inside:

Measuring Human Capital

ICT Literacy in the Digital Economy

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Military Organizations Look to Assessments
Skills and knowledge propel societies forward. Improved methods of farming, new modes of transport, faster computers — progress has always depended on the acquisition, development and transfer of skills and knowledge, the foundation blocks of human capital.

In this issue of ETS Innovations, we explore the uses of assessments in human capital development.

We begin with a wide angle. Our lead story discusses group-score assessments, such as the National Assessment of Educational Progress in the United States and the multinational Trends in International Mathematics and Science Study. Such tests help school districts, regions and even nations measure their human capital and improve their competitiveness.

We narrow the lens with an article on the use of tests in military organizations in several countries to help place recruits in positions as varied as intelligence analysis, ordnance and procurement.

Finally, we focus on how institutions of higher education, employers and individuals throughout the world are using skills assessments. Two examples are the EXADEP™ (Examen de Admisión a Estudios de Posgrado™), a Spanish-language graduate-admissions test used in Latin America, and the recently developed iCritical Thinking™ Certification, which assesses a test taker's information and communication literacy skills.

Tests such as the iCritical Thinking Certification are especially valuable in the knowledge-based global economy. “The demand for workers to obtain meaningful credentials has never been more important,” writes Karen R. Elzey of the U.S. Chamber of Commerce’s Institute for a Competitive Workforce. “Clearly, education matters.”

Indeed. It always has, and it always will.

Regards,

Kurt M. Landgraf
President and CEO
Measuring Human Capital, Tool of Progress

Group-score assessments provide a snapshot of educational progress on a large scale.

Last year in the United States, North Carolina television station WITN featured this headline on its website: “New math scores show North Carolina fourth- and eighth-graders are still performing better than students nationwide.”

Two years earlier, the Associated Press reported on test scores from an international perspective: “Students in the United States are lagging behind their peers in other countries in science and math, test results released Tuesday show.”

Such comparisons are common in the media, and they’re usually based on results from group-score assessments — so called because, unlike university admissions or high school end-of-course exams administered in the United States, individual students don’t receive scores from group-score assessments. Rather, data from the tests summarize educational progress at the school district, state, and even national level.

“If you’re interested in seeing how your education system is preparing students to compete in an increasingly international workforce, then you have to know what your students know and can do compared with students in other places,” says Stephen Lazer, Vice President for Assessment Development at ETS.

Policymakers around the world increasingly use group-score assessments to measure their human capital — the collective knowledge and skills of the current or future labor force. In the United States, the most well-known group-score assessment is the National Assessment of Educational Progress (NAEP), also known as The Nation’s Report Card.

A lengthening list

The United States is one of a growing number of countries that participate in group-score assessments, such as the Progress in International Reading Literacy Study (PIRLS), Trends in International Mathematics and Science Study (TIMSS), the Programme for International Student Assessment (PISA), and the Programme for the International Assessment of Adult Competencies (PIAAC).

ETS has developed test content, analyzed test data, and reported test results for NAEP since 1983, and also provides these services for some of the international assessments. For NAEP and PIAAC, ETS coordinates work among the consortia of subcontractors involved in those programs.

‘An independent bellwether’

“Having a group-score test that is not tied to individuals provides an independent bellwether — a way of getting at the facts in educational progress,” says John Mazzeo, ETS’s Vice President of Statistical Analysis, Data Analysis and Psychometric Research.

“In the United States, the results of state assessments are based on standards determined by each state,” Mazzeo says. “A state can claim that its performance is improving based on its own standards, but NAEP helps to gauge how the state is performing compared with other states and the nation.”
The results from assessments such as NAEP can serve as an audit of state standards, Mazzeo says. NAEP measures the proportion of fourth-, eighth- and 12th-grade students whose progress in core academic subjects meets one of three standards: basic, proficient or advanced.

If a state claims that 60 percent of its students are meeting the state’s own definition of “proficient” in math, but only 35 percent are proficient according to the standards of The Nation's Report Card, the discrepancy reflects the relative rigor of the state’s standards. That’s especially true if other states’ self-reported proficiency levels are more similar to their NAEP results.

The U.S. Department of Education’s National Center for Educational Statistics, which oversees the NAEP program, publishes all NAEP results at http://nationsreportcard.gov.

Comparing systems

U.S. states and school districts are also becoming more interested in how their education systems compare with other countries’ systems.

Every three years since 2000, a sample of U.S. 15-year-olds has participated in the Programme for International Student Assessment (PISA), an international measure of students’ ability to apply knowledge and skills in reading, math and science to real-life contexts.

Starting in 1995, a sample of U.S. fourth and eighth graders also began participating in the Trends in International Mathematics and Science Study (TIMSS). The study of students’ math and science knowledge takes place every four years and will be conducted again in 2011.

Linking U.S., global assessments

The National Assessment Governing Board — the panel of educators, lawmakers, testing experts, business leaders and members of the general public who oversee NAEP — has discussed linking international assessments like TIMSS with the NAEP math and science assessments. Doing so could help describe U.S. students’ performance in science and math relative to their peers in the 15 other countries that participate in TIMSS, says Jay Campbell, ETS’s Executive Director responsible for the NAEP program.

Whenever group-score data allow for comparisons, whether domestic or international, testing experts are wary of so-called “horse-race” comparisons. Campbell says people often want to make too much out of insignificant differences in score levels from one education jurisdiction to another — to infer successes or failures that may not exist.

“We do everything possible to have sound reporting methods,” Campbell adds. “We warn report readers about the factors they should consider when interpreting results. And we don’t make comparative statements ourselves unless they’re shown to be statistically significant.”

‘True scores’

The term “statistically significant” refers to the effect of “standard error of measurement.” In short, no test score, whether from a group-score or an individual assessment, is ever intended to be an exact, pinpoint statement of performance. Rather, the score is the estimated middle point of a range where the hypothetical “true score” probably lies.

If a different randomly selected sample of students took the same set of questions on a group-score assessment, random chance might cause the score to fall elsewhere in that predicted range. The results of group-score assessments are generally very reliable, making this range of potential variability small. But caution is still necessary when drawing conclusions about the meaning of minor differences in scores.

On the 2007 TIMSS math assessment, for example, U.S. eighth graders scored 508 on a 1,000-point scale, while their peers from the Czech Republic scored 504. In this case, the standard error of measurement makes the difference statistically insignificant, and so it would be inappropriate to claim that U.S. students performed better than the Czech students. (Full results of U.S. participation in TIMSS are available on the NCES Website at http://nces.ed.gov.)

“People like horse races because we’re obsessed with winners and losers,” says Mazzeo. “When the headline says, ‘State X outperforms State Y on a national test,’ it makes a splash. But the results of any group-score assessment must be understood within the context of myriad factors. Educational policy could be playing a role, but it could also be the complex demographic context that a state or country finds itself in.”

Impact on health, civil society

The desire to understand that complex demographic context is motivating more than two dozen countries, including the United States, to participate in the largest international group-score assessment ever attempted: the Programme for the International Assessment of Adult Competencies, or PIAAC.

“In most countries, there are segments of populations who are lagging behind,” says Irwin Kirsch, an ETS Distinguished Researcher and Director of ETS’s Center for Global Assessment. “Through tests like PIAAC, we’re trying to understand what kind of investments we need to make in order to distribute human capital equitably throughout countries’ populations.”

In 2011, PIAAC will assess individuals ages 16 – 65 in the areas of literacy, numeracy,
problem solving in technology-rich environments, and components of reading comprehension. While most other group-score assessments focus on the future of human capital by assessing students, PIAAC aims to assess human capital already in the workforce.

In 2008, the Organisation for Economic Co-operation and Development (OECD) hired ETS to lead the international consortium responsible for PIAAC. Kirsch’s Center is leading an effort with no parallel in the history of educational measurement: The nature of the assessment requires that test items must be meticulously translated into some 35 languages and reviewed to ensure that translation has not changed what the items test. PIAAC is not the first multilingual, international assessment, but its scale is unprecedented.

‘Revealing what is possible’
While PIAAC will not identify specific cause-effect relationships between policies and educational outcomes, it can help a country’s policymakers identify the strengths and weaknesses of their education systems relative to other countries, from infrastructure and funding, to teacher effectiveness and curriculum rigor, says Andreas Schleicher, Special Advisor on Education Policy to the OECD’s Secretary-General.

“By revealing what is possible in education in terms of the performance levels demonstrated in the best-performing countries, international assessments can help to optimize existing policies and also to reflect on the paradigms and beliefs underlying current policies, which become apparent when contrasted with policy alternatives,” Schleicher says.

Benefits for all countries
Like other group-score assessments, PIAAC will include a background questionnaire designed to help identify possible relationships between results and demographics. This could allow researchers to learn more about how job training and education affect countries’ abilities to attract jobs and

to support the institutions necessary for healthy, stable societies.

While it’s possible to view international assessments as a competition with winners and losers, Kirsch says, they can lead to benefits for all countries as policymakers seek to improve their populations’ skills and the quality of the education available to their citizens.

The importance of human capital
“The reason you see a rise in the number of international assessments is because countries are starting to see the importance of human capital to growing economies,” Kirsch says.

“The good thing is, the more human capital you have, the more people you have trying to deal with the world’s problems.”

ETS’s Data Explorer: Reading the Stories That Statistics Tell

Technology has made it much easier to read the stories that group-score assessments tell.

More than 900 million summary statistics from the National Assessment of Educational Progress (NAEP) — commonly known in the United States as The Nation’s Report Card — are accessible to the public online via an ETS-developed software tool called Data Explorer (http://nces.ed.gov/nationsreportcard/naepdata).

“In Data Explorer, we’ve created a tool based on ETS’s core expertise in psychometrics and data analysis,” says John Barone of ETS’s Center for Data Analysis Research. “It used to take our R&D staff a whole weekend, running calculations on a mainframe server, to get the kind of summary statistics that the public can get in minutes using this tool.”

Though ETS originally designed Data Explorer for the NAEP program, it is enhancing the tool for use with other assessment programs in the United States and around the world.

With funding from the Education Statistics Services Institute, the company is developing an international version of Data Explorer to help educators, policymakers and people in other countries make sense of the enormous amounts of data being collected from international assessments.

These assessments include the Trends in International Mathematics and Science Study (TIMSS), the Programme for International Student Assessment (PISA), and the Progress in International Reading Literacy Study (PIRLS).

“Adaptability is one of Data Explorer’s most valuable features,” says Barone. “It can help people around the world make sense of diverse variables, statistics and educational trends.”
What do the following jobs have in common?

- Systems engineer
- Physician's assistant
- Sales director

They are among the Top 10 Best Jobs in America, according to *Money* magazine and compensation experts at the employment-compensation website PayScale.com. And they all require high levels of literacy in information and communication technology, or ICT.

ICT literacy is the ability to apply technological knowledge and skills to real-life situations and communication challenges, such as persuading someone of a business need through a PowerPoint presentation. It is in great demand globally among businesses striving for a more strategically skilled workforce and among schools determined to prepare students for the job market.

The need for ICT skills extends far beyond ICT specialist positions such as software engineer. As a recent report from the Organisation for Economic Co-operation and Development (OECD) noted, “ICT skills are an important contributor to growth and they are spread widely across the economy.” More than 20 percent of employment in OECD countries, the report said, is in jobs in which ICT skills are used intensively.

**Sorting the data**

“What has happened is that the abundance of information available on the Internet has grown so fast that it has actually made people less efficient in the workforce,” says Mohammad Kousha, Executive Director in the ETS Global Division. “People sometimes find themselves frozen by all the information because they don’t know which information they should use and how they should analyze it.”

That’s why bringing a technologically literate workforce into the corporate environment is smart business, adds ETS’s Gary Hagestad. “And with the current economic environment, corporations can afford to be more selective in their hiring.”

**A test for the times**

As a result, many schools and programs that help people advance in or re-enter the workforce have started programs to increase people’s ICT literacy skills and better prepare them for the workforce. What has been lacking is a reliable tool that measures individuals’ ICT literacy skills.

Norbert Elliot, an English professor at New Jersey Institute of Technology, says the university has been looking for ways to motivate students to improve their ICT literacy. A new tool that holds great promise, he says, is the *iCritical Thinking™ Certification* powered by ETS.

The *iCritical Thinking* exam allows test takers to interact with vendor-neutral simulations of commonly used office software to complete relevant ICT types of tasks, such as constructing presentations, navigating through databases, conducting Internet searches, and using e-mail for strategic communication. In this way, it helps identify individuals who are able to use multiple skills, including higher-order thinking skills, to make critical decisions using the types of information and data common in the workplace.
By providing an indication of an individual’s ICT literacy skills, the iCritical Thinking Certification gives information that is valued by employers; college admissions officers, instructors and deans; teacher-accreditation agencies; and prospective employees themselves.

ETS Senior Research Scientist Irvin Katz says the test is scored automatically, providing test takers with immediate pass-or-fail results. Those who pass receive a certificate in the mail in about 10 days.

**Critical knowledge domains**

Among the novel features of the test, Katz says, is that it assesses tasks that represent domains of knowledge critical to the use of technology in making high-level decisions.

“That’s the real core of the test,” he says. “It places people in a real-world environment.”

In this simulated real-world environment, test takers are given an hour to complete 14 assignments — with as little as four minutes for each. In all, test takers encounter seven types of tasks:

- defining an information need
- finding resources
- evaluating different resources
- managing and organizing information
- integrating information
- creating information to meet a specific goal, such as a persuasive presentation or memo
- communicating information via the most effective format

The iCritical Thinking Certification exam evolved out of ETS’s earlier work on ICT literacy, including the ICT Literacy Assessment and the iSkills™ assessment. Taking this work to a higher level, the new test has been endorsed by the Global Digital Literacy Council (GDLC), a group of corporate executives, government officials, academicians, industry leaders and others who collaborate to create and define global digital literacy standards. The current 18-member delegation includes representatives from Canada, China, Costa Rica, Japan, Oman, the United Kingdom and the United States.

ETS works with Certiport®, a Utah-based company that delivers standards-based certification exams and services around the world, on the iCritical Thinking Certification exam. Certiport operates more than 12,000 computer-based testing centers worldwide. Its globally validated certifications are supported and endorsed by organizations such as the GDLC, American Council on Education, International Association for Continuing Education & Training, International Society for Technology in Education and Microsoft®.

**A benefit to business**

Jan Plante, of ETS Product Management, says ETS provides the test content and related psychometrics as well as ongoing research and analysis, and Certiport packages, delivers, scores and reports results from the test.

Certiport Product Manager Henry Boland says the iCritical Thinking Certification will greatly benefit the education and business communities. He points to its use in higher-education institutions as one example.

“The certification supports incoming students’ evaluation and placement, literacy assessment, and curriculum-development decisions,” Boland says. “In my opinion, no other tool comes as close to identifying the skills that are necessary for students to move forward, both in college and in the business world.”

**Here to stay**

Elliot, of the New Jersey Institute of Technology, agrees. A prominent advocate of ICT literacy, Elliot produces and posts on the video-sharing website YouTube® a series titled The End of the Essay. In the series, he argues that traditional forms of communication in higher education, such as essay writing, are becoming antiquated, and that they are being displaced by the combination of technology and communication.

Elliot says tools such as the iCritical Thinking Certification exam will help educators, students and businesses alike. NJIT participated in the product’s field testing and has integrated the exam into many of its programs.

**Trends in technology**

Now, adds Elliot, the burden is on educators to rethink curricula and to stay current on trends in technology. “If you look at, say, the teaching of writing, you’ll see there are many years of experience behind it,” he says. “Comparatively, the teaching of ICT is an emerging construct.” But while it may still be emerging, it is here to stay. Says Plante, “There’s reading literacy, there’s math literacy, and now there’s ICT literacy.”

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“The teaching of ICT is an emerging construct.”

— Norbert Elliot, New Jersey Institute of Technology
As accountants say, it’s all in the numbers. Consider these figures:

As of January 2010, the United States’ jobless rate stood at 9.7 percent. Yet for individuals with a bachelor’s degree or higher, the rate was substantially less — 4.9 percent. Conversely, for people who lack a high school diploma, the rate was noticeably higher — 15.2 percent.

Clearly, education matters. And it matters not just for the job seeker. America’s future in the global marketplace is at stake, too.

The United States faces challenges on myriad education fronts. High school graduation rates are depressingly low, college remediation rates are rising, adult literacy levels are too low, and the numbers of Americans earning advanced degrees in science and engineering are lower than they have been in years.

High school dropout rates in the United States are at or near 30 percent. For African American and Hispanic students, the rate is even higher — a staggering 50 percent. Even for those who do graduate from high school and make their way to college, many require some kind of remedial instruction.

America’s leaders are beginning to gauge the seriousness of the issue. In his 2009 address to a joint session of Congress, President Obama pledged that “by 2020, America will once again have the highest proportion of college graduates in the world.”

This will be a significant challenge. Of the nation’s 307 million people, 93 million adults do not possess the necessary literacy levels to enter either postsecondary education or job-training programs, according to the 2003 National Assessment of Adult Literacy.

Demanding jobs

Making matters even more challenging, the educational attainment level required for jobs continues to rise. Anthony Carnevale, Director of the Georgetown University Center on Education and the Workforce, estimates that by 2018, nearly two-thirds of all jobs in the United States will require some form of postsecondary education or training. In 1973, just 28 percent of jobs, or less than one-third, required such instruction.

The demand for workers to obtain meaningful credentials has never been more important. America’s education system is critical in this effort.

The United States Patent and Trademark Office tells a similar story. In a report issued in 2009 by IFI Patent Intelligence, 51 percent of new patents went to companies outside the United States. Although IBM® received the most patents of any company (4,186 patents), overall, American firms seem to be slipping: Of the 10 companies receiving the most patents in 2008, only four were American.

Knowledge for the economy

The implications are wide ranging, even affecting national security. For example, many jobs in U.S. defense industries require that an American citizen fill the position. According to the National Science Board’s Science and Engineering Indicators 2008 report, students from abroad attending American colleges in 2007 received 24 percent of master’s degrees in science and engineering, and 33 percent of doctoral degrees in the two disciplines. Fifty-five percent of all postdoctoral students in science and engineering in fall 2005 were temporary visa holders, according to the Board. A shortage of workers for information-sensitive positions is a possibility.

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An economy that emphasizes knowledge requires that everyone should be able to decipher, synthesize and analyze information, and then convey it — clearly and concisely. Innovation and problem solving are built upon such thinking.

Supporting innovation

Not long ago, America topped the list of many key education and innovation indicators. Today, looking at the same indicators, America is a nation falling behind. And since global competitiveness is certainly a top priority for the nation’s businesses, we need to fix the problem.

Simply stated, the United States cannot compete without strong national policies that support innovation. These policies include:

- increasing the focus on science, technology, engineering and math education
- implementing internationally benchmarked standards and assessments to reflect readiness for college, the workplace and the global marketplace
- aligning high school graduation requirements, state academic achievement standards and postsecondary entrance requirements
- leveraging data systems to inform instruction, improve teaching, and aid interventions
- ensuring that job training is relevant for jobs that exist today and for jobs in the future

For the United States to stay competitive globally, the American education system — from pre-kindergarten through high school to postsecondary education and job-training programs — must adopt a can-do attitude regarding such policies.

Human capital is the country’s greatest asset. This asset must be nurtured for the nation to reach its full potential. It’s time for the nation to take a full accounting of its education system. The numbers do not lie.

The EXADEP™ Test: Creating Opportunities for 4 Decades

For more than 40 years, students and universities in Latin America have been using an assessment that supports admissions decision making and helps predict academic success in graduate studies.

ETS created the EXADEP™ test, (Examen de Admisión a Estudios de Posgrado™) (Graduate Studies Admission Exam) in 1968 with the sponsorship of several higher education institutions. It was first known as the PAEG (Prueba de Admisión para Estudios Graduados) test.

Today, the EXADEP test is taken by thousands of Spanish-speaking students at the institutions where they hope to pursue graduate studies in a range of fields, including agricultural sciences, art, business, communications, information technology, criminal justice, education, engineering, health and medical sciences, humanities, law, liberal arts, psychology, public administration, religion and theology, science, social sciences, and social work.

Success in Bogotá

One of the newest additions to the growing family of EXADEP exam users is the Universidad de los Andes in Bogotá, Colombia. UniAndes, which offers 32 graduate programs, conducted its first EXADEP test administration in November 2009. More administrations are planned.

“Our first administration was very successful thanks to careful planning and the presence of ETS officials,” says Alejandro Rico Restrepo, head of admissions at UniAndes.

As is the case with other ETS assessments, research conducted by ETS staff and by independent university researchers has established the validity of the EXADEP test for use in university admissions.

“We are very pleased with our relationship with UniAndes and the many other universities in Latin America that use the EXADEP exam,” says David Payne, ETS’s Vice President and Chief Operating Officer for College and Graduate Programs. “It is a source of great satisfaction to know that this test has proved to be such a useful tool for advancing careers in many critical areas.”

More information about the EXADEP test is available at www.ets.org/exadep.
Military Organizations Look to Assessments to Meet Personnel Needs

Like Other Large Employers, They Need the Right People in the Right Jobs

A modern military is more than large armies and powerful weaponry. It is a complex, multilayered organization that depends on the skills, knowledge and proficiencies of its people.

That makes it a lot like other large modern employers, which also depend on the skills, knowledge and proficiencies of their people.

“Certainly, armed forces organizations are unique in the nature and gravity of their activities and the consequences of success or failure,” says Gerben van Lent, Executive Director for Business Development at Amsterdam-based ETS Global BV, an ETS subsidiary.

“But in many purely organizational aspects, they have the same reliance on skills and knowledge as any workplace whose employees are engaged in highly diverse activities.”

In fact, van Lent says, a military’s human capital needs are probably greater given the extraordinary range of jobs — from pilots, navigators, intelligence analysts and language specialists, to maintenance crews, procurement staff, ordnance experts and health care professionals. Developing the human capital required to fill those positions is critical to success.

“The imperative,” he says, “is to ensure that the right people with the right skills are in the right jobs. And one of the most effective ways of doing that is through skills assessments, which can aid in recruitment, placement, promotion, training and development.”

A premium on communication

Given the prevalence of multinational military-civilian collaborations, English-language skills are especially valued, says Alain Daumas, the Paris-based Director of ETS Global’s France operation.

“You can see that quite clearly in NATO,” Daumas says, referring to the North Atlantic Treaty Organization, an alliance of nations from North America and Europe. “Tens of thousands of individuals from 28 countries are employed by or assigned to NATO, and they operate around the globe, often in extremely dangerous, urgent circumstances and conditions.”

“They work in teams, they collaborate, they exchange information and ideas, and they constantly interact,” Daumas says. “To be effective, they must be able to communicate effectively, in real time, in a common language.” NATO, he notes, has made English and French its official languages.

Turning to the TOEIC® test

Within the French military, which was already active in multinational collaborations, the need for high levels of English-language proficiency was underscored by France’s decision last year to rejoin NATO’s
military command structure. Many members of the French Army staff and of
the Navy, Air Force and, to a lesser extent, French Field Forces will be assigned to
the organization, says Catherine Meyer, ETS Global’s Key Account Manager and liaison
to the Defense Ministry.

Meyer says the French military turned to the TOEIC® test after a proposal from the
Navy Language Commission. After comparing several English-language assess-
ments, in 2005 the Navy chose the TOEIC Listening and Reading test for in-service
training, officers’ training, and occupational retraining. An internal test that is also used
is linked to the TOEIC test.

Developed by ETS, the TOEIC Listening and Reading test measures a test taker’s ability
to listen and read in English. It uses a variety of real-world contexts to measure, for
example, an individual’s ability to comprehend and connect information from written
passages, or to understand conversations and short talks. It also assesses a test
taker’s understanding of different English accents as spoken in the United States,
Great Britain, Canada and Australia.

**Objective, reliable, flexible**

ETS recently introduced the TOEIC Speaking and Writing tests to directly assess
a test taker’s ability to speak and write English in a workplace setting. The TOEIC
family of tests now measures proficiency across the four language skills of listening,
reading, speaking and writing.

“The TOEIC test is viewed very favorably because it provides an objective, reliable,
internationally benchmarked measure of English-language proficiencies,” Meyer
says. “It also provides the flexibility of multiple exam sessions, which gives the
French Navy the ability to administer the test in its own test centers.”

Since TOEIC testing began, the French Navy has administered 12,000 exams,
and the Air Force has administered about 16,000. The French Field Forces, who do not use the TOEIC test exclusively, have administered 3,000 exams.

ETS is currently conducting a study with the intent to establish links between TOEIC
test scores and the STANAG 6001 language-proiciency scale designed for NATO.

**Military history**

There is historical precedent for the use of skills assessments in military organizations.
In fact, the United States military was an early and enthusiastic adopter of skills and knowledge assessments.

During World War I, what was then the U.S. War Department turned to psychologists
and human resource professionals for help with recruitment, placement and promo-
tion of soldiers. Historians who have written about the program have noted that the
U.S. military was especially interested in the insights of psychologists with industrial
experience, given the similarities between military and industrial organizations.

What emerged was a wide-scale, stan-
dardized-assessment program that helped
link education and national security in the
public’s mind, and gave an impetus to the
nascent field of educational measurement.

Some 80 years later, MISSION: READINESS,
a group of retired U.S. military leaders, last
fall made the same link between education
and national security in a research report
and press conference attended by U.S.
Secretary of Education Arne Duncan.

**Public education, national security**

The report said that 75 percent of Americans
ages 17 to 24 are unable to serve in the
military for such reasons as a lack of a high
school education, a criminal record or poor
physical condition. It estimates that about 25
percent are ineligible because of insufficient
education. At the press conference, former
NATO Supreme Commander General Wesley
Clark called for greater public investment in
high-quality early learning programs.

“Support for high-quality early education will
help ensure that more young people are on
track for successful careers, including military
service,” Clark, a MISSION: READINESS
leader, said.

For Canada’s Military, Tests Are a Tool for Quality

Each year, more than 30,000 candidates for
Canada’s military services take the Canadian Forces
 Aptitude Test (CFAT), a recruit-
maintenance assessment. ETS Canada, an ETS
subsidiary based in Kingston, Ontario, is
developing questions for the test.

The ETS Canada item-development
team will create approximately 1,000
new items for the three sections of the
exam — verbal skills, spatial ability, and
problem solving.

“The CFAT is a critical tool in the selection
of high-quality applicants,” Colin Kemp, a
Defence Scientist with the Department of
National Defence in Ottawa, said in an
ETS Canada press release announcing
the agreement. “The project that ETS is
working on is important to ensure the
viability and security of the CFAT.”

The project illustrates ETS’s ability
to work with clients on products and
services that best meet their needs,
including collaborations on existing
assessments.

Doug Ronson, President of ETS Canada,
notes that the CFAT also reflects ETS
Canada’s expanding activity in the area
of workplace assessments. “In the past,
we’ve focused primarily on educational
assessment,” he says. “But the workplace
in Canada, as throughout the world, is
becoming much more skills-, informa-
tion- and technology-oriented.”

“As a result, the demand for measures of
workplace skills remains extraordinarily
high and continues to rise,” Ronson says.
“Employers, civilian and military, want to
know: Can this person do the job? Skills
assessments help them answer
the question.”
ETS Innovations brings you news, insight and information on educational assessment in the United States and around the world, from research and test design, administration, scoring and reporting, to test use in and out of the classroom.

ETS Policy Notes: After the Bell Rings: Learning Outside of the Classroom and Its Relationship to Student Academic Achievement – This issue of ETS Policy Notes presents highlights from the "Addressing Achievement Gaps" symposium held in Washington, D.C., in October 2009.

Hispanicity and Educational Inequality: Risks, Opportunities and the Nation's Future – Despite progress, the Hispanic achievement gap in education persists. This report of the 2009 Tomás Rivera Lecture, delivered by Marta Tienda, documents Hispanic demographics, growth trends, educational attainment, and obstacles to Hispanic representation in higher education.

Errors of Measurement, Theory, and Public Policy – In the 12th William H. Angoff Memorial Lecture, Michael Kane, who holds the Samuel J. Messick Chair in Test Validity at ETS, discusses the impact of measurement error in light of increasing reliance on tests in high-stakes decisions.

Developing High-Potential Youth Program: A Return on Investment Study for U.S. Programs – The Goldman Sachs Foundation’s Developing High-Potential Youth initiative aimed to increase the number of traditionally underrepresented students at leading colleges and universities. ETS evaluated the return on investment of seven of the 50 programs the Foundation supported.

These and other ETS publications are available online at http://www.ets.org/research.