

Figure 2. Students in the United States by Race and Ethnicity: 2006

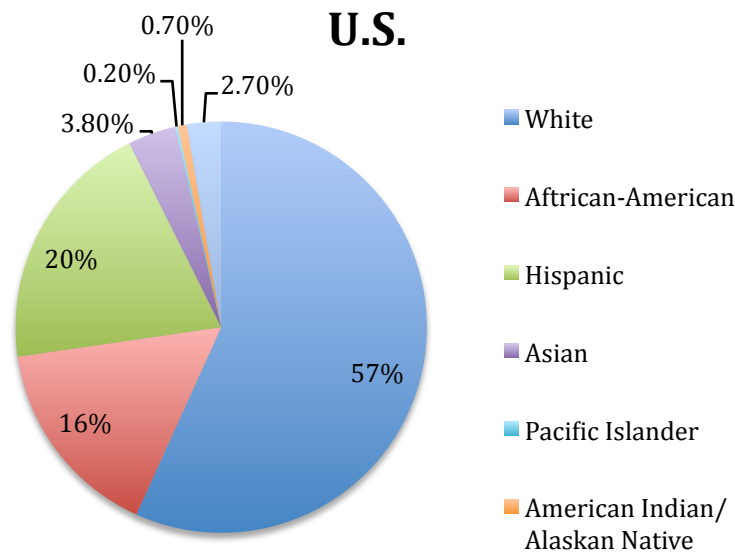


Table 2: Rural Education in Oregon and the United States: 2007

	Oregon	United States
Percent of students attending rural public schools	16.8	21.4
Percent of schools in rural areas	25	28.6
Percent of rural students who are English language learners	9.6	4.1
Percent of rural students in poverty	41.8	38.5
High school graduation rate for rural students	76.2	75.7

High School Requirements and Graduation Rates

The State Board of Education establishes high school requirements in Oregon. Local boards of education may then choose to add requirements. High school diplomas are granted under the authority

of the local board of education. This means that requirements may and often do vary across districts, although these differences are generally not great. State requirements have been relatively minimal until very recently. Students need to complete three years of English, two years of mathematics, two years of science, and three years of social studies to meet state requirements. Students may then take elective courses, including foreign languages, the arts, and professional-technical education courses. Students taking professional-technical courses (or any other combination of courses) that meet requirements graduate with the same diploma as students who take a full load of academic courses. It is worth noting that in 2009, state requirements will increase to four years of English and three years of math. The significance of this change is discussed in a later section.

Oregon reported in its 2006–2007 Report Card a graduation rate of approximately 82 percent and a high school dropout rate of 4.1 percent. Dropout rates in the U.S. cannot be easily compared across states because each state calculates its rate using its own method. However, the National Center for Education Statistics reports that in the 2003–2004 school year, 75 percent of public high school students graduated with a regular diploma four years after starting ninth grade. The national dropout rate in 2006, reflecting 16- to 24-year-olds who are not enrolled in high school and who lack high school credentials, was 9.3 percent, although the number grows to almost 11 percent for black students and over 22 percent for Hispanic students.

These figures suggest that Oregon does a better-than-average job of keeping students enrolled in high school. However, these figures are not adjusted for socioeconomic status or race or ethnicity of students. Given that Oregon has a less racially and ethnically diverse student population and less severe poverty than the U.S. as a whole, and the fact that these variables are closely associated with dropping out of school, it is more difficult to reach conclusions regarding the difference in dropout rates between Oregon and the U.S. (See **Figure 4** for a comparative look at dropout rates in Ireland and the U.S.)

Structure and Performance Comparisons

Structure Comparison

The structures of the educational systems in Oregon and Ireland are similar in terms of the age level groups used to organize students for instruction, as indicated in **Table 1**.

Table 1: School System Structure in Oregon and Ireland

Level	Oregon	Ireland
Preschool	Head Start (for at-risk children, ages 2–5) Preschool/pre-kindergarten (ages 3–5)	Early Start (for at-risk children, age 3)
Primary	Elementary (ages 5–12)	Infant classes (ages 4–6) Primary (ages 6–12)
Secondary	Middle school/junior high school (ages 12–15)	Junior Cycle (ages 12–15)
	[No Oregon equivalent]	Transition year (ages 15–16)
	High school (ages 15–18)	Senior Cycle (ages 16–18)
Higher education	Postsecondary (18+)	Third level/tertiary (18+)

Performance Comparison

Scores for U.S. high school students on the PISA (Programme for International Student Assessment) 2006 science and mathematics exams are significantly below the Irish and OECD (Organization for Economic Cooperation and Development) average scores. **Figure 3** summarizes the differences.

However, please note that reading scores were not available for the United States due to an error in printing test booklets, which limits system comparability. In general, U.S. reading scores have been near to below average of reading scores on PISA in previous test administrations.

Figure 3: Mean PISA scores for Ireland, the United States, and OECD

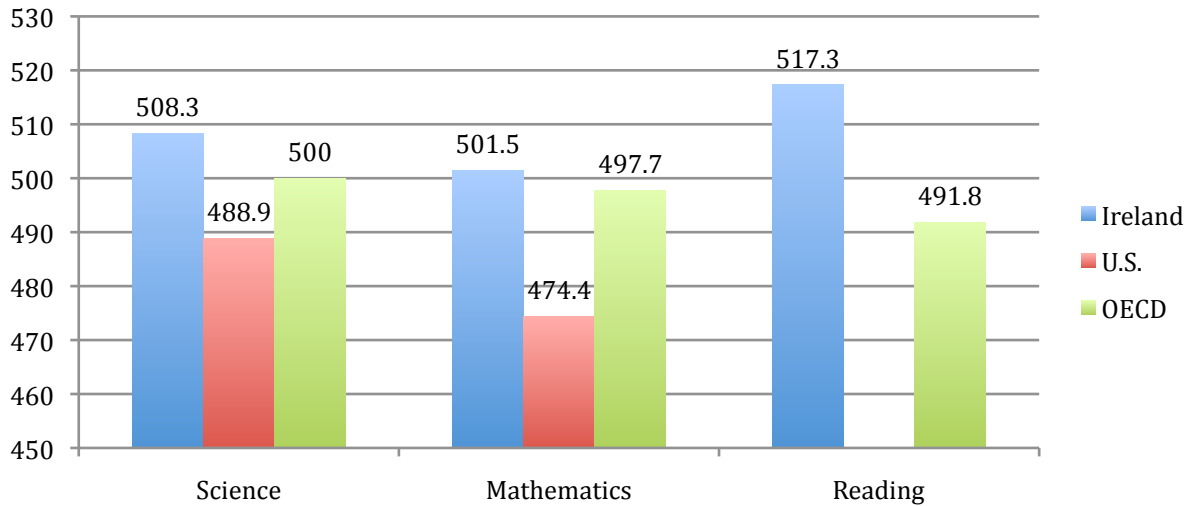
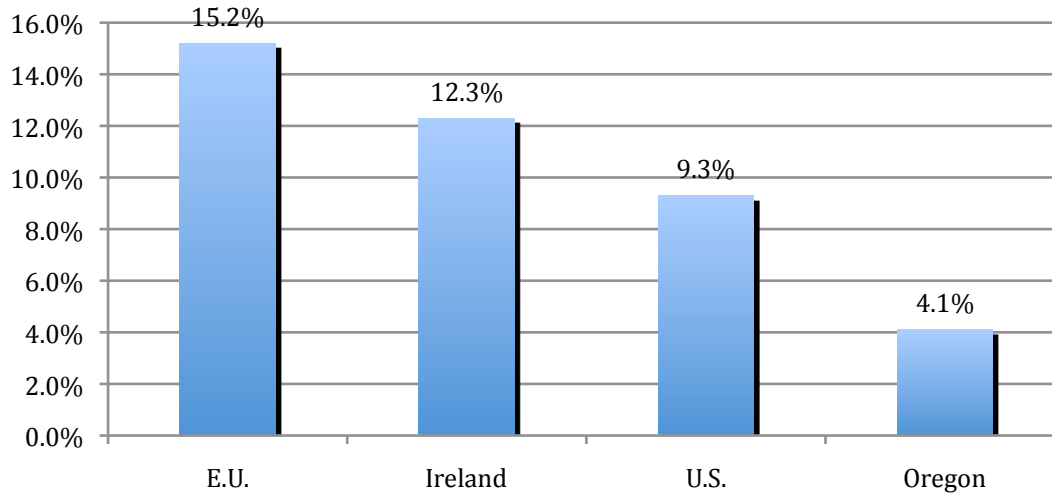


Figure 4: Dropout rates: 2006



Context of the U.S. and Oregon Education Systems

The structure of the U.S. education system can be characterized by one word: decentralization. Many important education decisions are made at the local or state level. Although the federal government has become increasingly influential, particularly over the past 20 years, schools across the 50 states, including the State of Oregon, continue to operate with considerable autonomy, particularly when compared to other national education systems. This historical and cultural commitment to locally controlled education is not only the hallmark of U.S. education—it is the explanation behind many phenomena not otherwise easily comprehended. Policies that are enacted centrally at the federal and

state levels are negotiated with local school district boards of education, administrators, and teachers, if they are to be implemented successfully. While local involvement in decision-making may be important universally, the U.S. system, with its multiple levels of responsibility for key functions, such as curriculum specification and assessment, is one of the most complex in the world to understand how policy is enacted and to predict the effects of any particular policy undertaken by the state or national government.

Key U.S. Reforms

Several reforms have tended to drive change in the U.S. educational system over the past two-and-a-half decades, emanating largely from the issuance of the landmark report *A Nation at Risk* in 1983. This period of time has been notable for the sustained national and state efforts to improve public education, and has led to a wide range of activities, projects, and programs of varying impact, success, and longevity. Two of the more substantial reforms that continue to drive educational policy nationally and in Oregon, standards-based education and high school reform, are described below, and their relationship to postsecondary and workforce readiness is considered briefly.

State and Federal Standards

The move to “standards-based education” began in earnest in the U.S. in the late 1980s. President George H.W. Bush convened a summit at Charlottesville, Virginia in 1989 that led to the “America 2000” program, a series of voluntary national goals by which to measure the progress of the U.S. educational system and toward all school systems were to be appraised. This voluntary effort was followed by the 1994 passage of President Clinton’s Goals 2000 legislation, which provided federal funding to develop voluntary content standards and that required schools receiving federal Title I monies to track student achievement in relationship to adopted state goals for learning.

By the late 1990s, this push for standards-based education had resulted in most of the 50 states developing content standards and assessment systems. Today, all states have such systems in place. State standards were designed to provide clear and measurable targets that all students should meet, and the assessments were put into place to assess student performance and also to create a system of accountability for schools. Teachers, schools, local school districts, and state governments would all be able to see how well or how poorly their students were performing. For the first time in many cases, local educators would see the performance of the students in their schools compared to other schools throughout the state and to desired state performance levels.

The enactment of the benchmark No Child Left Behind Act (NCLB) in 2002 represented a significant increase in federal involvement in education and a commitment to up the ante on school accountability. The NCLB act prescribed strict sanctions for schools and districts that failed to meet annual performance goals, resulting ultimately in full school restructuring. Although the sanctions applied only to schools with high concentrations of poor students, the results for all schools had to be reported.

As its title indicates, NCLB required that schools and districts meet these annual performance goals (known as Adequate Yearly Progress, or AYP) for *all* students, dictating that schools disaggregate their assessment data by subgroups, including racial and ethnic groups, students of low socio-economic status, special education students, and English language learners. States were required to issue “report cards” for all schools and districts each year, and to establish whether each school was making adequate yearly progress with all subgroups in the school. If not, the school was deemed as being in need of improvement and subject to potential sanctions if adequate yearly progress were not made in subsequent years.

High School Reform in Oregon

The state has been deeply engaged in the implementation of standards-based school reform over the past 17 years. In 1991, the state legislature passed the Oregon Educational Act for the 21st Century, which was intended to revolutionize the state’s public schools, transforming them into institutions that produced the best-educated students in the nation and the best prepared workers in the world. The key vehicles to accomplish this were to be the Certificates of Initial and Advanced Mastery. These were to be earned by students based on their demonstrated mastery of key knowledge and skills. Mastery was to be measured by means of a complex multi-measure assessment system. Students would then progress to higher education based on demonstrated proficiency, as defined by the Proficiency-based Admission Standards System (PASS), adopted by the Oregon Board of Higher Education in 1994.

After nearly two decades of effort to implement this blueprint for system redesign, the Oregon Legislature in 2007, on the recommendation of the State Superintendent of Public Instruction, backed off of the certificate system in order to focus on the high school diploma and ways in which to test students more thoroughly on a set of capabilities deemed essential for future success. As noted earlier, subject-area requirements for the diploma are increasing in 2009. In addition, students must pass the Oregon Assessment of Knowledge and Skills in English and mathematics and demonstrate proficiency on a set of “Essential Skills” necessary for success in a global economy and society.

Work on the new diploma system is still in progress, but the stated intention is to utilize the diploma course and exam requirements to spur substantive improvement in the performance of high school students so that they are ready for continued learning and for careers. While the objectives may still be the same as in 1991, this new focus on the existing high school diploma illustrates how difficult it is to move away from something as familiar as the diploma to something as new and unfamiliar as the two certificates, no matter how well intentioned they were in principle. Change at the district and school level in Oregon is complex and multi-dimensional, particularly in regard to high schools and to issues of high school-to-college alignment and transition.

Postsecondary and Workforce Readiness

Even with the institution of curriculum standards and statewide assessments and the arrival of NCLB, it has been clear for some time to many university faculty, business managers, educational researchers, and policymakers that U.S. high schools were not adequately preparing their graduates for postsecondary education or the workforce. Results from state assessments throughout the 1990s demonstrated significant improvements in elementary reading and math scores, mixed results at the middle school level, and decidedly little change in performance at the high school level. The only notable exception to this generalization occurred in states that instituted high school graduation requirements, some of which witnessed increases in the proportion of students meeting state standards in order to graduate. However, even this trend must be viewed with some caution because many states ended up lowering the score needed to pass the test or otherwise diluting the standard in order to assure that a politically palatable number of students were awarded diplomas. Therefore, although 24 states have or will soon have high school exit exam requirements, effects on high school programs of study have been decidedly mixed.

High school reform has not been closely tied to college readiness. Significant numbers of students continue to enter postsecondary studies unprepared for credit-bearing courses and must take remedial (developmental) education classes. According to a 2003 report by the National Center for Education Statistics, 28 percent of first-time freshman in public and private two- and four-year institutions nationally enrolled immediately in at least one remedial reading, writing, or mathematics course. In Oregon in 2000, approximately two-thirds of students went directly from high school to some form of postsecondary education. Of the Oregon students who entered community colleges, 40 percent were required to take at least one pre-college level course. One effect of this lack of preparation and need to take remedial courses is that many students discontinue their studies or take longer than four years to

graduate. In the U.S., 57 percent of students seeking a degree from four-year institutions graduated within six years. Figures for Oregon’s four-year public institutions are comparable to the national average.

Education in Ireland

The Structure of Ireland’s Education System

As noted above, the Republic of Ireland and the U.S. have similar educational structures for student groupings (see **Table 1**). However, the systems do diverge in many respects. While education is not mandatory until age six in Ireland, most children start school at age four in infant classes. Students then spend six years in primary school, three years in the Junior Cycle, and two to three years in the Senior Cycle, depending on whether they engage in a transition year. All Irish schools follow the same national curriculum, established by the National Council for Curriculum and Assessment (NCCA); however, Irish teachers are granted a fair amount of latitude, and they make good use of that flexibility. The Irish student body is less racially and ethnically diverse than that of the United States: 12 percent of students have parents who were born outside of Ireland. Approximately 20 percent of students are from families of low socio-economic status.

Ireland’s education system differs most markedly from the U.S. system in the degree of centralization for its curriculum and assessment, as noted above. The Senior Cycle illustrates the Irish system’s internally coherent policy model that is implemented consistently throughout the nation and designed to offer options to all students consistent with their goals and interests.

The Senior Cycle

The Senior Cycle actually begins with the option of a “transition year” between Junior Cycle and Senior Cycle. According to the NCCA, this optional year of study is meant to provide students “with the opportunity to mature and develop without the pressure of an examination.” Approximately 47 percent of students entering the Senior Cycle choose the optional transition year, which is available in 75 percent of Irish schools. Girls are more likely to participate in a transition year than boys, and middle class students have a higher participation rate than their working-class counterparts.

Following the transition year, Ireland offers its Senior Cycle students three different programs: one academic, one more vocational, and one that has both academic and vocational aspects. These programs are as follows:

- *Leaving Certificate (Established)*: This is the most academically oriented Senior Cycle program. Students following this program must study at least five subjects for examination, one of which must be Irish, but students typically study seven subjects; 34 subjects are available. Since 2000, the NCCA has been reviewing and revising Leaving Certificate subjects syllabi and assessments. Subjects are offered at two levels of difficulty (ordinary and higher). Irish and mathematics are also offered at a foundational level.
- *Leaving Certificate Applied*: Introduced in 1995, the Leaving Certificate Applied is a pre-vocational program for students who do not intend to proceed directly to higher education. The main goal of the program is to help students transition from the world of school to the world of work. Courses are structured around three elements: vocational preparation, vocational education, and general education.
- *Leaving Certificate Vocational Programme*: According to the NCCA, this program, which was introduced in 1994, “combines the academic strengths of the Leaving Certificate (Established) with a new and dynamic focus on self-directed learning, enterprise, work, and the community.” The program’s primary goal is “to prepare young people for adult life by ensuring that they are educated in the broadest sense, with an ability to cope and thrive in an environment of rapid change.” Students study a number of Leaving Certificate subjects selected from “Vocational Subject Groupings” – courses that are related to the sciences, engineering, home economics, and business and economics. They also undertake two additional modules: Preparation for the World of Work, and Enterprise Education.

Currently, Irish citizens tend to view only the Leaving Certificate (Established) as the true Senior Cycle program; both the Leaving Certificate Applied and Leaving Certificate Vocational Programme are seen as “add-ons” and suffer from poor public profiles despite some success in encouraging participation and Leaving Certificate completion from students who might not otherwise complete the Senior Cycle. However, overall participation in the Senior Cycle has been fairly static for the past 15 years. Only

about 3,000 students participate in the Leaving Certificate Applied each year, compared to approximately 60,000 who participate in the Leaving Certificate (Established).

The dropout rate in Ireland is lower than the 2006 EU average of 15.2 percent; approximately 12 percent of Irish were considered early school leavers in 2006, defined as persons ages 18–24 who left school with at most a lower secondary education. Both the EU and Irish rates are higher than those of Oregon and the U.S. (see **Figure 3**). According to the Irish Department of Education and Science, which used the 1999 cohort, approximately 95 percent of students who began the Junior Cycle program sat for the Junior Certificate exam. A total of 90 percent went on to the Senior Cycle and approximately 80 percent completed the Leaving Certificate program.

Senior Cycle Reform

The NCCA began its review of Senior Cycle education in 2002 and issued its proposals in 2005. The review was undertaken for a number of reasons. While the Senior Cycle was diversified in the 1990s with the introduction of the Leaving Certificate Applied and the Leaving Certificate Vocational Programme, many parties expressed concern that the Leaving Certificate (Established), the course of study undertaken by the vast majority of Senior Cycle students, had not been adequately reviewed. The NCCA’s 2002 Senior Cycle Consultative Paper set forth the rationale used to consider the fundamentals of the Leaving Certificate program, including the nature of the Senior Cycle experience, issues of curricular breadth, balance, and differentiation, the expansion of assessment approaches, and the establishment of elements that would contribute to social cohesion. Furthermore, the NCCA paper noted that today’s youth emerge from school to “an adult world radically different from the world of their parents.” Focusing on Ireland’s recent economic growth in an increasingly global economy, the NCCA paper drew attention to the “pivotal role education plays in increasing economic prosperity.”

Redesigning Upper Secondary Education in Ireland and Oregon

The Forces for Change in Secondary Education

Both the United States and Ireland have been re-envisioning upper secondary level education in order to prepare students better for postsecondary education and the workforce. In Ireland, the Senior Cycle is being revised by the NCCA to ensure that students “become more effective

learners, both during their time in school and into the future and to participate fully in society, including personal and family life, the world of work, and lifelong learning.”

Calls for reform in secondary education in the U.S have, if anything, been even stronger and more sustained. For example, the American Diploma Project, sponsored by a number of governors, stated that “the [high school] diploma has lost its value because what it takes to earn one is disconnected from what it takes for graduates to compete successfully beyond high school—either in the classroom or in the workplace,” and called upon states to “anchor high school graduation requirements and assessments to the standards of the real world.”

Many states in the U.S. are now trying to do just that. The Oregon State Board of Education’s report, *2007: Oregon’s New Diploma*, notes that while Oregon students already receive a solid education, “the world continues to change rapidly, and the educational system must respond to ensure that each and every student is prepared for the demands of the 21st century.” In its 2006-2008 Strategic Plan, Ireland’s National Council for Curriculum and Assessment (NCCA) echoes such calls when it notes that “globalization, marketization, and individualization are shaping the social, cultural, economic, and political context in Ireland.” The Council also cites a growing demand for accountability from parents and the general public. As noted previously, in the United States, accountability is a driving force behind the No Child Left Behind Act, and Oregon’s high school reforms have moved more toward student accountability by linking the diploma to passing state exams and other requirements.

The Role of Key Cognitive Strategies

Researchers, including those at the Center for Educational Policy Research at the University of Oregon, have identified key skills that are essential to postsecondary and career success. Over the past several years, a number of reports have been written in the United States identifying in some detail what high school students need to learn to be better prepared for college and the workforce.

A recent analysis by the author contained a four-dimension model of college readiness that captures much of the research on this topic. The four dimensions take into account the full range of cognitive and non-cognitive factors found to be associated with postsecondary readiness. The four dimensions are as follows:

- *key cognitive strategies* (e.g., intellectual curiosity, inquisitiveness, analysis, reasoning, interpretation, precision and accuracy, problem solving)
- *key content knowledge and skills* (writing, research, English, mathematics, science, social sciences, world languages, and the arts)
- *academic behaviors* (self-monitoring skills; study skills; persistence; time management; personal organization and goal-setting)
- *contextual skills and awareness* (knowledge of postsecondary options available, admissions process, nature of college culture, how to communicate with professors and other students)

Key cognitive strategies are listed first because of the emphasis higher education faculty universally placed on these capabilities. In short, students with strong content knowledge who cannot utilize that knowledge in a facile fashion to solve problems, make inferences, draw conclusions, analyze conflicting explanations of a phenomenon, or conduct supporting research are likely to struggle in entry-level college courses even though they may have received good marks in high school courses. When high school classes do not develop these abilities in students, and when a high school program does not address all four dimensions of college readiness, students enter postsecondary education unprepared for the full range of expectations and challenges that await them and unable to take advantage of the complete set of opportunities a postsecondary education affords them.

Oregon has taken steps to encourage the teaching of key cognitive strategies. The New Oregon Diploma requires demonstrated proficiency in what the state labels as “Essential Skills” that comprise the following:

- reading and interpreting a variety of texts
- writing for a variety of purposes
- speaking and presenting publicly
- thinking critically and analytically
- applying mathematics in a variety of settings
- using technology
- demonstrating civic and community engagement
- demonstrating global literacy
- demonstrating career-related learning skills: personal management, teamwork, employment foundations, and career development

In addition, the State Board of Education and the Oregon Department of Education are in the process of reviewing the statewide assessment system, and will likely shift from the current system of exams combined with classroom work samples to a system that gauges student performance through tests in mathematics, reading and writing and other assessment methods consistent with the expectations set forth in the New Oregon Diploma.

In recent years, Ireland has identified five Key Skills it deems “central to teaching and learning across the curriculum at Senior Cycle” and essential to a student’s becoming an “effective learner.” These skills, many of which overlap with one or more of the Oregon Essential Skills or the four dimensions of college readiness, are:

- information processing (includes research skills, such as using a range of sources and evaluating reliability of sources; note-taking and other methods of organizing information; information presentation)
- critical and creative thinking (includes problem solving, analysis, reasoning, interpretation, intellectual openness)
- communicating (includes interpretation, engaging in dialogue, presenting using a variety of media)

- working with others (includes setting group work goals and other skills for effective group work)
- being personally effective (includes evaluating one's own work, responding to feedback, taking initiative, being flexible)

Ireland has been field-testing the implementation of these key skills with a group of 20 teachers in nine schools that are part of the NCCA School Network, which was originally established to allow student and teacher input into curriculum development. While this network has been the NCCA's main test bed for implementing the Key Skills, other schools have been free to take on this new project independently. Starting in September 2008, the Key Skills will be included in the development of the national curriculum and assessments in mathematics, and over the next five years, all mathematics teachers in all Irish schools will use this new curriculum.

The field test of the Key Skills has yielded a number of findings to date, including the following:

- The five key skills are relevant to each subject.
- Teaching becomes more learner-centered (less "chalk and talk") when the key skills are the focus of lesson planning.
- Teachers need to develop their own understanding and practice of the key skills in order to be successful in embedding the skills in their lessons.
- Successful embedding of key skills requires curriculum and assessment change.
- Teachers and students alike claim that the key skills approach contributes to effective learning.

The Role of Assessment in College Admission

The United States and Ireland have significantly different methods for testing secondary students and for determining college admission. In the United States, 24 states have implemented or will soon implement high school exit exams, typically standardized multiple-choice exams, which students must pass to graduate. Even states without exit exams administer tests to high school students to meet NCLB requirements. In these states, the results are generally used for school accountability purposes, not student accountability.

College admission in the U.S. is determined based on multiple measures, and these can and do vary among postsecondary institutions. Measures typically required include student grades in high school courses (GPA), score on a college entrance examination (generally the ACT and SAT), and for some students who have the opportunity to take them, scores on Advanced Placement® exams or the International Baccalaureate Programme. These are then weighed, either by formula or as a part of what is now commonly called a “comprehensive review” process, often with other data sources, and a decision is made. This “black box” model can engender considerable anxiety for applying students, who do not know exactly what to do to be admitted, particularly to the most-selective institutions.

In Ireland, Senior Cycle students take Leaving Certificate exams, typically in seven subject areas. These require extended written responses rather than consisting solely of multiple-choice questions. In English, for example, elements would include essay items, shorter paragraph responses, and questions on unseen literature as well as items on texts students were required to study in preparation for the exam. The raters, usually teachers, are hired by the State Examinations Commission to score these extended responses. Test scores are converted into points, which the Central Applications Office system uses to allocate placements in institutions of higher education. The process is much more transparent and consistent across institutions than is the U.S. model.

Questions and Issues to Consider

Both the State of Oregon and the Republic of Ireland share the common goal of redesigning secondary education so that students master a more complex set of skills. These skills are to be demonstrated in the context of important content knowledge. The issues each must address to accomplish this goal are somewhat different.

As noted initially, Oregon has a decentralized educational governance system. This can be a strength and also a challenge when attempting to bring about fundamental change. While it is possible for a great deal of experimentation to occur locally that helps guide the way for statewide improvement, just as often, local resistance, lack of capacity, or confusion thwarts major reform efforts in the state. The move to a high school exit examination requirement in Oregon will raise a host of issues about local versus state responsibilities, not the least of which will be the assessment system itself. As currently envisioned, that system would have a state component and potentially a local component. Can this be done in a way that allows for more authentic student work to be assessed, as is the case in Ireland? Can the inclusion of a “local option” to measure the Essential Skills lead to innovative teaching or daring

curricular redesign? Perhaps most important in the U.S. context, can any such assessment system meet the type of technical standards for reliability that have come to be both the hallmark and the bane of U.S. psychometrics and assessment policy? And if a technically adequate system to measure key college and work ready skills can be created, will it and can it be linked to postsecondary and career readiness and used for high-stakes decisions, such as admission, placement, and employment eligibility?

In Ireland, the Leaving Exams' heavy emphasis on academic content means that teachers and students alike have become highly attuned to the methods that yield the best results on exams. Will the Key Skills be sufficiently robust as policy vehicles to spur changes in teaching and learning? Will the assessment system, already far more complex than Oregon's in the data sources utilized, be adaptable enough to measure the Key Skills? How will teachers be engaged in the process so that they feel ownership in it and have a full understanding of what they are expected to do, and why? Will this require new assessment methods, and will the public and policy makers support new methods?

As some Irish teachers who have been participating in the field test of the Key Skills noted, "until the exam changes, nothing else will." This statement might be equally applied to Oregon as well. Each system appears to be at a crossroads of sorts in how its secondary school program will be conceptualized and measured. The differences and similarities between the two systems can serve to provide participants in each a perspective on their own work that might inform new possibilities and solutions.