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Tinker, Tailor, Soldier, Sailor...A Public Policy Agenda on Today's Students and Tomorrow's Jobs

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This chapter outlines the issues a policymaker looks for when trying to understand the Babel of competing ideas and points of view around the conjunction of two institutions—schooling and work. It begins with the personal because that is where policymakers usually begin, with their own history. The second section aligns personal experience with the structure of schooling and work as it existed fifty years ago, when that history began to form. That examination leads to a brief survey of the way thinking about the relationship between school and work has evolved since just before the rise of compulsory schooling. The survey concentrates on the evolving nature of the idea of “competence” as a way of discussing the bridge between the two social institutions, school and work. It is followed by an examination of some of the factors that shape the value of competencies, and how that value is expressed in the occupational structure of the U.S. workforce. This is followed by a brief examination of the value employers place on graduates with study abroad experience, as a specific example of the dissonance between rhetoric and evidence about the economic utility of specific skills and experiences. The essay concludes with a brief synthesis and argues that the main thing we know about school-to-work transitions is that uncertainty, change, and choice are more important than predetermination, continuity, and tracking.
The Personal

“What do you want to be when you grow up?” As a child living and working on a grape and orange farm in rural Australia I hated that question. Obviously I was going to be a farmer, like my father. I had no desire to run away to sea or to move to “the city” to work in the textile industry. Neither intergenerational nor geographic mobility were on my primary school curriculum, nor on the curriculum of any other Australian child in the 1950s.

Yet, the question seemed to fascinate everyone. I recall being asked by friends, family, the local butcher, and occasionally by teachers. It endured across years, even through six years of agricultural high school and into university. Great Aunt Ollicent never tired of it over twenty years, asking it on every one of her annual visits. The same aunt, mystified by my inability to render her portrait in any medium despite a year of study for an Arts degree, was sure I would come to a bad end. And of course I lacked the skill to explain what I was studying, let alone why.

The question gives a wonderful insight into the era and its economy. There was no notion of trying something out; you were to “be” a farmer for life. There was no notion of changing occupations or sectors, from agriculture to, say, mining. Nor was there any expectation that you would leave the countryside to look for work in the coastal cities. Indeed Uncle Colin was regarded as frivolous and feckless, and definitely unreliable, for changing jobs twice in his lifetime. While “getting ahead” in your field was fine, changing fields seemed alien and unwise.

“Tinker, Tailor, Soldier, Sailor”—the nursery chant we learned as two- and three-year-olds—taught us not just the importance of counting and rhymes, but that occupations were fixed, invariable, and determined by chance. It and its variants (see Opie and Opie 1952: 404–5; and Baring-Gould and Baring-Gould 1962: 216) also taught us the class system and the gender rules of society.

Tinker, tailor, soldier, sailor,
Rich man, poor man,
Beggar man, thief
Doctor, lawyer, merchant, chief.
(Opie and Opie 1952: 405)
This personal history lined up with and was shaped by the public policies regulating the school systems of the nation. Those policies were based on assumptions about the transition from school to work.

**Aligning Assumptions about Society, Work, and Schooling**

Not surprisingly, secondary school organization in Australia in the 1950s and early 1960s reflected the assumption that when young people left school their career destinations were certain. General and vocational, or technical, schools were separate. In the cities, commercial and domestic science schools supplemented agricultural schools. Wherever possible, boys and girls were educated separately and offered slightly different programs of study. Streaming, or sorting children into groups or “tracks,” based on ability test results was common both between schools and within schools (Freeman Butts 1955).

The curricula were relatively narrow, with vocationally relevant subjects like bookkeeping, woodworking, wool classing, shorthand, and typing. The few languages that were offered were all European and categorized into Ancient and Modern. Choice was limited and instruction emphasized memory and recall. The encyclopedic acquisition of knowledge and the mastery of long division were esteemed. Students were assessed and ranked in order of proficiency.

For most young people formal schooling ended the year they turned fifteen. Whatever additional job-specific information and skills they needed would be learned in the workplace or in the arduous and long apprentice- ships that combined work, learning, and low pay. Entrance to the trades was controlled by guilds, unions, and the available jobs.

Entrance to the professions was not always through university. In some cases it could be gained by a form of apprenticeship—an aspiring lawyer could begin as an “articed clerk” and present himself (seldom herself) for examination after a period of service and tutelage by a practicing lawyer.

Only the elite would finish secondary school and go to university, and the assumption in economic policy was that the national workforce would not need high levels of skill. Other public policy assumptions were embedded in this view of the world, including the ideas that ability was fixed, innate, and measurable, and that jobs were invariant and permanent. The only exception to this rule was for women, who were expected to resign paid employment...
upon marriage, and in some cases (usually in the public sector) were re-
quired to so by law.

This brief survey of public policy and education it is not peculiar to Aus-
tralia; it applies to all urban industrialized democracies as they grapple with
the role of education in the national economy. There is a vigorous debate
about the rights and wrongs of organizing and aligning schooling with la-
bor markets or national objectives. Some people take an instrumentalist
view that education should serve the needs of the state by equipping indi-
viduals for work and economic productivity. Others take a transformative
perspective and see education as helping individuals realize their potential
and aspirations, celebrating education as an end in itself or as a pathway to a
well-developed intellect or mind. The permutations and nuances of these
arguments are many. I leave them to others. (For one example, see Parting-
ton 1987.)

I accept that education is a public policy domain—it is largely financed
or subsidized by public funds and it serves ends that are in the common
good. One of those ends is to offer young people the capabilities and knowl-
edge they will need to enjoy fruitful and meaningful lives. Another is to
equip school graduates to contribute to the economic productivity of a com-
munity. That productivity is enhanced when community members are well-
educated and willing to work and learn.

One lens on this debate is the “employability” of graduates. If we accept
that access to economic activity is rewarding for the individual and society,
we can start to examine how schooling should be organized and learning
assessed and certified. One approach is to delineate vocationally specific
skills like “animal husbandry” or “shorthand and typing” and prepare stu-
dents to master them. Another is to offer a broad general education to equip
individuals with the foundational skills for learning on the job or in post-
school institutions. Yet another is to set out generic skills like “communicat-
ing with others” that can be acquired through a variety of disciplines and
programs.

In a sense, all three emerge from a way of thinking about the connection
between school and work in terms of “competence,” where competence is the
capacity to satisfactorily perform a role or complete an activity. Competence
is a term that suffers from “conceptual inflation” (Weinert 2001), or a surfeit
of meanings, because of its frequent use in education and political debates
and its relatively long history: it is used as a synonym for “skill,” “attribute,”
and “capability.” As we will see, this ambiguity or plurality of meaning has developed from its use as a policy tool in many different settings.

**Competencies as a Public Policy Tool**

Competency-based education, defined as the construction of educational programs and assessments around units of observable individual performance of a task or process, has its antecedents in “task analysis” approaches to curriculum design. The general idea was that the process of organizing work rationally or scientifically in factories and workshops could be transferred to the development of school-based programs of learning. A role or function in society or the workplace could be broken down into acts or events or tasks that could be used to create a program of learning and an assessment regime based on observed performance. Examples of this go as far back as the 1860s—before the rise of universal basic education. Subsequently, an element of the social efficiency movement fostered scientific curriculum making that would devise programs of study that prepared individuals specifically and directly for social roles. Order, stability, and utility guided the selection of the content and breadth of the curriculum. All three supported the need for efficiency that was embodied in Winslow Taylor’s doctrine of scientific management and its concerns for standards and established routines to maximize production and minimize costs. The one best way of producing something could be determined by researchers observing workers, photographing and timing them as they carried out set tasks. Speed would be used to set the best order of tasks, which would increase productivity by saving time and reducing fatigue. Employees would establish a “set of efficient habits” which “changed mental attitudes” (Gilbreth and Gilbreth 1919: 140). The requirements of the workplace could then be codified and communicated through training.

Bobbit, the founder of “curriculum” as a field of practice, used these principles to create a five-step curriculum-making process including job analysis and specifying objectives to ensure that education meet social ends (Kliebard 2004). His process led to a standardized approach for assigning students to the “right” vocational pathways or academic programs that would end in the “right” jobs or colleges. This “scientific” approach, common throughout the 1920s and 1930s, continues to be influential. It is inherent in the behavioral
objectives and the scope and sequence curricula of the 1960s, 1970s, and 1980s, and is evident in the English standards of 2005 issued by National Council of Teachers of English in the United States (Tremmel 2006). Its influence is pervasive and can be seen, for example, in the English language curriculum adopted in the 1990s in Singapore (Cheah 1996).

The persistence of this approach over a century owes much to its perceived value in linking education with social or economic utility. It was a way of reducing the “gap” between learning and earning, and a tool to help people move from one type of institution to another. When those transitions are troubled or lagged because of unemployment or structural adjustments in the labor market, competency-based approaches gain popularity.

Of course this is not a new phenomenon. Nor is it peculiar to the United States. The rise of the metropolitan merchant class in Britain and the growth of urban industries in the nineteenth century led to demands for the introduction of commercial law and bookkeeping courses and for commercial languages to be taught in universities rather than classical Latin and Greek (Ray and Mickelson 1990).

“Competencies” became a common part of policy debates in general education in the 1970s and 1980s as industrialized countries concerned about urban youth unemployment and productivity started to reexamine the role of education in economic competitiveness. The National Commission on Excellence in Education’s report A Nation at Risk (1983) linked school reform with national economic competitiveness and fostered renewed interest from the business community in the work of public schools. It was also one impetus for the Department of Labor’s advocacy of essential skills and knowledge for all high school graduates expressed in its report, Learning a Living (1992). Australia, Canada, New Zealand, and the United Kingdom, which also grappled with significant shifts in economic structures and policies, explored similar changes in their approaches to education. Business groups campaigned for school reform around slogans like “The 4th R: Readiness to Work.” The National Alliance of Business used a film of the same name to persuade local business groups in cities across the United States to campaign for more employment-related skills in the curriculum (Ray and Mickelson 1990).

In these Anglophone countries and in most other OECD nations at the time, mass secondary schooling was common and high school completion rates were increasing rapidly or had peaked. Employers, seeking to reduce their own training expenditures, and taxpayers bearing the cost of mass schooling began to express concerns that school graduates were not “job
ready,” meaning that they were not immediately “employable” and allegedly lacked good work habits and the social skills needed in modern workplaces.

Another reason for the popularity of the competency approach is its apparent simplicity. There is a direct relationship between the content and structure of learning and the skills or knowledge needed by a beginner to be effective in the workplace or occupation. The assessment regime can be simplified to a set of criteria that are observable and binary—what the candidate can do or cannot do. Policymakers, then, can concern themselves solely with outcomes, leaving aside debates about “process,” how learning should be organized, and the level of “inputs” necessary for learning to occur.

But some educators, even some who are advocates of competency-based approaches, do not like this simplicity because it is “highly reductionist,” dividing and specifying tasks to the point of fragmentation. For each small part, the learner is to be observed performing the activity according to the standard. The task and associated performance criteria often become the “competence” even though the observed behavior is really only part of the process or vocational capability that a person is expected to have (Gonczi 2003).

This and related criticisms have shaped more recent approaches to competence. A major cross-national study lead by the Swiss Statistical agency on behalf of the OECD’s Education Division has developed a more comprehensive and holistic approach to defining competence. After an extensive cross-disciplinary process they settled on a definition of a competence as “the ability to meet complex demands successfully or to carry out an activity or task” but supplemented it with the caveat that a competence was embodied in an individual’s “internal mental structures of abilities, capacities and dispositions” (Rychen 2004: 21).

The researchers went on to identify three categories of key competencies that are related to broad demands of modern life rather than behaviors tied to general vocational ends: acting autonomously, using tools interactively, and joining and functioning in socially heterogeneous groups. They elaborated all three by including items or elements that refer to interpersonal or emotional qualities. Acting autonomously would include expressing individual identity and asserting one’s rights. Using tools would encompass applying languages, symbols, and text to problems in the workplace and in society; participating in diverse groups would include relating to others and the ability and willingness to cooperate (Rychen 2004).

This more comprehensive approach to delineating capabilities that have value in the workplace is attractive to many educators because it moves past
knowledge recall as a method of assessing learning and fosters application of knowledge and active-learning strategies. This approach is attractive to employers because it more closely aligns with the activities that individuals are expected to perform in the workplace, either by themselves or in teams. Competencies are attractive to the leaders of social institutions because they describe behaviors and abilities that are essential for effective membership in these organizations or groups.

For policymakers, curriculum designers, and assessors of performance, competencies are constructs that aggregate more highly specified skills into sets that approximate the actions, activities, and tasks that individuals and teams undertake in workplaces and in other social settings. They also reflect sets of capabilities that can be learned or developed rather than being measurements of innate ability. The latter measures all against the same standard and rationalizes occupational stratification in terms of intelligence. The competency-based approach expands individual opportunities by allowing for the acquisition of skill, mobility across occupations, development over time, and the combination of an individual’s skills with those of others to complete an activity or solve a problem (Carson 2001).

Just as the developers and advocates of IQ testing were responding to demands from employers and policymakers for tools to guide selection and rationing decisions, the development of more robust definitions of competencies has been driven by a desire for concepts and constructs that align education with other social institutions like “work.” Information about the capabilities that might be developed through a course of study or be applied in a social setting could also help individuals make choices about careers, courses of study, and depth of specialization. Similarly, this approach could help employers choose between individuals who have developed different sets of competencies.

In short, competencies are a tool that can help in the transition between school and work. They help educators design programs. They help students select courses and experiences to develop and consolidate their skills and capabilities and they guide hiring and training new employees.

Ideally these competencies and associated measurements would be relevant across different occupational settings, be applicable across various forms of education and training and persist over time. They should be “generic” in the sense that they can be applied to good effect regardless of task or time or trade.
This generic quality is important because the production cycle of formal schooling is lengthy. Individuals are able to, and sometimes are forced to, choose courses and specializations as precursors to post-school destinations as early as six years before graduation. Similarly, curriculum and assessment agencies benefit from the persistent quality of generic competencies as this characteristic provides some certainty that, despite the time required to set up specific curricula or subjects or to make changes in content or in methods of instruction and assessment, the material will still be relevant. And these changes are costly—requiring documentation, materials, and teacher training. The lead time and scale of investments can be justified more easily if the future demand for the skills formed by the programs of study is constant or enduring, or at least predictable.

**Does Demand for Job Skills Change?**

While essentially a conservative institution dedicated to transmitting values and knowledge across generations, school education does change. One source of change is external events. Things happen in the political, cultural, and economic contexts surrounding education that shift priorities and values.

The most obvious is the general state of the economy, particularly the availability of jobs for school leavers. The general proposition is that education is a “counter cyclical investment”—demand for education goes up when job vacancies go down. Higher education becomes a “warehouse” for human capital especially in areas where unemployment is high. Conversely, in areas where there are plenty of jobs that do not require post-school education, young people are more likely to enter the workforce rather than go to college when compared to their same-age peers in areas of high unemployment (Bozick 2009). The distribution of jobs is not even across or within nations or within cities within nations. Nor, as noted by Laura Perna, Laura Wolf-Powers and Stuart Andreason, and Harry Holzer and other authors in this volume, is access to available jobs evenly distributed among young people, with significant structural unemployment impacting racial groups within the United States (Ryan 2001).

Other broader social and political changes can shape the demand for particular skills or for people with particular capabilities or qualifications. These can be as fundamental as the creation of a new nation, which may
shift the importance of particular languages—Portuguese versus Bahasa in East Timor for example, or Russian versus Lithuanian or Ukrainian in the former Soviet Republics.

Discontinuity and change can also come from the creation of new economic entities like the European Economic Community, NAFTA, or the Euro Zone, which change the range of opportunities for the flow of goods and capital, shaping demand for skill, or the European Higher Education Zone, which allows for easier movement of qualifications and skills across national boundaries, changing the labor market composition. (See for example Floud 2006 and Cardosa et al. 2006.) Or it can stem from policy changes as simple as changes in tariffs and taxes, which shift the economic value of skills applied in formerly protected industries and occupations.

Some of these changes have had major impacts on cities through the co-location of established industries and urban areas. This is evident in the history of the textile cities of England where the pathway from home to mill, a “given” for two hundred years, was dislocated by economic integration with Europe beginning in the late 1960s. Youth unemployment rose, school enrollments increased, and public schools with curricula and a culture from a different era were faced with students with low aspirations and few opportunities (Willis 1977). All parties struggled with the change and, in response, governments created youth training and wage subsidies and pressed for new vocational programs. Cities still face these transitional problems. Danson (2005), in a study of “Old Industrial Areas” in Scotland, illustrates how the demand for occupationally specific skills has been replaced by demand for “soft skills” or “future skills” like customer handling, oral communication, team working, and problem solving.

These changes have been most closely observed in occupations that historically required high school diplomas or an equivalent for entrance. Most analytical work in this area tends to focus on the questions: Why does additional schooling increase an individual’s income? Why do employers pay more for someone with a diploma?

To address these questions, there are two competing schools of thought: human capital theory and signaling. Both assume that individuals will continue to bear the cost of education up to the point where the marginal return equals the marginal cost, but they differ on their explanations for a wage premium. The human capital group argues that education increases lifetime productivity and this warrants better pay. The signaling group argues that an
employer pays a premium because education symbolizes innate ability and the capacity to make better use of training and hence greater productivity.

No matter which theory dominates, the net effect is that successful entrance to the labor market is influenced by years of education or educational credentials. The clearest evidence of this relationship is the fact that in the U.S. economy the premium for having eight years of schooling began to decline in the 1960s as high school completion and college participation increased rapidly (Kroch and Sjobolom 1994). The annual wages, in constant dollars, for employees with only high school diplomas fell from 1980 to 2008 while pay for college graduates increased slightly (U.S. Department of Education 2010). Opportunities for those lacking a high school diploma are also limited; some forecast that less than 10 percent of new and replacement jobs in the 2008 to 2018 period will be open to people with less than a high school diploma (Carnevale, Smith, and Strohl 2010).

Conversely, people with postsecondary education qualifications will have access to a faster-growing pool of jobs than people without awards. The scale is notable: in 2008, three out of ten jobs were in occupations that involved some postsecondary education credentials and these occupations will account for over 50 percent of all new jobs in the 2008 to 2018 period. Increased opportunities through job growth are skewed toward those with formal learning. Conversely, jobs that depend on long-term on-the-job training—more than a year of training—have the slowest growth rates, disadvantaging those who leave school early.

These trends contrast with the BLS projections for 1986 to 2000 which forecast the biggest numerical growth in occupations requiring only high school completion, and that “only 2 of the 10 fastest-growing occupations in terms of absolute job growth” would require postsecondary education (Levin 1994). More recently, Lacey and Wright (2010) project that four of the biggest numerical increases in jobs will be in occupations that need at least some postsecondary education and indeed the greatest numerical growth will be in registered nurses positions. None of the thirty occupations that are expected to be the biggest numerical losers of jobs require postsecondary education. Most of these “losers” are concentrated in production and office and administrative positions with the latter sector losing jobs through technological change and automation. These patterns suggest that the shifts in the skill profiles for jobs in the U.S. economy that Levin was unable to confirm have begun to materialize. Indeed, Carnevale, Smith, and Strohl (2010)
argue that the shift toward more skill has materialized already and that BLS forecasts underestimated growth in jobs requiring postsecondary education in the economy in the 1998 to 2008 period by nearly 50 percent.

It is not just access to work that is mediated by education; it is also job stability. The better educated you are, the faster you enter a long-term job, one that lasts for three years or more (Yates 2005).

One consequence of volatility in occupational structures and changes in demand is job turnover. People change jobs, both voluntarily and involuntarily. But little reliable data on “career changes” exists because there is no commonly accepted definition of a “career change.” Is the movement from classroom teaching to college advisor a career shift? The clientele, location, and employer are the same but the skill set is different.

With this shortcoming in mind we can look at the number of jobs held in a lifetime. The U.S. Bureau of Labor Statistics (2010) estimates that the youngest “baby boomers,” those born in the late 1950s early 1960s, held eleven jobs between the ages of eighteen and forty-four. There are no marked differences between men and women, between different racial groups, or between different levels of education.

On the surface the data in Figure 1.1 suggest a great deal of turbulence in the working lives of younger Americans. When we look more closely, we find that 60 percent of the jobs were held between eighteen and twenty-seven years of age; moreover, the definition of job is employer-based not position-based and is “a period of uninterrupted work.” This definition means that a summer job held every year by a college student would count as four jobs. The definition also does not take into account that jobs change around occupants because of process redesign, technology changes, or simple shifts in client needs. This omission and the fact that individuals over age thirty were still “changing jobs” twice every five years suggest that there is a lot to be learned about the ways that education prepares people for productive and personally satisfying working lives that involve occupational mobility.

Thus, from all three perspectives—future opportunities and job growth, time to first stable job, and job turnover—people with more education are better off than those who leave school early. Job entry requirements have increased, and the nature of work has changed to require higher levels of education. The occupational structure of the U.S. economy has changed with growth skewing toward occupations requiring higher levels of education and with lower-skilled occupations losing significant numbers of jobs.
We are not sure what drives these changes, but innovation, new ways of organizing work, and technology are common explanations. Popular wisdom seems to favor technology as the main force shaping the skills required to perform a particular role.

**Technology and the Demand for Skill**

The actual impact of technology has been debated. Levin (1994) looked at two claims in this area: 1) that twenty-first century jobs will require individuals to have more education to perform them effectively; and 2) that low-skill jobs in the U.S. economy are becoming higher-skill jobs because of technological change and workplace redesign. He concluded that little evidence linked demand for particular skills with changes in workplaces. The absence of data was due in part to the inadequate knowledge base linking schools and workplace requirements.

Nearly twenty years later the knowledge base has been strengthened. For example, Schone (2009) looks at age bias in new work practices and new technology and Goldin and Katz (2008) have completed a major survey of
the relationship between technology and education that illustrates the importance of studying both the supply and demand for skills. But there is still much to be done to identify empirically the knowledge and skill bases required for modern workplaces and to examine the longer-term impact of technology on skill. For example, will technology always be substituting for skill or will it become skill neutral?

Regardless, we should not overestimate the long-term effect on jobs of these changes in technology. Previous waves of economic integration and globalization coupled with rapid and fundamental technological changes like electricity, the steam engine, and the telephone have changed the nature of production and demand for skill. And all of these waves have been followed by periods of stability and certainty (Coatsworth 2004).

The policymaker faced with the immediacy of shifts in employment, the press for competitiveness, and short-term political cycles needs information to guide resource allocation and set priorities. Deepening understanding of the interaction between technology, the demand for skill, and the formation and accreditation of skills will be of great help in those policy processes.

Independent of these occupational shifts, some advocates make a case for having educational institutions provide or facilitate specific experiences or skills that make job applicants more employable or worth a premium in a global economy. These arguments are often unsupported by hard evidence, as illustrated in the case of study abroad.

**The Economic Value of Study Abroad**

Periodically, scholars of globalization argue that young people should leave school or college prepared for an interconnected world where economies are intertwined, where ideas, people, and money move quickly and freely, and work is often done in cross-national and multicultural teams. (See Gardner 2004 for an example.) Various strategies are suggested to educate young people for this “flat world”: foreign language learning, courses on global perspectives, and area studies are three examples. A fourth strategy is study abroad, defined as a period of systematic study and immersion in another culture by college students, usually in their junior or sophomore year.

In 2008, roughly 1 percent of all college students took a study abroad course. One factor driving this participation is the perceived economic utility of study abroad. Vande Berg (2007) documents an interest by legislatures and
industry groups in the vocational usefulness of study abroad over the past twenty years. A recent survey of over two hundred senior-level U.S. business and industry leaders from enterprises of all sizes found that 60 percent of respondents’ companies had personnel policies that valued study-abroad activities. It was not simply that international experience was perceived as a “good thing”; executives believed that recruits’ time in other cultures and settings influenced hiring and promotion decisions, initial assignments, and starting salaries (Institute of International Education 2009).

Some claim that study abroad adds to students’ second language proficiency, strengthens an individual’s sense of global engagement, and influences decisions about further education and careers (Paige et al. 2009; Norris and Gillespie 2009). These qualities are perceived advantages in career development, helping men and women get to the interview stage in private sector job recruitment. Study abroad experience has been perceived to be a factor even when the job vacancy in question did not “specifically require international expertise” (Opper 1991).

While these data are valuable, they would be more useful if triangulated with observed data on the impact of study abroad on initial earnings on graduation and “time to first job.” In this way, we could see if the perceived utility and influence are borne out by actual decisions and benefits. However even this data would be limited because it would rely on a model that assumes that results originate “dominantly and directly” from experiences in the specific time spent in another setting (Flack 1976).

One way of limiting the impact of these shortcomings is to examine vocational benefits like time to first job and wage premiums for particular experiences. Of course, these economic outcomes are not the sum of the benefits of study abroad. There are significant personal benefits from these activities although debate continues about how to assess them systematically. (See for example Deardorff 2006 for some insight into the debate about what to measure with regard to intercultural competence and how to measure it, and what outcomes, if any, can be linked to the study abroad experience.)

This example shows the difficulty of fine-grained alignment between an educational experience and access to work and the returns to the individual for particular skills or experiences. It also illustrates that the rhetoric about the value of a particular skill set may shape expressed policies of employers even without empirical data showing that these skills translate into greater financial returns.
This disjunction between advocacy and practice is not confined to the study abroad field but can also be found across the breadth of high school students’ employability skills. Using high school students’ self-reported data from a representative sample based on Alberta schools, Krahn, Lowe, and Lehman (2002) found that students believed that employers preferred job seekers with good work attitudes and behaviors (40 percent of all responses) rather than basic skills (1 percent of all responses). Students’ perceptions contrasted with the reported preferences of employers, who favored basic skills, specific job-related skills, and social skills. Similar mismatches are reported for the higher education sector where employers favor graduates with good communication skills and the capacity to work cooperatively, while university faculty place a premium on professional knowledge and its application (B-HERT 1992).

Study abroad and the other illustrations of the disjunction between the perceptions of employers and students or job seekers highlight the central issue in school-to-work transition: information. How do students and educators know what is needed and valued in the workplace? What opportunities are there, what do they pay, and what is the educational qualification for entrance to these and competing occupations? Employers want to know what students can do, what they can learn on the job, and how quickly they can learn it. Yet there is no easy way or ways for this information to be created, validated, and exchanged.

**Synthesis**

This information deficit is not a new problem. Looking at the history of formal schooling and curriculum design and the swirl of debates about education reform we can see that the flow of information has been poor: partial, episodic, disjointed, or just not there. The curriculum designers took a “scientific” approach, analyzing existing tasks and existing jobs based on existing technologies, in current forms of work organization. They were not concerned with future demand or the breadth of opportunities open to an individual but with improving the efficiency of current practice and fitting people with jobs. Advocates of vocationally specific preparation programs in schools were concerned with aligning a part of the economy with part of the labor market, and with part of an individual’s repertoire of skills. They were not interested in a breadth of preparation or in a changing occupational structure.
The good news is that there have been some encouraging developments. A stronger conceptual basis has developed, allowing more thoughtful conversations about the transition from school to work and what the parties involved can expect from each other. The developmental work that integrates the interpersonal and intellectual capabilities of individuals into sets of competencies that have meaning and value in different occupational and social settings offers a way of exchanging information about bundles of skills with immediate and enduring value, some of which are better learned on the job and others through some form of structured learning. This work also uncouples particular skills from specific occupational destinations and broadens the array of possible first job destinations for individuals.

While the “scientific” curriculum designers focused on today’s jobs and efficiency gains and the vocational education advocates aligned parts of the economy and the labor market with part of students’ skills, the competencies theorists integrate interpersonal and intellectual capabilities, uncouple skills and occupations, and broaden first-job destinations for individuals. In short, they are linking tomorrow’s jobs with today’s students.

The policymakers and their advisors confronted with the Babel of data, encouraging developments, competing theories, and partial information probably long for the simplicity of that childhood rhyme, “Tinker, tailor, soldier, sailor,” as a decision-making aid. So it is helpful to distill what we do know with a high degree of certainty about the interface of two institutions, school and work. We know that

1. jobs change as economies change and as we create new ways of working together and new tools;
2. people change jobs, voluntarily and involuntarily, and do so often throughout at least the first twenty years of work;
3. people with more education have more job choices and get better jobs faster than those with less education;
4. employers pay a premium for education and use education as one of the criteria in selecting employees;
5. entry standards for jobs in the fastest-growing sectors of the economy are going up; and
6. employers value people with intellectual skills and interpersonal skills, which we can describe as competencies.
There is plenty we do not know about school-to-work transition, but three areas where investigation would be particularly valuable are these:

1. Can skills like the social and emotional capabilities associated with problem solving and teamwork be developed in diverse settings? Specifically, can they be formed in workplaces or other social institutions that are structured, financed, and accredited differently from schools?
2. Can these competencies be fairly and accurately assessed, and individuals’ capabilities reported, in accessible and comparable forms that would widen work opportunities or increase mobility?
3. Can education providers incorporate group- and teamwork into courses and programs, assess individual performance in these domains, and report it in a manner that allows fair comparisons to be made between individuals?

All three of these lines of inquiry have the potential to increase access to learning and to broaden opportunities for all. This potential is particularly apparent for young people coming of age in U.S. cities where job change is clustered due to the history of industrial concentrations, the density of the flow of ideas and people, and the concentration of knowledge-based enterprises. The ethnographic work in the 1970s and 1980s on urban youth and school-to-work transitions, notably Willis’s *Learning to Labor* (1977), was very influential, drawing attention to the challenges for schools and youth as successful participation in schooling became even more important to economic well-being and social cohesion. All of this work takes time.

In the interim we can conclude that a lot has been learned about students and jobs. The heart of what we have learned is that most young people are unlikely to travel fixed career paths. They will change as they learn and add to their skills and knowledge as working adults. They will change jobs and have their jobs change around them. These changes will bring uncertainty and anxiety, opportunity and choice. It is probably time we recast that childhood rhyme and replaced it with

Broker, hedgie, blogger, techie,  
Lend or borrow.  
Whatever I choose  
It’s only for tomorrow.