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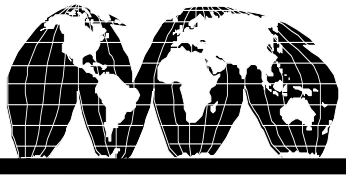
OECD/INES/NETWORK A

Review of Assessment Activities



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In This Issue

The Fall 2001 newsletter's main article presents information from a survey of Network A members on their notions of and experiences with information communication technology (ICT) assessment. The article follows up on an article on ICT we presented two years ago, which explored how technology was impacting educational assessment in Network A countries. At that time, the focus was on using technology to improve the efficiency of the assessment process with some newer uses of technology as an integral part of the assessment design. The article in this newsletter focuses on how countries are assessing students' ICT skills more broadly. While there are many new activities to report since that earlier article, there is more to learn about assessing how students use ICT and how the use of ICT impacts their learning in ways that go beyond skills tests and capture the potential of ICT. This is an important issue for member countries, as they are interested in incorporating an ICT component in PISA (Program for International Student Assessment) 2006.

Also included in this issue is a country highlight focusing on Mexico. Read about Mexico's education system and how education is evaluated at the system and student levels. As usual, the newsletter provides updates on Networks A, B, and C, and the BPC, as well as a brief review of assessment activities occurring in member countries between June and December 2001.

We thank all those who contributed to the newsletter, including many Network A country representatives and newsletter contacts. Special thanks are due to Fernando Córdova, from the Ministry of Education in Mexico for authoring the article on the Mexican education system, and to Jonas Börjesson of Sweden and Jaap Scheerens and Maria Hendriks of the Netherlands for updates on Networks B and C. We appreciate your efforts in keeping us informed of activities from around the INES Project. We hope you enjoy the latest newsletter!

Toward Assessing ICT Literacy

Educators, researchers and policy makers in many developed countries are keenly interested in the use of ICT for educational purposes and for the past decade or more have been working to build up the stock of computers and Internet connections in educational settings. Although there is definite variation in the degree of connectivity in schools in Network A member countries, many countries have at least begun to move beyond these first and most basic issues of infrastructure and access to issues of professional development and training in the use of ICT and the development of sound technology-based pedagogy and curricular materials. Going a step further, members also are extremely interested in assessing students' use of ICT and in using technology for delivering assessment. In particular, they are interested in incorporating an ICT component in the 2006 data collection for PISA (Program for International Student Assessment).

Earlier this year, we surveyed Network members about their interests in and experiences with ICT assessment in an effort to learn what was already going on in the field and to inform the upcoming development work for PISA. This newsletter article reports on the findings of that survey, including information on how ICT is characterized in Network A countries, how ICT has been assessed up until this point, and possible next

steps. As the article shows, there is still work to be done to move from strictly assessing ICT skills to assessing students' use of technology in a way that is compatible with the PISA notion of "literacy," which focuses on students' applications of their knowledge and skills in real-life situations.

Characterizations of ICT

We first asked Network members about their views on what ICT means—both what technologies it includes and how they perceive its value for education in their countries. Among respondents, there seemed to be a tacit agreement that technology (of interest for assessment purposes) includes multi-media computers with Internet connections and standard peripheral equipment and software and should not exclude, for broad definitional purposes, hand-held devices and other mobile technologies that are web-equipped and function like a more traditional desktop or laptop computer.

Also, most countries shared that they think technology is a tool, or a technique, rather than a content area. Nearly all countries responding to the survey described a view of technology that likened it to that of books and other resources that, while students must know how to use them, ultimately are important as a springboard for other educational goals. However, it was in these educational goals that some subtle variation among countries emerged.

- Most countries described technology as a tool for enhancing learning in academic subjects and for transforming the processes of teaching and learning. For example, in the words of **New Zealand**'s technology strategy from 1998 (which was recently updated), the broad goal is "to enhance the development of students' knowledge, understandings, skills, and attitudes through the appropriate and effective use of ICT."

- Several countries (e.g., **Austria** and **Finland**) described technology as a tool to promote the broader goal of developing a knowledge-based or information-based society in which education, research, culture, and economy are integrated.

- Several countries (e.g., **Belgium (French), Denmark, Finland**) also mentioned the role of technology, as access continually increases, in equalizing educational opportunities or in individualizing students' learning experiences, especially for those students with special needs or separated from expertise by long distances or remote locations (e.g., **New Zealand**).

However, there were a few countries (e.g., **Germany, Hungary**) that (also) declared some interest in ICT for its own sake (i.e., ICT is important as a knowledge not just as an enabler). Several other countries acknowledged the importance of first having basic technological skills (e.g., word processing, Internet searching) in order to reach other educational goals.

This raises a related subtle difference among members' views of ICT—the degree of integration of ICT learning into other subject areas. For example, **Belgium (Flemish)** noted that ICT is not learned outside the context of other subjects and that their ICT policy is based on providing incentives for the integration of ICT into instructional programs. On the other hand, in **Hungary**, ICT is considered a separate subject and a mandatory part of the curriculum for 12 to 16 year-olds. In some countries (e.g., **Switzerland**), ICT is separate only in the vocational system, whereas it is used in a supportive role in the academic track. In other countries (e.g., **Ireland**), ICT may be both a separate subject and integrated into other curricula. The overall trend is toward integration of technology education into other subjects.

Examples of ICT Assessment

We also asked members to share their knowledge about national and international examples of ICT assessment. The examples described by members can be divided into several categories. Based on the information provided by members, as well as in papers previously commissioned by the Network, it seems that there are sufficient examples of self-report or skills assessments and fewer well-developed examples of assessing how students learn with technology or when technology is an integral part of the assessment.

Self-report instruments. There are many national and international examples of self-report instruments in which students (or teachers) are asked about ICT—about how much they know about ICT, how they use ICT, what their competencies with ICT are, and what their attitudes toward ICT are. The self-report instruments described below were administered in paper-and-pencil format. For example:

- **Australia** administered a survey in mid-1998 to a national sample of primary and secondary students that included items on students' self-assessment of their skills, their access to computing resources, the types of equipment they are familiar with, and the range of uses to which technology is put. There was an accompanying questionnaire for teachers, probing about knowledge and skills, use in the classroom, and access to professional development, as well as one for school principals, seeking information on school policies, support, and funding for technology.

- **Hungary** conducts multiple surveys on ICT. Of note, there is a yearly self-report questionnaire for students on their ICT skills. There also is a survey aimed both at teachers and students on their attitudes and habits with ICT.

- In **Germany**, several groups of researchers have administered surveys on students' beliefs, attitudes, and computer usage. **The Netherlands** administered a similar self-report assessment on students' knowledge of concepts, their use and attitudes, and competencies with ICT.

International examples include: (1) IEA *SITES Module 3*, which includes an optional student survey on knowledge, attitudes, exposure, and use of ICT in the home; and (2) the questionnaire used in *PISA 2000* on students' familiarity with ICT, which identified if, where, and why (in a limited way) students accessed computers and the Internet and their comfort in using such technology. In the documentation for the revision of the PISA questionnaire on students' familiarity with ICT for the 2003 data collection, there are proposals to increase the scope of the survey to include items on evaluating when and how to use technology and on associated legal, ethical, and social issues. Such developments would move the instrument somewhat closer to the next category.

Assessment instruments. The examples above are distinguished by the fact that the subjects (students or teachers) are providing the evaluation of their skills, rather than having them objectively assessed through test items. (Although some researchers wonder whether such self-assessments may in fact be reasonable proxies for actual skill level, some Network A members expressed skepticism about this.) There also are several examples of ICT assessments, however, which can be subdivided by whether they focus on basic ICT skills or on other ICT-related skills. Furthermore, some of these assessments are paper-and-pencil format and others are computer-based.

- **Paper-and-pencil assessment of ICT skills and concepts**. These examples are distinguished from those in the previous examples in that they include "test" items in addition to or instead of "questionnaire" items. Examples include the proposed *OECD Test of Concept and Skills*, which focuses on basic ICT concepts, data structures, procedures, and appropriate use, and a **Finnish** national assessment from 1998, which respondents from Finland suggest likely is out-of-date but which included upper-end applications (e.g., desktop publishing and programming) in addition to basic concepts and skills. **Italy** also includes an assessment of ICT in their national final examination, with items in both multiple choice and open-ended formats. Another example is from Virginia (**U.S.**), where students are tested at the end of the 5th and 8th grades on their mastery of Standards of Learning in, among other subjects, computer technology. The 8th grade test is organized around understanding application software; understanding electronic communications; and accessing, retrieving and analyzing information. Standards also have been developed for 12th-graders, although there is no formal test at this point.

- **Computer-based assessment of ICT skills**. One of the most commonly cited examples of a computer-based assessment of ICT skills was the *European Computer Driver's License*, which is a 7-module test used in some countries to certify teachers' ICT competencies and in other countries with secondary school students. Similarly, the Idaho (**U.S.**) Technology Performance Assessment (ITPA) is a 6-task computer-based test used for certification of teachers in ICT, in which the tasks presented are ones a teacher might typically be asked to perform in the classroom using technology to support learning. The North Carolina (N.C.) State Test of Computer Skills (**U.S.**) and **England**'s key skills assessments provide examples of computer-based assessments for students (to be demonstrated between 8th and 12th grades in N.C. and for 11 to 14 year-olds in England). A feasibility study is planned for whether England's key skills assessment can be administered on-line. The table below describes the components of each of these examples, most of which are organized around types of software or functional skills largely related to different types of software. Interestingly, England's assessment is organized around work/study goals.

Components of Computer-Based ICT Skills Assessments

ECDL	ITPA	North Carolina	England
Basic concepts	Basic operations and file management	Keyboarding	Finding things out
Managing files	Word processing	Word processing/editing	Developing ideas and making things happen
Word processing	Spreadsheets	Spreadsheet use	Exchanging and sharing information
Spreadsheets	Scanners and digital Images	Database use	Reviewing, modifying, and evaluating work as it progresses
Database	Electronic presentations		
Presentation	Internet searching		
Information/communication			

- **Computer-based assessment of ICT-related skills.** There are several experimental examples in this area—where the assessment moves into the realm of learning with or by technology. As part of the GLOBE Project, in which students perform scientific measurements and pool and discuss their data over the Internet, there is an effort to develop a student assessment that will measure students' understanding of the concepts of the project and their ability to interpret data in this environment. This is an example of learning science with technology. As part of the WorLD Links Project, which aims to provide Internet connectivity and training on the use of technology in education to teachers and students in developing countries, student assessments are planned to obtain information about their skills in using their connectivity to perform research. This also is an example of learning with technology.

  A recent report by the *National Research Council in the U.S.* identified 5 conditions that are key for learning and that can be supported by technology: real-world contexts, connections to experts, visualization and analysis tools, scaffolds for problem solving, and opportunities for feedback, reflection and revision. Following from this, there is a project to develop assessments—not of technology *per se*—but of the higher order or inquiry-based activities made possible by technology. In order to be widely applicable, the project has focused on technology-supported research and communication skills. One task, which has been pilot tested and is under revision, is an Internet research task that collects information on students' technology use, reasoning with information, and communication. In general, students demonstrated greater proficiency at finding appropriate information than at reasoning with the information or communicating conclusions in a well-organized and thoughtful manner. Variation was seen in the queries students generated and their interpretations and assessments of questionable information. Not surprisingly, the pilot study found relationships between students' prior experience with technology and their scores.

  Another task under development uses hand-held (palm-top) computers for students to provide real-time self-assessments of their collaborative activities. Originally focused on dimensions of collaboration commonly cited in research (e.g., developing social norms), future iterations will focus on evaluation by categories of student activity (e.g., planning). (The project was initially designed as a tool for teachers to obtain and record better information about the *quality* of collaborative work but was easily extended to students.) Applicability in a large-scale setting, especially with cross-cultural issues relating to self-reporting, may be limited, but it is an interesting project to take note of. Both this and the previous example are situations in which technology is used to capture skills not easily assessed with more conventional assessment.

  Another example in this vein is a special study of the **U.S.** National Assessment for Educational Progress (NAEP). The Technology-Based Assessment project is designed to explore the use of technology (computers) to enhance the quality and efficiency of educational assessments. Two sub-projects (mathematics and science on-line) are basically experiments in computer adaptive testing, but a third (problem solving in a technology-rich environment – TRE) will present tasks not possible in paper-and-pencil settings to tap

emerging skills. The TRE has a search and a simulation model, currently presented in the context of science. The TRE is being pre-tested this Fall (2001). Another notable example includes Germany's computer-based problem solving option in PISA, which identified a strategic competence, on which computer-related skills had an impact. Finally, there also has been some discussion of including ICT-supported performance assessment tasks in mathematics and science in IEA *SITES Module 3*.

Frameworks. Given that assessment of ICT-related skills is only just beginning, it also may be useful to look at examples of projects that are in the nascent stages. For instance, in several countries, there are efforts underway to develop frameworks or standards for ICT:

- **Australia**. In 1999, the Ministerial Council on Education, Employment, Training, and Youth Affairs (MCEETYA) agreed to a new set of national goals for schooling in Australia and established a taskforce to develop key performance measures for nationally comparative assessment and reporting on outcomes in key areas covered by the new goals. ICT was one of the areas of priority and thus for the past two years a task force has been at work to develop a definition of ICT in Australia's schools and develop a framework for assessment. The project classified a range of applications of ICT in schools—from learning about technology, to learning with and through technology—and determined that three assessment domains should be assessed, including knowledge and skills, attitudes toward and confidence with, and access to ICT. The latter two domains will be captured through Australia's participation in PISA. The curriculum-related framework[1] for the first domain includes: (1) information management skills and knowledge; (2) understanding social and ethical contexts of information use; (3) creation skills; (4) communication skills; (5) research and information classification skills; and (6) creative and design skills and knowledge. It is somewhat similar to England's framework in its orientation. Once the framework is approved, work will begin on delineating the skills and standards associated with each of the areas.

- **British Columbia (BC), Canada**. Although there currently are no provincial-level assessments of ICT skills in BC, there is a project underway in a consortium of BC school districts to develop ICT performance standards. The development of provincial ICT performance standards also is under discussion by the Ministry.

- **United States**. The United States is funding a project, led by the Educational Testing Service (ETS) in conjunction with associations and industry experts that have previously addressed workplace-ICT issues, which is convening an international panel charged with defining a framework for the design and conduct of assessments of lifeskills associated with ICT. The project will: define ICT; distinguish ICT in the workplace and ICT in society; identify necessary ICT skills and appropriate skill levels to be attained; and develop an assessment framework accordingly.

[1] This framework should be considered tentative, as Federal, State, and Territory review has not yet been completed.

- **International Society for Technology in Education**. This organization has several projects to develop standards for implementing technology in education, including an effort to establish a set of National Educational Technology Standards for pre-kindergarten through 12th grade students in U.S. schools. ISTE identified 6 foundations for technology in education, organized mainly around types of applications: (1) basic operations and concepts; (2) social, ethical, and human issues; (3) technology productive tools; (4) technology communication tools; (5) technology research tools; and (6) technology problem solving and decision-making tools. Associated skills and guidance or tools for evaluating those skills are still under development.

Next Steps

Finally, we also asked members how they would see an ICT assessment in the future (such as in PISA), and several generalizations can be made about the responses. First, nearly every member indicated that an assessment in the future (or at least a major part of it) would have to be computer-based. Though most members also thought information needed to be collected about students' experiences and the penetration of ICT in schools (to relate to results), they thought an assessment outside the medium itself would not be credible.

Second, not quite half of the responding members saw some value in assessing (at least) basic skills, as is done in the ECDL or other examples, using whatever applications might be standard at the time. A few countries indicated that this might include programming skills, whereas some other countries did not see programming as a universal skill. However, this is not the area in which members envision expending developmental effort, as there are many existing credible models.

Third, several members notably mentioned the importance of the often collaborative aspect of ICT use and wanted to see that incorporated into a PISA assessment. Similarly, several countries were interested in students' understanding of the impact of ICT use on society and related social issues. Some of these latter issues may be picked up in the PISA 2003 familiarity questionnaire, but it is still an interesting component to keep in mind for the future.

Finally, among the many countries that thought an assessment must move beyond basic skills, there was some variation (though not necessarily mutually exclusive) in terms of what that might entail. Several countries noted an interest in information-handling aspects of ICT, such as with a research-based task. One country suggested that Network A development work should concentrate on students' *strategic* (v. instrumental) skills—that is, when and why students use technology for accomplishing their goals. Another country similarly expressed interested in learning about students' critical use of ICT and information. Other suggestions included: emphasizing the close connections of ICT to new styles of learning, problem solving and knowledge building; and examining the general cognitive competencies that are strengthened by technology (e.g., problem solving, decision making). With regard to the latter, this country saw related skills in a "technological style of thinking" (e.g., inventing algorithms, communicating with formal models) as a separate activity. Looking toward the future, one country suggested a complex, technology-based task that integrated cross-curricular competencies and that might be informed by the key competencies framework development activity (DeSeCo).

Over the next few months, at the lead of one member (Arnold Spee from the Netherlands), Network A will be working to develop a draft definition of ICT literacy to inform its future work with experts to develop an assessment

framework. We look forward to keeping you informed of the developments.

Network Updates

Network A

Network A last met on October 25-26, 2001 in Budapest, Hungary. Network members reviewed draft indicators for the *Education at a Glance* (*EAG*) chapter on learner outcomes, which will focus this year on the key results from the Program for International Student Assessment (PISA). The indicators will include an examination of students' reading literacy (i.e., distribution across proficiency scales, mean scores) and of how it is impacted by certain characteristics of students' social background, such as family wealth and access to classical cultural capital, students' and parents' place of birth and language spoken at home, and mothers' highest level of education. There also will be an indicator providing an overview of students' mathematics and scientific literacy in terms of mean scores and distributions.

Members reviewed the progress of other ongoing activities at the meeting, as well. Members were updated on the possibility of commercial publication of their volume on the future of assessment (a decision on which is pending) and on other activities in the field, such as the Definition and Selection of Competencies (DeSeCo) project, the Progress in Reading Literacy Study (PIRLS), and the Adult Literacy and Lifeskills (ALL) Study. Members also made recommendations regarding the future of PISA for the Board of Participating Countries (BPC) to consider, including: rejuvenating the evaluation process; beginning the development of the science framework for 2006 in 2002, and pilot-testing an assessment of ICT literacy and use of ICT as an assessment delivery mechanism for 2006. Importantly, members also discussed the possibility of joining with Network C to convene a task force on teaching and learning. Members of both Networks will review a terms of reference for the activity, which calls for surveying the field, identifying gaps in information, and developing a strategy for information on teaching and learning to fit into the INES framework. (See also the Network C Update.)

Several presenters also attended the plenary meeting. Martin Ripley, from the Qualifications and Curriculum Authority in England, gave a presentation on the World Class Arena (www.worldclassarena.org). Andrea Kárpáti, from Eötvös Lórand University in Hungary and Joachim Wirth, from Max Planck Institute for Human Development also were in attendance to give presentations, respectively, on assessing students' competence with ICT and the development of new types of indicators enabled by ICT as a delivery mechanism.

The next Network A meeting is scheduled for May 6-7, 2002.

Network B

On the first of August of this year, Mr. Jonas Börjesson from Statistics Sweden became the new Chair of Network B. Mr. Allan Nordin, who had previously chaired the Network since 1996, resigned in order to fulfill his appointment to Head of the Forecasting Institute of Statistics Sweden. Congratulations to Mr. Nordin! We look forward to working with Mr. Börjesson in the future.

Network B last met in Prague, Czech Republic on October 22-24, 2001. The subgroup on Continuing Education and Training (CET) met in conjunction with that meeting on October

19th. As we have been reporting, Network B is involved in development work on CET that aims to develop a module on adult participation in CET. As such, two consultants have been contracted to develop guidelines, definitions, and standards to measure CET. This work is carried out in close cooperation with a group working on a module for Lifelong Learning for EUROSTAT. The Network also is engaged in development work on the transition period for Early School-Leavers.

Network B also developed a draft strategy paper, which was presented to the INES Strategic Management Group (SMG) in early October 2001 and discussed at the last Network meeting. From the discussion at the October meeting, a five-year work plan is being developed and will be presented to the SMG at the beginning of 2002.

Network C

Network C last met in Paris, France on October 15-17, 2001. Since the last newsletter, Network C's main activities included:

- Indicators on upper secondary schooling;
- Improvement of current system-level indicators on teachers and improvement and expansion of the set of teacher indicators on the basis of new data collection instruments; and
- Discussions on the use of PISA data for Network C's indicators for *EAG*.

Indicators on upper secondary schooling. As previous editions of the newsletter have reported, Network C has an ongoing activity to implement an international survey of upper secondary schools and to develop indicators from the information collected. The International Survey of Schools at the Upper Secondary Level (ISUSS) will have its main data collection during the last months of 2001 and the first months of 2002. The first indicator using ISUSS data will be presented in *EAG* 2002 on the classification of upper secondary education (i.e., the structure of education at this level and the relative importance of program types in terms of student enrollment). Indicators from ISUSS planned for *EAG* 2003 include: staffing and professional development of teachers, ICT application and use, measures and practices that schools take to enhance students' transitions to the labor-market and tertiary education, and aspects of school functioning that are conducive for enhancing the general quality of education at the upper secondary level.

Indicators on teachers and teaching. Since the General Assembly meeting of 2000, Network C members have been working on improving the current set of indicators on teachers and curriculum and on developing a strategy for collecting additional information on teachers and teaching. Members first discussed new indicators on teachers and teaching at their plenary meeting at the end of 2000 and since then a subgroup has done preliminary work on identifying member country priorities. After discussions with Network A in October 2001, this work will be reconstituted by a task force of Network C and A member countries with a charge to develop a long-term data strategy on

teaching, exploring how to obtain comparable, high-quality information on topics such as teacher supply and demand, pre-service education, professional development, and instructional practice. (See also Network A Update.)

Use of PISA data. At their last meeting, Network C members also discussed options for developing indicators on school and classroom conditions using data from PISA. Members were most interested in information on:

- Schools' average SES (socio-economic status) intake;
- Schools' averages with regard to student achievement, other student outcomes (e.g., self-efficacy or motivation), use of resources, and attitudes and perceptions; and
- School characteristics (e.g., admission and transfer policies, school climate, teacher discipline, resources, institution types, and location).

For *EAG* 2002, Network C will develop several descriptive indicators drawing from the suggestions above. For *EAG* 2003, members would like to present indicators based on further analyses of school organization and classroom-level conditions for teachers. Representatives from Belgium, Canada, Germany, Hungary, and Spain volunteered to serve as a reference group for the use of PISA data.

The next meeting of Network C will be held on May 29-31, 2002, in Toronto, Canada. At this meeting, members will review the draft report of the ISUSS; discuss progress on the development of a data strategy on teachers and teaching; discuss the possibilities of preparing country analyses for the new edition of *EAG*; review options for collecting additional information on teacher salaries and their implications for improving the teacher salary indicator; take a decision on the content of the 2002 Network C survey on teachers and curriculum; and review options for possible indicators from PISA.

BPC Update

Since the last newsletter, the PISA Board of Participating Countries (BPC) has met twice—first in July in Ottawa to review the draft international report and again in October in Budapest, in one of the group's regular biannual meetings. At the October meeting, a main goal was to prepare for the public release of the international report from PISA on December 4, 2001, and to finalize the Executive Summary to the report. Other goals of the meeting included: providing guidance on the development of the PISA thematic reports (especially the existing draft report on social background); finalizing the problem solving assessment framework and reviewing the draft instruments; and reviewing the analysis plan for 2003 and further development of the context questionnaires. Looking longer term, members also discussed priorities for the 2006 cycle, the continuing external evaluation process, and issues related to students with special education needs.

Upcoming meetings related to PISA include a January 2002 meeting for Cycle 1 participants to de-brief on implementation (at a point when the results will have been public for about a month) and the regular meeting of the BPC on March 25-27, 2002.

Country Highlight: Mexico

This article presents an overview of the education system in Mexico and describes activities to evaluate teacher and student performance. The article was prepared by Fernando Córdova from the office of The Under Secretary of Planning and Coordination of the Ministry of Education.

An Overview of the Educational System in Mexico

The Ministry of Public Education (MPE) was created in Mexico in 1921, with the objective of providing support for education for all Mexicans. At that time, 66.1 percent of the country's adult population was illiterate, and average educational attainment was one year.

Since then, over the past 80 years, the State and society have made major efforts to encourage education. As a result, the illiteracy rate has been reduced to 9.1 percent and the average educational attainment of the population over 15 years old has reached 7.7 grades.

The national education system currently caters to over 29.6 million students—87.5 percent in public schools and 12.5 percent in private schools. There are more than 1.4 million teachers and professors at more than 218,000 education centers throughout the country. The table shows the distribution of total student enrollment in Mexico by education levels.

Education level (international standard classification level)	Percentage of total student enrollment
Preprimary (ISCED 0)	12
Primary (ISCED 1)	49
Lower secondary (ISCED 2A, 2C)	18
Vocational upper secondary (ISCED 3A)	4
Academic/technical upper secondary (ISCED 3C)	10
Post-secondary (ISCED 5, 6)	7
	100

In 1992, the National Agreement for the Modernization of Basic Education decentralized education in Mexico and since then, individual state governments have been responsible for the operation of all preschool, elementary, and lower secondary school services.

The frameworks that define the operation of the national education system are the 3rd article of the Political Constitution of Mexico and the General Education Law. The third article of the Constitution states that every person is entitled to receive an education and stipulates that attendance in elementary and lower secondary school is mandatory. It also states that the State is bound to provide preschool, elementary, secondary, and higher education. It establishes that all education provided by the State shall be free and must be independent of any religious doctrine, directed by the results of scientific progress, and guided by democratic principles. The General Education Law states that MPE has the responsibility for evaluation, planning, and programming for the national education system and for carrying out activities to assess teacher performance and student outcomes.

Educational Evaluation and Student Testing in Mexico

In general, the results from national evaluations in Mexico are used at both the state and federal level to monitor the quality and equity of school services; to assist policy makers in the decision-making process; and to direct compensatory actions and resources to groups of students at risk of academic failure or who are otherwise disadvantaged. In addition to such evaluation activities, which may be focused on teachers or students, there also are two key student testing programs underway.

Evaluation

…of Teacher Performance

Under the umbrella of the General Education Law, in 1993 the National Teachers Union and MPE agreed to establish the Teacher Career Program, in which teachers are evaluated through normative tests of their knowledge and pedagogy. In 1994, another component was added to the program in which teachers also would be evaluated based on their pupils' scores on a criterion-referenced, curriculum-based test.

The purpose of the program is to provide social recognition for good performance of teacher's duties. The social recognition is accompanied by an increase in salary, if the teacher reaches the top band of scores in his or her comparison group. As mentioned before, these scores are obtained from teachers' own test results and their pupils' mean scores, as well as from other factors such as their time in service and how well they plan, develop, and implement an educational program. Additionally, teachers' and pupils' results are used to monitor how the proposed national curriculum is being implemented; to develop in-service teacher training courses; to modify the sequence of the curriculum and textbooks; to ensure that the teacher training curriculum is adequate; and also to be accountable to parents and society.

…of Student Performance

In 1966, the federal and state governments jointly established the National System of Education Evaluation (NSEE). The NSEE 's aim is to elevate the quality of education, eliminate inequities, help to standardize daily classroom evaluation, guide the compensatory efforts of the federal government, and assist the policy makers in the decision-making process.

The NSEE operates the Program for the Installation and Reinforcement of the State Areas of Evaluation. Its goal is to build systems of information on the quality of education, train tutors, and provide evaluation consulting for teaching staff at the local level. Under this program, the Interstate Technical Evaluation Committee was created to carry out nationwide evaluation and ensure state evaluation units are working comparably.

The NSEE also developed the Elementary Education Evaluation Study, which provides information on the academic achievement of third- through sixth-grade students and identifies the school and background variables that influence learning outcomes. The framework of the study is used to provide training on evaluation to the state evaluation crews. The data obtained allow nationwide and state comparisons of socioeconomic status and educational outcomes and are used to design actions to improve scholastic performance.

The NSEE also is responsible for the National Standards. Work to establish National Standards, which define the minimum knowledge and skills students should possess for different subjects and in different grades, began in 1995. Tests in mathematics and reading comprehension have already been developed and administered nationwide. Analysis of the data currently is underway and

will: enable the proper orientation of aids and support programs; identify the curricular topics that present the greatest difficulties; and identify successful schools and their characteristics. This information will be used to improve the performance of at-risk students and/or schools in the bottom of the distribution.

Another major evaluation activity, which was developed between 1991 and 1995, is to evaluate the evolution of the quality of elementary education in four of the poorest states participating in the Program to Eradicate Education Lag. The evaluation uses student history charts, which record student' academic progress, their socioeconomic background, and behavior patterns. Statistical analysis of the data has made it possible to identify effects of certain variables that may be important as future lines of research or as a reference for the policy-making process.

Student Testing Programs

In Mexico, there also are student testing, or examination, programs in which test results have a direct impact on students at an individual level (in contrast to the system-oriented evaluations discussed previously). In 1996, the top officials in upper secondary institutions in the metropolitan area of Mexico City created a work group directed by the Metropolitan Commission for the Upper Secondary Education. The aim of the commission is to equitably distribute access to upper secondary schools through a competitive test for entering students. The test evaluates students' achievement and abilities on the lower secondary education curriculum. When students register for this test, they note the schools they would like to consider them and rank the schools in order of preference. A student's assignment depends on the test score and the limits of enrollment in the upper secondary schools he or she selected.

Also, for the last 11 years in Mexico City and the last 2 years in 16 states, a diagnostic evaluation, called the Diagnostic Test for New Enrolled Students to Lower Secondary Education, has been used when pupils finish elementary school and apply to enter lower secondary school. The test assesses if the student has acquired the basic skills for learning. The results are used to predict scholastic success or failure in the next level of education and to plan and direct actions to improve educational services to the students.

Future Plans for Evaluation and Assessment

In addition to the above-mentioned NSEE, MPE is planning to create a National Institute of Education Evaluation (NIEE) in 2002. The institute's aim will be to monitor the quality of education nationwide, independently of MPE, and to produce feedback reports both to MPE and the public, describing areas of strength or improvement and areas still in need of improvement.

MPE also has plans to promote: the creation of an office for the evaluation of upper secondary education; the evaluation of all educational programs offered at the tertiary level; and the creation of independent organizations to certify programs and institutions that provide professional knowledge in diverse areas of endeavor.

Current Assessment Activities

Among the countries that responded to our request for information, two countries described activities related to national assessment that have been in progress since June 2001 and currently are ongoing. For example:

- In October 2001, the **French Community of Belgium** assessed all fifth-grade students in science, and teachers are now in the process of scoring the instruments according to standardized procedures. (The assessment was given as part of an annual program, which collects data on a different subject and grade every year.) Once the scoring is completed, the department of the school administration responsible for educational research will invite the fifth grades of a sample of 120 schools to send their students' scores and the supporting questionnaires (pupil and teacher) to the department for analysis. In December, the department will provide a comparative analysis of performance to the schools and early next year, teachers will receive didactic suggestions based on the results.

- **New Zealand** is engaged in a variety of activities related to its national assessment program, the National Education Monitoring Project (NEMP) of Years 4 and 8. The results from the most recent assessment, covering music, aspects of technology, and reading and speaking, were released in July, and a report on the achievement of students in Maori immersion education in these subject areas is due to be released before the end of the year. Data for the current assessment, in information (library and research) skills, social studies, and mathematics, were just collected in September and October, with marking scheduled for December and January. Finally, task development for next year's assessment in writing, listening, and viewing and health and physical well-being has begun.

  In other assessment news, the New Zealand Council for Educational Research is developing additional resources in mathematics, science, and English at curriculum levels 2 to 5 (about Years 3 to 10). After field-testing, these assessment items (utilizing both multiple-choice and open-ended formats) will be placed on the Assessment Resource Bank web-site, which is continuously updated and which teachers can access when they choose, principally for diagnostic and formative evaluation purposes. Schools will shortly receive another assessment tool, a CD-ROM that will enable teachers to assess students' literacy skills at Years 5, 6, and 7. With this CD, they will be able to choose from a wide range of items and to customize tests to suit the learning needs of their students. Final programming is underway, and use of the tool is voluntary. Expansion to numeracy and Maori language literacy and numeracy tests also are expected.

Also, **Ireland** described planning work that is occurring related to its examination program. Regarding its upper secondary Leaving Certificate Examination, the National Council for Curriculum and Assessment is preparing to include coursework in the assessment Home Economics, History, and Geography. These subjects previously were only tested in once-off written exams. It is expected that, by 2004, exams in these subjects will include both coursework and written work by 2004.

Finally, **Austria** provided information on recently completed analyses from a new study of reading comprehension, reading fluency, and spelling skills. The study drew a nationally representative sample of 2,604 9-year old students from 135 third-grade classrooms. Each student took the test for each respective part of the study, including the *Hamburger*

Lesetest 3-4 (HAMLET 3-4) on comprehension, a newly developed sentence reading test similar in format to the Woodcock Johnson III for reading fluency, and a test of 24 dictated words for spelling. In addition to providing a picture of the reading and spelling skills of young Austrian students, the study also aimed to explore in more depth the deficits that may underlie poor reading. First, the study found a strong correlation between scores on the reading comprehension and reading fluency tests, suggesting that reading fluency is an important factor for successful reading comprehension. In another component of the study, students who had scored in the 26th percentile or below on the HAMLET 3-4 were given a standardized test of word recognition and nonword reading, as well as a battery of cognitive tests. In keeping with extensive evidence in reading research, it was found that children with linguistic deficits have a high risk to develop difficulties in reading acquisition.

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