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MEETING OF THE EDUCATION COMMITTEE AT MINISTERIAL LEVEL
ANALYTICAL REPORT: EDUCATION POLICY ANALYSIS

CHAPTER 5: TOMORROW'S SCHOOLS: TRENDS, INNOVATIONS, POLICIES

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(Note by the Secretariat)

1. At its Spring 2000 session, the Education Committee agreed to Secretariat proposals for background documentation for the meeting of the Committee at Ministerial level, to be held 2-4 April 2001. The documentation is to include an analytical report, prepared as a special issue of *Education Policy Analysis (EPA)*. The volume is to be released at the Ministers' meeting.
2. Following the format established for *EPA*, the analytical report is being prepared as a set of distinct chapters:
 - Chapter 1: Lifelong learning for all: Policy lessons (PART1)
 - Chapter 2: Lifelong learning for all: Taking stock (PART2)
 - Chapter 3: Closing the Gap: Securing the benefits from education and training for all (PART3)
 - Chapter 4: Competences for the knowledge economy (PART4)
 - Chapter 5: Tomorrow's Schools: Trends, innovations, policies (PART5)
3. Chapters 4 and 5 are being circulated in the form of elaborated outlines at this stage. These short versions provide the main lines of the argument, identify key evidence and references and advance preliminary conclusions. First drafts of the completed chapters will be circulated to the Education Committee and the CERI Governing Board for written comment before they go to the Enlarged Bureau.
4. The Analytical Report comprising these chapters as revised in light of the discussion in the Education Committee and the CERI Governing Board will be submitted for review at the meeting of the Enlarged Bureau.
5. The Education Committee and the CERI Governing Board are invited to **DISCUSS** and **COMMENT** on the attached document.

CHAPTER 5: TOMORROW'S SCHOOLS: TRENDS, INNOVATIONS AND POLICIES

1. *Introduction*

6. This schooling chapter complements the broader range of the previous chapters, while addressing issues of clear relevance to lifelong learning and competence development. Schooling is the part of the overall lifelong learning enterprise that is most centrally within the remit of education authorities. The success of schools should be judged increasingly in their ability to lay a firm foundation for lifelong learning for all, but it is probably fair to observe that in most countries there has yet to be a more fundamental re-think of what the distinct role of schools should be to achieve this. This chapter addresses conditions, challenges, and futures for schooling through the following sections: i) *systems and structures*; ii) *resources for schools* - financial, human, technical, facilities, communities/social capital; iii) *teacher and school knowledge* - the knowledge base of teachers and schools, how they are created, mediated and used, innovation and networks; iv) *scenarios and policies* for the future. The chapter will reflect the results of the CERI programme "Schooling for Tomorrow", including the conclusions from the November 2000 Rotterdam conference, while drawing on many other OECD sources.

2. *School Systems for the 21st Century?*

2.1 *Compulsory schooling and extension of participation in pre- and post-compulsory education.*

7. There remain differences in legal requirements for educational attendance in countries [to be illustrated], though there are some signs of convergence. The obligatory period - that used to define the main boundaries for educational participation - has now been extended *de facto* so much by attendance at either end of the obligatory period in the pre-primary and upper secondary phases that the significance of compulsion has become blurred in the process. With what consequences? How significant are educational alternatives to schools during the compulsory years [e.g. home or alternative schooling]? How large is the extent of non-attendance even during the compulsory years? And, in the light of patterns of participation in education and training over a lifetime presented in Chapter 1, what are the consequences of strengthening of "front-end" initial education with much higher retention rates in post-compulsory education? It will also be possible in this section to include demographic projections for numbers of young people coming through schools in the future.

[Table: Demographic projections by age bands.]

2.2 *Scale of school and education systems*

8. With the growing participation in non-compulsory programmes, as well as the compulsory core, OECD countries have developed very large schooling systems in terms of numbers of students, teachers, and schools. Many more again are involved in organising education - administrators, decision-makers and inspectors; specialist support, ancillary and training staff; researchers; parents etc. When post-school education is added, it becomes clear just how important the "education sector" has become in terms of numbers and resources (the focus of the following section). The sheer scale of systems can easily be taken for granted, but it is a key characteristic of the sector, with consequences for organisation and (in)flexibility, and for the possibilities and costs of implementing widescale change.

[Table or graph: Proportions of the active labour force of teachers, other educational personnel, and both combined - with and without tertiary education.]

2.3 *School structures - towards convergence?*

9. Having noted common aspects of school systems, there remain important differences. Some maintain formal selection whereas many others have adopted comprehensive models, and within these are differences in the range and nature of programme options. Some operate with a distinct system of special schools for those with disabilities, in others integration has been taken much further. The role of the parental choice and the private sector varies across countries, as does the relative powers of the state, religious groups, and the community. Some countries maintain strong apprenticeship systems, whereas in others the institutionalised links between education and the labour market are much less well developed. This section will review some of the main organisational and structural features to ask whether national distinctiveness is still the norm or whether there is evidence of convergence towards similar structural models of schooling across OECD countries.

3. ***Resources for Schooling - form, use, management***

3.1 *Financial resources*

10. Further indication of the scale of education and school systems is provided by evidence on resources, while the structural issues addressed in the previous section are also addressed by data on how financial resources are distributed between the public and private sectors. EAG analysis shows that OECD countries as a whole spend 6.1 per cent of their collective GDP in support of education, and in the seven years to 1997 this grew faster than national wealth in almost all OECD countries. Public spending on schools *per se* accounts for some 4 per cent of GDP. To this can be added substantial additional outlays of time and money made by households and others. One question is how well schools are resourced compared with the other educational sectors, especially at the tertiary level.

[Table: public subsidies to private education and households at school level]

3.2 *Teaching resources*

11. This section will present and discuss evidence relating to a, perhaps the, key resource for schools - teachers. An important characteristic of resource allocation is the high proportions of current expenditure accounted for by the salary bill - of teachers and other professionals. What does this mean and how much does it differ between countries? The ratio of teachers to students is not the only indicator of the intensity of the teacher resource available for schools, but it is one of the most straightforward. Similarly, salary

levels are by no means the only indicator of conditions and the attractiveness of teaching but they do have a clear relevance. The section will be mindful of how difficult are generalisations about teachers - who they are, conditions, what they do - and the hazards of relying on single indicators to summarise teaching conditions, still more to account for outcomes.

[Educational spending by purpose - the relative size of the teacher salary bill; beginning and experienced teacher salary data, by level.]

[Student-teacher ratios and class size data, by country and school level]

12. In addressing teacher profiles and in gaining an understanding of the position of teaching in the professional labour market, two important aspects of the available teaching resources are their *age profiles* and *feminisation*. Some countries are facing severe pressures of teacher ageing, rendering teacher supply problems still more acute. On gender, there are major variations by country and educational level in male/female ratios among teachers, the under-representation of women in school management posts in some countries, as well as the socialisation issues raised by the absence of male teachers. This section will consider aspects of teacher profiles where further comparative data would be useful to shed light on issues of competence, quality, and lifelong learning.

[OECD data on age profile of teachers by level, showing proportions of over-40s and -50s.]

[Graphs showing proportion of women teachers at the different levels of education - with three columns for each level: highest, average, and lowest]

3.3 Technological resources and investments

13. These resources have received a great deal of attention in recent initiatives, and the investments to equip schools with ICT materials and Internet connectivity have indeed been substantial, [1999 estimates around \$16bn annually OECD-wide and rising]. While these are among the largest new investments made in OECD school systems they are still only about 1-2 per cent of educational spending. Much of this is accounted for by costs of hardware and connectivity. The Rotterdam conference concluded that there now needs to be a shift towards software and investment in the human/organisational side: it is not so much how many ICT resources are available but whether and how they are being used for learning. Educational software development needs attention, as does the training of teachers in ICT classroom use, and networking by students and teachers. On all these questions, this section will draw on diverse CERI work from the "ICT and the Quality of Learning" activity under Schooling for Tomorrow (including *Learning to Bridge the Digital Divide*, 2000).

[Box: examples of recent national initiatives on ICT in schools, with expenditures]

3.4 Buildings and facilities

14. The resources represented by the buildings, facilities and grounds of schools can be taken for granted, but how adequate these are for the complex purposes now being demanded of schools, particularly in a lifelong learning context, needs consideration. The School Building Programme (PEB) has gathered preliminary data on the age of school buildings, expenditure on them as a percentage of capital value, and the value of the overall school building stock. These data will be discussed in this section, informed by the broader work of this programme on schools for tomorrow.

3.5 Community and parental resources

15. The community and social resources that schools can call upon are critical aspects of the resource base for learning and support. This section draws on three forms of analysis. First, there is the work done in CERI and PEB focusing on the integration of services. This shows the synergies that are possible when the different services for children and young people are co-ordinated rather than operating in parallel (*Coordinating Services for Youth at Risk: A World View*, 1998; *Under One Roof: The Integration of Schools and Community Services in OECD Countries*, 1998). Second, there is the work on the role of parents in schooling, and different approaches taken to including parents in governance. The approaches which are most successful, which involve parents in their children's learning, still tend to be small-scale innovations with little wider impact. (*Parents as Partners in Schooling*, 1997). Third, there is the extensive work on human and social capital (DEELSA/ELSA/ED/CERI/CD(2000)3/REV1). This explores, *inter alia*, the extent to which schools can rely or not on the social capital generated in communities and families, and whether they should now be more actively engaged themselves in the creation of social capital.

3.6 Managing school resources

16. Decentralisation, particularly to the school level, has been a general recent trend. "Decentralisation", however, is a term covering many different changes and players, and may well be accompanied by centralising forces for steering and greater accountability. As responsibility devolves increasingly to those at the local level to make decisions and manage resources, so does it become more important to examine different models for school-based management and the approaches being tried to build local capacity. This is the subject of the most recent CERI "What Works" study based on developments in Belgium (Flanders), Greece, Hungary, Japan, Mexico, the Netherlands, Sweden, the United Kingdom, and the United States ("New School Management Approaches" CERI/CD(2000)3), and this section will draw on the results of this work.

4. Teacher and School Knowledge

4.1 Teacher education - initial and in-service

17. The key role of teacher learning, always recognised as important, has become still more widely acknowledged with both the high priority education enjoys in countries and realisation of just how critical are teachers to its effectiveness. This section will be able to draw both on the developmental work for the Education Committee's activity on "Teachers as Lifelong Learners", and the earlier CERI work which focused on in-service education and training (*Staying Ahead: In-service Training and Teacher Professional Development*, 1998). The 1998 CERI review of INSET was critical of the overall state of teacher professional development. While noting many particular exemplary cases and some evidence of a general shift from individual career-oriented training towards whole school developmental activities, the broad conclusion was that too little in-service professional learning is experienced as a continuing developmental activity linked to broader strategies. What more can be done?

4.2 Networking teachers, innovation and R&D - schools as learning organisations

18. Though there is no firm line separating INSET and non-formal teacher learning, it is necessary to move away from the idea that teacher knowledge is acquired primarily through individual participation in courses and programmes. Much learning takes place through experience that largely remains, as the CERI "Knowledge Management" analysis has shown, tacit and unshared. More support could be given to

formative evaluation, which is a crucial source of teacher knowledge about students and their progress, and to networking teachers. "At the level of the individual teacher, there needs to be a psychological transition from working and learning alone, with a belief that knowledge production belongs to others, to a radically different self-conception which ... sees the co-production of knowledge with colleagues as a natural part of a teacher's professional work. At the system level, ways have to be found to bring teachers together in such activity." (*Knowledge Management in the Learning Society*, 2000: 74) The more this becomes the norm, the more do schools - individually and collectively - move to become "learning organisations". This discussion will focus on the limitations of overly isolated approaches to teacher learning and action, and how they might be overcome.

19. If schools and teachers are to be actively engaged in learning, in a climate of experimentation and knowledge-creation, it suggests an emphasis on innovation. Examples of innovation and networks in schooling have recently been explored in the CERI work on "Schooling for Tomorrow", both in a seminar in Lisbon and in the Rotterdam conference. Examples of innovative practice, principles derived, and policies to support and disseminate innovation will be presented.

[Box showing examples of innovations reported in Lisbon/Rotterdam.]

20. More broadly, there are the questions relating to how knowledge is created, mediated and used in schooling as a whole. Less than 0.3 per cent of total education expenditure is allocated to research, and the educational knowledge base is seriously under-funded. Yet, rather than just fund more traditional research, more profound questions relating to the nature, organisation and outcomes of each system's knowledge base should be addressed, with a focus as much on how such knowledge reaches practitioners and is built on and used, as on the initial production of this knowledge. Hence the "D" of R(earch)&D(evelopment) should be given full attention as is the "R", which means enhancing teacher and school knowledge and strengthening the linkages between knowledge production and practice. (One follow-up to the CERI "knowledge management" work will include reviews of educational R&D systems, beginning in 2001).

5. Future Scenarios and Policies

21. This section would present the main scenarios from the CERI Schooling for Tomorrow analysis, as well as conclusions from the Rotterdam conference. The scenarios are too detailed to be presented in full, and therefore key aspects only will be summarised in boxes. They have been constructed on an approximate 15-20 year time scale, with a focus as much on the intervening processes making for stability or change as on the "pure" scenarios. Though they may never emerge in "pure" form, they help to throw the main options for the future into relief and span a wide range for the future of schools. Similarly, the conclusions from Rotterdam (DEELSA/ED/CERI/CD/RD(2000)15) are too extensive to be reproduced in conclusion to this chapter, but some principal elements will be reported and discussed.

[Boxes showing key features of the CERI scenarios - The Status Quo Continues; Schools as Core Social Centres; Schools as Focused Learning Organisations; The Market Model; Technology and the Network Society.]

22. What may well be needed are methodologies to move from the essentially historical data of much research and statistics towards forward-thinking approaches that bring together analysis of current and possible future trends and educational decision-making. As concluded by Ms. Ylva Johansson, Chair of the 2000 Rotterdam Schooling for Tomorrow conference: "Policy-making, not just students, teachers and schools, must be in a process of constant learning. For this, methods and strategies for long-term thinking are needed. Despite the fact that education is *par excellence* about long-term investment and change,

forward-thinking methodologies are woefully under-developed in our field. I found, as others, that the scenarios for the future presented in the OECD report represent a valuable tool for clarifying the strategic choices that our societies are confronting."