 and for the overall sequencing of work on each theme.

46. The formation and operation of theme advisory committee and the appointment of national co-ordinators would need to take place by early in 2003.

Question for discussion

47. Participants are asked to consider how this timetable might need to be modified in light of the previous discussion at this meeting.

8. **OUTPUTS**

48. Four main reports will be issued from the activity, one for each of the four themes outlined above. In addition a document setting out the key policy lessons learned from the total activity will be
published at its conclusion as a basis for the final dissemination conference. It is proposed to hold the final conference in partnership with the ICT industry.

49. In addition to summary reports the activity’s results will appear in the form of Newsletters, conference proceedings and consultants’ papers, all of which will appear on the activity’s web site. A special website will be created for the activity.

Table 1: Initial proposal for the activity’s timetable.

<table>
<thead>
<tr>
<th>Period</th>
<th>Theme 1</th>
<th>Theme 2</th>
<th>Theme 3</th>
<th>Theme 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002 Q4</td>
<td>• Analysis of adult learning review materials</td>
<td>• Commissioning of synthesis papers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003 Q1</td>
<td>• Workshop: adult learning review final conference</td>
<td>• Adult learning review Round 2 visits</td>
<td>• Formation of experts panel on ICT and educational resources</td>
<td></td>
</tr>
<tr>
<td>2003 Q1</td>
<td>• Adult learning review Round 2 visits</td>
<td></td>
<td>• Development of resource scenarios</td>
<td></td>
</tr>
<tr>
<td>2003 Q2</td>
<td>• NCAL/OECD Conference on ICT, inclusion and equity; meeting of advisory committee.</td>
<td>• Joint meeting with PEB on facilities design and ICT</td>
<td>• Commissioning of synthesis paper</td>
<td>• Development of scenarios on teacher working conditions</td>
</tr>
<tr>
<td>2003 Q3</td>
<td>• Meeting of experts and policy makers on ICT resource scenarios</td>
<td>• Workshop on ICT and teacher effectiveness</td>
<td>• Development of “vision statement” and analytical questions</td>
<td></td>
</tr>
<tr>
<td>2004 Q1</td>
<td></td>
<td>• Meeting on teacher working conditions</td>
<td>• National meetings and site visits</td>
<td>• Formation of enterprise study group</td>
</tr>
<tr>
<td>2004 Q4</td>
<td></td>
<td></td>
<td>• National meetings and site visits</td>
<td>• Enterprise visits</td>
</tr>
<tr>
<td>2004 Q4</td>
<td></td>
<td></td>
<td>• Enterprise visits</td>
<td>• National meetings and site visits</td>
</tr>
<tr>
<td>2004 Q4</td>
<td></td>
<td></td>
<td>• Enterprise visits</td>
<td>• Enterprise visits</td>
</tr>
<tr>
<td>2005</td>
<td>Final policy dissemination conference</td>
<td></td>
<td>• Structured de-brief</td>
<td></td>
</tr>
</tbody>
</table>