This report presents an overview of some of the similarities and differences in education standards in the Asia-Pacific region that are revealed in survey responses of members of APEC (Asia-Pacific Economic Cooperation). All 14 member states of APEC submitted responses to the survey; the members are: Australia, Brunei, Darussalam, Canada, People's Republic of China, Hong Kong, Indonesia, Japan, Republic of Korea, New Zealand, Republic of the Philippines, Singapore, Chinese Taipei, Thailand, and the United States. Based on information gathered from the survey, the report presents answers to the following questions: What are education standards? How do the standards of APEC members vary? How are standards set? How are standards implemented in curricula? How do APEC members assess progress toward attaining standards? How are standards changing? (DB)
Education Standards in the Asia-Pacific Region

Office of Policy and Planning
U.S. Department of Education
EDUCATION STANDARDS IN THE ASIA-PACIFIC REGION

U.S. Department of Education
Office of Policy and Planning

October 1992
This report and the survey on education standards were prepared by Lenore Yaffee Garcia, Planning and Evaluation Service, Office of Policy and Planning.
In January of this year, during a visit to Australia, President Bush proposed that education ministers from the members of APEC meet in Washington later in the year to discuss "Education Standards for the 21st Century." When the ministers came together in August, I was fascinated to learn that our very different societies are asking many of the same questions about education. What should we teach our children so that they are prepared for life in the twenty-first century? How do we change our schools so that all children can learn? How do we change in a way that affirms instead of destroys our culture and values? And how do we maintain a balance between striving for high levels of achievement and preserving students' creativity, individuality, and enjoyment of learning?

These questions are at the heart of our effort to transform American education. This effort began three years ago when President Bush and the governors of our states established six ambitious education goals—goals that now have been adopted by over 2000 communities across the country. To help achieve the goals, for the first time in our history, a movement is under way to develop voluntary national education standards. These standards will define the knowledge and skills that we ought to expect our children to acquire, in subject areas from mathematics to the arts, and from history to the natural sciences, so that they can live, work, and compete in today's world. And a voluntary national examination system will be developed to tell parents and communities whether children are reaching the standards.

For us, this process of setting standards seems revolutionary. For many societies in the Asia-Pacific region, as this report illustrates, clear statements of what children should learn and regular assessment of whether they are learning are part of the very foundation of education.

Looking outside our borders has always been a good way to learn about what is wrong and what is right with what we are doing. Our discussions at the ministerial meeting confirmed that, in education, there is still a great deal that we can learn from one another. For that reason, we committed ourselves to continue to work together to meet the education challenges of a new century, so that all of our children can lead productive and fulfilling lives in the year 2000 and beyond.

Lamar Alexander
October 1992
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*Education Standards in the Asia-Pacific Region*
A survey on education standards in the Asia-Pacific Region was carried out as part of the preparations for the meeting of education ministers of the members of APEC (Asia-Pacific Economic Cooperation), held in Washington on August 5 and 6, 1992. The main purpose of the survey was to give ministers and other meeting participants an overview of the existing education standards in the region—how they are set, to whom they apply, what they cover, how they are implemented in curriculum, how progress toward the standards is measured, and how they are changing.

APEC members requested that the United States, which proposed the survey, prepare the draft questionnaire and compile the results. The U.S. Department of Education, through its Office of Policy and Planning, designed a draft questionnaire, circulated it for comment to experts within education ministries or departments in other APEC members, revised it in accordance with the comments received, and sent a final version to APEC members for completion.

All 14 of the APEC members planning to send representatives to the August ministerial meeting responded to the questionnaire. Their thoughtful and timely responses indicate the importance they accord the topic and the spirit of cooperation prevailing among participants. The 14 respondents are:

- Australia
- Brunei Darussalam
- Canada
- People’s Republic of China
This report is an overview of some of the similarities and differences in education standards in the Asia-Pacific region as revealed in these APEC members’ responses. A summary of the findings precedes the overview. A draft of this report was circulated for review to all respondents, many of whom offered helpful comments and clarifications. Their cooperation is gratefully acknowledged.

Note on Terminology

In the APEC context, it has been agreed that “countries” are always referred to as “members,” and terms implying recognition of members as sovereign states (such as “national authorities” or “central governments”) are not used. APEC conventions have been followed in this report. The names of the members are also those agreed upon for use within APEC.
Summary of Survey Findings

Most APEC members have in place a coherent set of explicit, written education standards, which typically set forth the aims and objectives, content, desired learning outcomes, and forms of assessment for each subject and level of schooling. In most APEC members, education standards go beyond the desired knowledge and skills to cover the development of certain personal attributes, attitudes, and values. Member-wide standards exist in all the members except Australia, Canada, and the United States.

In APEC members that do not have such standards or do not have member-wide standards, there appears to be public pressure to move toward standards or toward more demanding or uniform standards. At the same time, in some APEC members with more uniform standards and strong ministries of education, recent reforms include changes designed to increase recognition of differences among regions, cultural groups, and individual students.

Even in centralized education systems, standards setting in APEC members is typically a collaborative process, involving local school authorities, the university/research community, and the public as well as the ministry of education. Furthermore, centrally set curriculum standards do not necessarily imply complete uniformity. Even in APEC members that have member-wide standards, the states, provinces, localities, and schools have varying degrees of flexibility to add their own specifications to respond to the needs of different communities and cultures.

Established standards have substantial influence on instruction in most APEC education systems. Despite great variety in actual models of textbook production across

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APEC members, textbooks are typically written, commissioned, or approved by the ministry or its equivalent; thus textbook content can be shaped according to the standards. Similarly, in systems with centrally established standards, preservice teacher education often focuses on curriculum and standards. In more decentralized systems, however, where teacher-training institutions sometimes are located far from the new teacher's place of employment, preservice programs cannot focus on the specifics of any given curriculum, and thus may emphasize pedagogy over curriculum content.

In most APEC members, established standards apply to all students in mainstream education. Common standards are typically, but not universally, viewed as a means of ensuring objectivity and promoting equity in access and achievement. Some APEC members provide additional help to students who find it hard or impossible to meet the standards, either within mainstream education or in separate streams that may have different standards.

Several times in the course of their schooling, students in most APEC members face standards-based examinations that directly affect their future lives and careers. Most of these examinations are "paper and pencil" assessments; nevertheless, virtually every system assesses achievement in foreign language, natural science, and the arts through performance assessments, and several systems are moving toward greater use of performance assessment.

Finally, these common themes emerge from APEC members' responses to a question about the direction of education reform: the encouragement of independent thinking and problem solving rather than rote learning, a recognition of the need to better prepare students for the world of work, an emphasis on lifelong learning, the need
to internationalize curriculum, the effective use of new technologies, diversification based on the individuality and ability of each student, and the importance of environmental education.
Overview of APEC-Member Responses

What Are Education Standards?

Every education system has goals for its students—what they should know, what they should be able to do, and what attitudes and values they should develop. To help achieve these goals, education authorities set standards that serve as guides to teachers, administrators, parents, and students, and as benchmarks against which progress toward the broad goals can be measured.

Education standards are clearly defined statements specifying the knowledge, skills, and attitudes that students are expected to learn in school. Education standards describe the achievement, performance, and personal development that a society or education system determines that its students should attain at different grade levels and for specific subject areas, in order to prepare for productive and fulfilling lives.

Although education standards can apply to many aspects of education, in the context of this report, standards primarily apply to the content of what is taught in school and the performance or attainment of students. Survey respondents were asked to concentrate on standards for primary- and secondary-level education.

How Do the Standards of APEC Members Vary?

The vast majority of APEC members have a coherent set of written education standards, but these vary significantly in their locus of control (member-wide, state/provincial, local, or school-level), comprehensiveness, and flexibility.
All APEC members except Canada, Australia, and the United States have established member-wide curriculum standards.

Who Is In Control? All APEC members except Canada, Australia, and the United States have established member-wide curriculum standards. In Canada, curriculum guidelines are established by each province and vary according to educational tradition; only Quebec has clear and specific curriculum objectives for every subject and grade. In Australia, each state or territory develops curriculum frameworks and guidelines, but there is a tendency to leave the details to be worked out by individual schools. Since the late 1980s, however, the Commonwealth government has been working with state and territory governments to develop a more nationally consistent approach to school education, and to further the development of a national curriculum and assessment framework.

In the United States, state education authorities are generally responsible for establishing standards, while the local district superintendents typically oversee the quality of the education program. State laws usually prescribe the length of the school year and attendance policies, but the existence, specificity, and rigor of curriculum and performance standards vary greatly. Thus, some U.S. states mandate minimum course content; others establish learning objectives or learning outcomes for most subject areas and require local school districts to incorporate them into locally developed curricula; some develop model curricula for suggested use by local officials; and still others merely define subject areas and the number and types of courses to be taught. Despite this tradition of decentralization and variation in the United States, development of nationally applicable standards in major subject areas, with mathematics in the forefront, is under way.

How Comprehensive Are the Standards? In many APEC members, standards are comprehensive. In the Republic of the Philippines, for example, standards are set for every level of the education system from preschool to graduate school. Singapore’s education standards are
In most APEC members, education standards go beyond desired knowledge and skills.

**In most APEC members, education standards go beyond desired knowledge and skills.**

**Just “Book Learning?”** In most APEC members, education standards go beyond desired knowledge and skills to cover development of certain personal attributes and values like responsibility (People's Republic of China); religious faith and high moral standards of behavior (Indonesia); civic, intellectual, and character development and commitment to national heritage (Republic of the Philippines); moral education and community life (Republic of Korea, Singapore); and concern for balanced development and the global environment (Australia).

**All Students, or Some?** For most APEC members, the established standards apply to all students in mainstream education. Some members (like Japan) clearly expect all students in mainstream education to meet the standards without special help, although those who need help can get it outside school. Other members, like Chinese Taipei, offer remedial instruction during school hours to those judged “high-ability, low achieving” students. Indonesia observes that a new law directs schools to make special resources available to students who have difficulty meeting the standards, although in practice not all schools have the necessary resources at present.

Still other members, especially those with ethnically diverse populations like the United States and Australia, have established government-supported programs to help members of certain groups meet standards. These include Aborigines and American Indians; persons with limited proficiency in the dominant language; and persons who are judged educationally disadvantaged, live in remote areas, have disabilities, or are at risk for dropping out of school. New Zealand notes the need for the system to adapt and respond to different cultural needs, attitudes,
The states, localities, and schools have varying degrees of flexibility to add their own specifications.

Standards for Public Schools or Private? In some APEC members, publicly developed standards must be applied in all schools, both public and private (e.g., Thailand); in others, the standards apply only to public schools (e.g., Hong Kong, where public schools make up 88.5 percent of the total). In Indonesia, only schools maintained by foreign agencies for providing instruction for foreign nationals are exempt from formally adopted curriculum objectives prescribed by law.

Uniformity or Flexibility? Even in members with centrally established curriculum standards, the states, localities, and schools have varying degrees of flexibility to add their own specifications. In Japan, for example, although Monbusho (the national Ministry of Education, Science, and Culture) prepares broad guidelines of objectives and content for each school subject in its “Course of Study” to ensure national quality standards, local education authorities may set complementary standards. In the People’s Republic of China, all schools must teach the same subjects, but provincial authorities may adjust teaching hours and some content. In Thailand, standards for all required courses are uniform and specific, but local authorities may develop elective courses. In Indonesia, curricula used in classroom instruction have been adapted for use in accordance with the prevailing local (ethnic) culture, language, religion, level of economic and technological development, and natural environment.

Do Standards Promote Equity? Some APEC members, such as the Republic of Korea and Thailand, state that one of their main purposes in establishing consistent standards throughout the country is to ensure equality of access, objectivity, and the possibility of success for all students. In the United States, however, some critics have opposed the establishment of national standards, in part because...
they fear that equality of access and opportunity for some may be compromised if high standards are set for everyone.

How Are Standards Set?

**Development and Approval.** Even in member-wide education systems, standards setting in APEC members is commonly a collaborative process, or, as Hong Kong puts it, a "process of consultation and consensus." When standards are to be written or updated, typically, the Ministry or Department of Education convenes a committee to establish and coordinate implementation of general guidelines. Then, subject-matter subcommittees, generally made up of teachers, university and other subject-matter specialists, assessment specialists, and sometimes local school board members, are convened to draft the standards. Drafts are reviewed and ultimately approved by the Ministry of Education, but public input is often invited through hearings or surveys.

In the Republic of Korea, for example, universities and research institutes do basic standards-related research; the Ministry of Education drafts the new standards; municipal and provincial offices of education and the public are invited to comment; and a ministry-appointed committee of experts reviews the standards and the comments. The ministry revises the standards, and another round of review takes place. The standards are then made final and officially proclaimed. The process is similar in Chinese Taipei, where suggestions are solicited from parents, legislatures, special interest groups, and experts through symposia and questionnaires.

Responses from several APEC members indicate that standards setting is becoming a more inclusive process. For example, in Canada's provinces, teachers have long played a major role in writing curriculum guidelines, with help from subject-matter specialists or curriculum...
Official standards have extensive influence on day-to-day instruction. But recently the provinces have tended to include “all stakeholders”—including parents, trustees, teachers’ unions, universities, business and labor, and researchers to those traditionally involved.

Updating of Standards. Most APEC members have a regular cycle of curriculum review and updating, with major rewrites occurring at periods ranging from about every 3 years (Hong Kong) to about every 10 years (Japan, Singapore, Thailand, Indonesia). The Republic of Korea has a well-defined process that covers all subjects. Every 6 to 7 years, the Ministry of Education designs a standards-revision plan; research institutes and universities do the basic research and develop a first draft of new standards, which the ministry and the institutes consider and revise. Then a curriculum committee discusses and disseminates the draft for review by the schools, after which a final draft is formally adopted and disseminated. Two years are allowed for textbook revision and teacher training.

How Are Standards Implemented in Curricula?

Extent of Influence in the Classroom. In most APEC education systems, the member-wide or provincial education authorities’ influence on day-to-day instruction is extensive. For example, in all provinces in Canada, the official provincial curriculum prescribes in large measure the content of classroom instruction. The Hong Kong Education Department prepares curriculum aims, guidelines, and teaching syllabuses; organizes in-service teacher training; provides advisory services for schools; gives guidance to textbook publishers (reviewing drafts and offering suggestions); and guides schools on their choice of textbooks. However, to avoid “blind implementation” of established curriculum, Hong Kong launched a school-based curriculum project scheme. As part of this scheme, teachers who have successfully completed the development and implementation of their...
projects are given cash awards and reimbursed for the expenses of producing project materials.

Some APEC members monitor closely the implementation of official standards in actual instruction. In Indonesia and Chinese Taipei, for example, the Ministry of Education carries out regular school-based evaluation to see to what extent actual curriculum reflects established standards.

**Standards in Textbooks and Other Instructional Materials.** In most APEC members (the United States being a notable exception), the establishment of curriculum standards precedes the writing of textbooks and is intended to give guidance to the textbook writers. In the United States, however, major textbook publishers are sometimes said to set de facto curriculum standards.

In some members, the Education Ministry itself writes and publishes textbooks. In Brunei, for example, the Ministry of Education develops texts and teacher guides based on the standards. The ministry prescribes the scope of the subject area to be covered, sets the level of skills to be acquired, and suggests the teaching methods.

Different levels of government may participate in writing textbooks. In the People's Republic of China, schools must use state-approved textbooks for required courses, but may use other approved texts—including those compiled by provinces to address local economic and cultural conditions—for elective courses.

Textbook writing may be shared by the public and private sectors. In Singapore, a division of the Ministry of Education produces and field-tests textbooks, teacher guides, pupil workbooks, and multimedia resource packages for teaching. But some instructional materials are produced in the private sector; such materials must be officially approved, however. Also in Singapore, teachers
Textbooks may be developed privately, according to the curriculum frameworks, but must be officially approved.

may develop their own instructional materials within the framework of the official syllabus. And teachers and principals are reported to have substantial autonomy in selecting the methods of instruction used in their classrooms.

Some APEC members have publicly written texts only in required courses or in those judged intimately tied to cultural values. For example, in Chinese Taipei, although public authorities compile elementary- and middle-school texts for most subjects, private publishers may participate in writing elementary school and junior high textbooks for the arts, music, physical education, and home economics, and in writing high school textbooks for subjects other than Mandarin Chinese language, citizenship, the "Three Principles of the People," history, and geography. These privately written texts must be officially approved, nonetheless. In Thailand and Indonesia, textbooks for language, science, and math are written by public authorities, but texts for other subjects and supplementary materials are developed privately, according to the national framework.

In the Republic of Korea, the Ministry of Education, with assistance from researchers and university professors, writes textbooks and teaching guides for all subjects in primary-education and some secondary-education subjects (Korean language, Korean history, and moral education). Textbooks for other secondary-education subjects are written by private publishers according to official guidelines and are subject to ministry approval, which is valid for 5 years. Schools choose from among approved textbooks—usually, fewer than eight per subject.

In still other systems, textbooks are developed in the private sector, but most still must obtain official approval. In Canada, for example, all provinces review and approve a list of textbooks according to criteria that include

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compatibility with the official curriculum. In Japan, too, textbooks are written and compiled by private authors but must be authorized by the ministry.

In both Australia and the United States, textbooks are commercially produced. Generally, the use of textbooks is not encouraged in Australian primary schools; in secondary schools, practice varies from state to state and according to subject. Usually, schools and teachers are free to choose the texts that they wish to use from approved lists for state schools. In the United States, the choice is often made by local school boards.

Still another model is that of New Zealand, where basic instructional materials are produced by Learning Media, currently a division of the Ministry of Education but planned soon to be a state-owned agency under contract to the ministry. Private commercial firms also produce materials, guided by the national curriculum and syllabus statements developed by the national ministry. Whatever the source, there is no national requirement to use a particular text or resource, but in practice, New Zealand schools often use the same texts.

Standards in Teacher Training. As noted by New Zealand respondents, for implementation of standards to be effective, teachers must accept and feel “ownership” of the standards.

Like the development of instructional materials, teacher training in many APEC members is a shared responsibility, with the Ministry of Education playing a major role. The United States and Canada are notable exceptions to this rule. Because of its province-based systems, Canada leaves responsibility for teacher training to each province. In the United States, the states establish their own requirements for teacher certification; the postsecondary institutions in which most teachers are
Where there are uniform standards, teachers learn them during preservice training.

Preservice training. In systems with member-wide standards, prospective teachers invariably become familiar with the standards and standards-based instructional materials during their preservice training. Often, schools of education (normal schools) are government run, so that integration of curriculum standards in instruction is relatively seamless. Some APEC members devote special attention to training their teachers in demonstrably effective instructional methods; an example is New Zealand’s Reading Recovery program.

In systems with provincial, state, or local standards, the situation may be more complex. A teacher-training institution in one province or state cannot assume that its graduates will teach in that same locale. Therefore, preservice programs in these systems cannot dwell on the specifics of any given curriculum. Rather, to the extent that there is training in specific standards, it must be accomplished by in-service training. Whether for this or other reasons, the United States reports that there is little use of standards to guide preservice teacher preparation or teacher certification. Similarly, Australia reports that its initial teacher training does not give a high priority to standards; however, teacher training in Australia is expected soon to place more emphasis on standards as a result of the development of subject profiles to assist in the reporting of student achievement. Current work on establishing links between school and industry and developing key employment-related competencies for all students also will influence teacher training in Australia.

In-service training. Continued training of existing teachers is important in all education systems, but it assumes a particularly important role in APEC members without a member-wide curriculum, such as Canada and the United States. Canadian provinces use in-service training to...
Standards and assessments are inextricably linked. In Canada, for example, the clearest and most specific curriculum objectives exist in subjects for which provincial examinations or tests are administered. Brunei respondents say that national standards—in all subjects, at all levels—are driven by the national examinations administered at key transition points.

How Do APEC Members Assess Progress Toward Attaining Standards?

Standards and assessments are inextricably linked. In Canada, for example, the clearest and most specific curriculum objectives exist in subjects for which provincial examinations or tests are administered. Brunei respondents say that national standards—in all subjects, at all levels—are driven by the national examinations administered at key transition points.
Extent and Nature of Assessment. Typical students in Chinese Taipei will have taken well over 50 “major” examinations by the time they have completed secondary-level education. These assessments begin with month- and year-end exams in Chinese language, mathematics, natural science, and social studies in elementary school; the difficulty and number of subjects covered expand as students progress to middle school and then to entrance exams for high school and postsecondary education. In Hong Kong, formal external assessment is conducted each year in the three basic subjects (Chinese language, English language, and mathematics) from the Primary 1 through Secondary 3 grade levels. In Brunei, formal public examinations occur at key transition points. Although exam results may be used for normative or streaming purposes in these systems, their content is closely tied to curriculum standards.

Canada has provincial exams in all but two of its provinces. Six of the provinces administer achievement tests congruent with curriculum guidelines, and a new School Achievement Indicators Program (SAIP) will be criterion referenced, constituting “to a degree, Canada-wide standards of achievement.” In the United States, a great deal of testing of students occurs, but the tests are not generally tied to national or state curriculum standards. However, development of a national system of voluntary, standards-based assessments is under way.

Format of Assessments. “Paper and pencil” exams are the most common; many systems require essay responses to questions. The United States and Indonesia are among the few that use multiple-choice tests extensively, though not exclusively; most Japanese examinations are composed of a combination of essay responses and multiple-choice items. Nevertheless, virtually every system measures achievement in foreign language, science, and the arts through performance assessments—oral exam, lab experiments, portfolios, and the like. In addition, Canada reports that several provinces are considering
The results of key examinations have a significant effect on students' futures, both in school and out.

Consequences of Assessments for Students. For students in most APEC members—especially those with member-wide standards—the results of key examinations have a significant effect on the students' futures, both in school and out. However, no APEC member's respondents report that a student's career is determined solely by examinations. Progress through the Australian school system, for example, is not just dependent on assessment results, but is also determined by a student's age, maturity, academic performance, and social development.

School Consequences. "High stakes" tests (those with important consequences for students) generally begin after primary school. In the primary schools of most APEC members, assessments are used only for diagnostic purposes. Students may receive remedial help based on these assessments.

Some APEC members, including Hong Kong, Japan, and Singapore, allocate student places in secondary schools according to academic aptitude or achievement tests, and there is strong competition to gain admission to the more prestigious schools. In Brunei, those students who fail to attain the standards set for secondary school achievement eventually may be dropped. In the People's Republic of China, promotion to the next grade depends on examination results; prizes may be awarded students with high marks, satisfactory behavior, and acceptable "physical culture."

There can be "high stakes" tests in a provincial or state system. In Australia, all states and territories have a final assessment procedure at the exit point of the
To employers in some APEC members, grades on standards-based exams count.

system, usually year 12. Similarly, in Canadian provinces where students take provincial exams, the result usually counts for one-quarter to one-half of the student's final grade. All other Canadian provincial assessments have no bearing whatever on students' progress. In the United States, although some states now have "exit" examinations, these typically are conducted to ensure that students have achieved minimum competency, rather than mastery of curriculum standards.

Consequences for Higher Education and Employment. In every APEC member, admission to higher education depends to a large extent on examination scores. Other factors, however, may be considered; for example, in the United States, many colleges and universities consider course grades, participation in extracurricular activities, and application essays, as well as the results of aptitude tests. In Australia, assessment scores determine almost entirely the higher education institution and course of study for which a student will be accepted. Students who exceed the standards in Brunei may be rewarded with scholarships or with specialized higher education abroad. And in New Zealand and Japan, standards-based secondary school examination grades serve as indicators to prospective employers of the level of secondary education the student has achieved.

Stratified Sample Exams. In addition to standards-based exams that report individual student scores, national exams of a stratified sample of students for education policy-making purposes are held in the Republic of Korea and the United States, and Japan recently initiated a Ministry of Education survey of 1200 elementary and secondary schools. Canada's School Achievement Indicators Program, to be administered to all 13- and 16-year-olds in reading, writing, and mathematics, also will provide aggregate rather than individual-level scores and will not be used for making decisions about individual students' progress or certification.
Consequences of Assessment for Teachers or Schools. Most APEC members have no formal sanctions for teachers or schools whose students perform poorly. Nevertheless, as Australia's respondents note, "There is, however, the market place at work," and schools with poor student performance may suffer to the extent that parents and students choose to attend school elsewhere. In Chinese Taipei, "parents are strongly inclined to judge the quality of a teacher's instruction on the basis of his or her student's performance on major examinations," and "school principals may praise or reprimand instructors on the basis of their students' performance," while "parents' decisions about which school their children will attend are based largely on the percentage of graduates of each school that are admitted to the next higher level of education."

How Are Standards Changing?

The Direction of Reform. In APEC members that either have no clearly defined standards or have no member-wide standards, there is pressure—generally from the public at large—to adopt standards or toward making existing standards more demanding or more uniform. In Canada, public pressure has caused virtually every province to embark on reform efforts. For example, Ontario has a new "Benchmarks" project, Nova Scotia is improving the clarity of standards and increasing accountability, and New Brunswick will make its curriculum statements more specific and its assessment activities more intense. In Australia, the public is convinced that the existing norm-based system is not sufficient and thus is pressing for more accountability. And in the United States, a national movement toward voluntary national standards is gaining acceptability.
Many members appear to be moving toward a middle position—uniform standards, but with recognition of differences among students.

Conversely, in APEC members that already have more uniform standards and a strong member-wide education authority (Hong Kong, Indonesia, Chinese Taipei), the impetus for recent reforms appears to have come from the ministry level, although public sentiment plays a role. And in the People’s Republic of China, the State Education Commission recently has adjusted its standards somewhat to reflect its recognition that old requirements were sometimes set too high and that attention was unevenly distributed between science subjects and the humanities.

APEC members therefore show some evidence of movement toward a middle position, with increased recognition of individual differences among students in APEC members that have uniform standards, and consideration of more rigorous or centralized standards in members that do not. Japan, the Republic of Korea, Singapore, and the People’s Republic of China have stated their intention to give greater recognition to differences among children. Indonesia is reorganizing its system to allow for more diversity and flexibility in educational programs to accommodate the needs of its culturally diverse population. Brunei is moving to widen opportunity through change in its bilingual education system.

Australia and the United States, meanwhile, have established national education goals and are considering national standards and national assessments for the first time. And New Zealand, which already has a national system of education, has determined to set clearer national achievement standards for all levels of compulsory education over the next several years, with national assessment procedures at key stages.

**Common Themes.** Several key and often common themes characterize recent reform initiatives in APEC members. Through these reforms of standards and
related aspects of their education systems, members seek to:

- encourage independent thinking and problem solving rather than rote learning (Canada, Hong Kong, Indonesia, New Zealand, Singapore, Chinese Taipei, Thailand, United States);

- better prepare students for the world of work (Australia, Brunei, Canada, People's Republic of China, Hong Kong, Indonesia, New Zealand, Republic of the Philippines, Singapore, Thailand, United States);

- emphasize lifelong learning (Canada, Indonesia, Japan, Singapore, Chinese Taipei, United States);

- internationalize curriculum (People's Republic of China, Japan, Chinese Taipei);

- find ways to use new technologies effectively (Canada, Indonesia, Japan, Singapore, Chinese Taipei, Thailand);

- diversify curriculum based on the individuality and ability of each student (Canada, Japan, Republic of Korea); and

- incorporate environmental education into curriculum (Canada, Indonesia, Japan, Republic of the Philippines, Chinese Taipei).