For students to successfully compete in the 21st century workforce, schools should prepare them to meet the demands of a dynamic and global job market, linking core knowledge with technical know-how, before they graduate. Integrating career curriculum into all grades and courses of study helps teachers to: (1) increase students' career awareness and exploration; (2) answer the question, "Why do I have to learn this?"; (3) provide for job shadowing experiences; and (4) give students tangible reasons to learn through effective instructional strategies. Barriers to integrating career education include these: (1) lack of time and space within school calendars; (2) no responsibilities removed from teachers' schedules. Integrating marketable workplace skills into a core curriculum is a way for educators to serve all students from those who work directly after high school graduation to the college bound. Career academies, college-prep with a career focus and partnerships with business, community and higher education are some ways to reform high schools. In order to create responsive schools, educators should communicate with other stakeholders such as school board members, community and state leaders, and the business community. An ongoing dialog among all those groups is necessary before innovative educational change can occur. (The bibliography lists 18 references.) (AJ)
Career Education by Design: Making It Fit Your School, Your Curriculum and Your Teachers

Part I: What the Research Says

By Nancy Danley and Christine Waters

Inquiry into career decision-making in the Western world dates as far back as to the Greek philosopher Plato, who helped evaluate and make recommendations about people's vocational decisions. Plato also presaged contemporary wisdom about women's career development in asserting that if there is to be gender equity in the workplace, there must be equity for women and men in educational training opportunities as well as in society generally. In modern times, curriculum integration's more student-centered approach to teaching and learning invites students to join with their teachers to plan learning experiences that address both student concerns and major social issues.

Advocated for more than a century, Frank Parsons' (1909) three-part model for the wise choice of a vocation, as quoted below, planted the seeds aimed at understanding and assisting people in choosing a vocation.

In the wise choice of a vocation there are three broad factors:

(1) a clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations, and their causes; (2) a knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work; (3) true reasoning on the relations of these two groups of facts.

Ninety years after the posthumous publication of his book, Choosing a Vocation, Parsons' (1909) most lasting, often-cited, and famous contribution to career development remains his tripartite model of career decision making. Within this model is a fundamentally sound logic or sensibility that nine decades of career counseling practice and vocational research have affirmed and validated. Parsons' matching model to this day pervades career choice and development theories and career advisement practices. The model forms the core of trait-and-factor career counseling approaches and person-environment fit theories. In practice, educators proceed to assist students with career decision making based in large part on the
guiding elegance of know thyself, know the world-of-work, and rationally connect these two groups of knowledge.\textsuperscript{5}

However, the precise meaning of the “true reasoning” component remains unclear. Did Parsons mean that we make wise vocational choices by applying knowledge rationally, cognitively, independently, systematically, deliberately, and methodically? Or is there not also wisdom in making choices intuitively, emotionally, collaboratively, spontaneously, serendipitously, and even haphazardly? Most of the research and theories over the past 90 years agree with the first and not the latter question.\textsuperscript{6}

Current models suggest that “true reasoning” may be best interpreted as part of two basic types of career decision-making models: (a) rational-choice models and (b) alternative-to-rational-choice models. Rational choice models traced directly to Parsons value reason, logic, objectivity, and independence, viewing the wise decision maker as an “objective scientist”... “methodical, systematic, independent, and not impulsive...and maintain the ultimate goal of maximization for personal gain.” By contrast, alternative, or “other-than-rational” models, value intuition, emotion, subjectivity, and interdependence. Such models point out that the decision-making process, filled with ambiguity and uncertainty, frequently activate “the inevitable tendency of deciders to behave in other than rational ways, to use shortcuts to manage and simplify the decisional information, to vary their perspectives on both probabilities and preferences, and to be affected by the context in which the decision is placed.” Rational models emphasize the individual decision maker (i.e., the person). Alternative models emphasize (i.e., the environment or context).\textsuperscript{7}

Vars \textsuperscript{8} reports that students draw on pertinent content and skills from many subject areas and acquire many of the “common learning” or life skills essential for all citizens in a democracy. The National Middle School Association’s integrative approach\textsuperscript{9} emphasizes higher-order thinking processes, cooperative learning, and thoughtful consideration of human values, rather than the minutiae of separate subjects. And yet many of the proponents of curriculum integration\textsuperscript{10} have abandoned their commitment to the integrative approach due to emphasis on mandated standards enforced by high-stakes tests. However, the problem is not with the standards themselves, but with tying them to the high-stakes tests and expecting all students to reach the same adult-determined level of performance at the same time.\textsuperscript{11}
Three sources or foundations should be considered when designing and justifying educational programs: psychological (the learner and learning theory), sociological (social realities and the structure of knowledge), and philosophical (purposes and values). Curriculum designed to do this must be kept in reasonable balance.

Students in innovative interdisciplinary programs do as well as, and often better than, students in so-called conventional programs. Educators who carefully implement any of the various types of inter-disciplinary approaches can be reasonably assured that there will be no appreciable loss in student learning, except for the temporary decrease that occurs whenever people try anything new.

Proponents of such an integrated curriculum propose that even though higher test scores may result from this expanded curriculum, other benefits emerge as well: love of learning, concern for other people, critical thinking, self-confidence, commitment to democratic group processes, and other intangibles. Additionally, by integrating marketable workplace skills into the core curriculum, education fulfills all three of Vars' previously stated foundations:

- Psychologically an integrated career curriculum relates to students' needs, problems, concerns, interests, and aspirations, thereby motivating students to learn.
- Students learn better because integrative curriculum is more compatible with the way the brain works, thus enhancing the development of higher-order thinking skills.
- Students are better prepared for life in contemporary society. An integrated curriculum addresses current social problems in all their real-life complexity and provides a coherent core of common learning essential for all citizens in a democracy as well as providing a meaningful framework for examining values.

With the classroom becoming more polarized each year, integrating curriculum with workforce relevancy helps educators to equally serve those students who will enter a two-year post-secondary program designed for specific skills, those who plan to go to work immediately upon graduation, and those college-bound. However, neither the school day nor the school year has been lengthened to accommodate these changes, and no responsibilities have been removed from the teachers' schedules. Classroom
educators have become both frustrated and fragmented; but when properly integrated career instruction and
the School-to-Work movement need not be seen as additional programs to be added to a teacher's long and
ever-growing list of required competencies or standards to be completed each year. We will be, as Deming
stresses, working smarter, not harder.  

Former educational trends addressed academics and vocational training as though they were two
separate institutions and many times served students on two different campuses—one teaching core
academics and the other vocational skills—requiring students to divide their time between their vocational
goals and graduation requirements. For students to successfully compete in the twenty-first century
workforce, schools should prepare them to meet the demands of a dynamic job market, linking core
knowledge with technological know-how, before they graduate. When integrating career curriculum into
all areas of the state's courses of study, as opposed to separate career classes, teachers increase career
awareness and exploration, answer the question "Why do I have to learn this?" provide for job
shadowing experiences and ease the demands made on a single teacher, making all subject matter relevant
and giving students tangible reasons to learn through effective instructional strategies. Diversifying
educational offerings at all levels bridges the gap between the traditional and industrial-based education
and gives students the necessary skills for successful, post-high school experiences. Workplace integration
is therefore a common-sense approach to a common place shortcoming in American education—preparing
students to function in today's global economy.

A recent poll released by the NPR/Kaiser Family Foundation/Kennedy School of Government,
September 2000, shows that approximately half of the respondents think schools have gotten too far from
teaching basic skills; but forty-one percent say that schools need to teach students a broader range of
subjects as well as critical thinking and problem-solving skills in order to prepare them better for work,
career, and responsible citizenry. Can we accomplish these directives without overburdening teachers or
intimidating students? Can educators design curriculum to increase proficiency levels and prepare students
for a technology and skills-based (SCANS) workforce while at the same time preparing them to pass the
minimum number of required Carnegie units as well as the state's high school graduation exam? Our focus
as educators compels us to develop and implement a custom-designed and integrated curriculum to fit the
needs of each student, the course of study, the teachers, the individual school, and the community
stakeholders without sacrificing any of the standards that measure student achievement. These work-based learning experiences and strategies, along with contextual teaching, enable students to “learn by doing.”

According to Glasser, students are more likely to be motivated by their own expectations when they are solving real life problems where learning is experiential. Through this self-discovery, they obtain a realistic grasp of the world of work.

Time and age constraints continue to force schools at each level to promote unprepared, age-inappropriate students, thereby contributing to the ever-growing national drop-out rate. Their failures in elementary and middle school have programmed them for future failures that carry over into adulthood.

Even as early as 1900, Parsons and his colleagues addressed the widespread problem of children leaving school prematurely, and it was toward this end that Parsons formulated and articulated his tripartite model of the wise choice of a vocation. This proved to be the first formal model of career decision-making and intervening relative to career decision-making and indecision. On balance, theoretical innovation and empirical inquiry in the fields born of Parsons and the vocational guidance movement of the early 1900’s, coupled with the advances in technology over the last 90 years, increase the ability of educators to assist people at all stages of the life span to make wise vocational choices.

By strengthening the connections between high school, post-secondary education, and the workplace, school systems help students understand the relevance of their studies while at the same time heightening their interests in learning and motivating them toward higher personal goals.

The learner-centered and teacher-directed schools of tomorrow focus on students constructing knowledge and skills learned in the context of real problems with a focus on thinking. To be effective, change needs to begin in the early elementary years where students’ values, self-esteem, study habits, and social skills are being formed. By focusing on career awareness in the lower grades, students begin to see themselves as part of the future workforce. When these same students reach middle school, connecting academics to the world of work through a “rigorous multi-disciplinary approach” can help bring new focus to these turbulent years of self-searching. By approaching these goals with a shared vision that students connect to the teaching-learning experiences, lessons in the core curriculum have practical examples related to careers and the world of work. Listen to the enthusiasm of these high school juniors:

- “I am always doing things in my electronics class... I don’t get bored in that class.”
“I love my agriculture classes, particularly the FFA activities...I wish my other classes were that interesting.”

“A lot of kids are turned off and tuned out in this school. ...but that isn’t true in my applied physics. ...The teacher there really tries to help us solve problems. ...I am beginning to really like science.”

“I like my graphic arts classes. ...I learn more about good communication there than I do in English.”

To accomplish these long-term goals, the entire educational system must “reprogram” students’ thinking from failure to success, while at the same time restructuring the thinking of the stakeholders from “everyone must go to college” to “everyone must have a skill.” Going one step further, classrooms must be re-designed to teach applied learning strategies through integrated projects that link assessment and evaluation to skills and competencies.

Stakeholders oftentimes want to improve education but do not understand how to create sustained change. Be careful not to leap into participatory governance by saying to all who will listen, “Go forth and create your purpose.” Rather, begin by sharing information and encouraging intensive dialogue regarding the purpose of education. This is especially necessary if educators ask the community at large to support the latest educational trends. A foundation must be laid before change begins. Success depends on the support of all involved in the process.

Consider some of the key elements of a futuristic school as set forth in High Schools of the Millennium.

- Communities create schools of the millennium when they set standards that challenge and reflect the community’s expectations of the knowledge and skills needed for full and meaningful adult lives and participation in a civic society.

- A school of the millennium recognizes needs beyond the academic needs, and embraces a youth development approach to create engaging as well as life-long learning opportunities, civic involvement, leadership, and careers that engage young people in learning, work and service throughout the community.
The general and vocational tracks do not exist; all students are expected to pursue a course of study that leads to high academic achievement with the goal of post-secondary education leading to careers. Teaching and learning is competency-based, not time-based or credit-based.

One way to implement these suggestions is through the structuring of career academies, small learning communities with a cross-section of students and teachers as well as cross-disciplinary teams that offer a family-like atmosphere. Students engage in the full range of non-academy courses, electives and other school activities. Another concept includes college-prep curriculum with a career theme. In this program students enroll in several academic courses per year that meet high school graduation and college entrance requirements along with one or more courses in a broadly defined career field that enables students to explore a full range of career options. Finally, partnerships with employers, community, and higher education support various high school reform efforts. Business representatives serve as role models to show students career options and paths. Field trips, mentoring, employee volunteers, workplace experiences (paid or unpaid), and dual enrollment are just a few ways schools can partner with the larger community to offer students experiences in the work environments and post-secondary preparation.

To accomplish these elements set forth by the American Youth Policy Forum, state and local leaders must be involved. Consistent messages from the governor, the chief state school officer, and all cabinet agencies affecting youth will help focus energies and align efforts. These efforts to design and develop new approaches to the traditional high school must include a wide range of perspectives and involve youth, parents, and those involved in standards-based reform, career preparing such as School-to-Work and Tech-Prep, service learning, community based organizations, youth development, and workforce development. The Youth Policy Forum recommends that state leaders create a vision and align systems, redesign the school, ensure qualified leaders, community-based organizations, youth development, and workforce development.

While waiting for national and state standards to be redesigned, we should not overlook the importance of action at the local level. A core of leaders across agencies in the community should come together to develop a shared vision of the learning experiences for school-aged youth. School personnel, employers, local elected officials, school board members, parents, youth representatives of community-
based organizations and post-secondary education, youth-serving agencies, and faith-based organizations need to be involved in this community visioning team. At the local level, strategies focus on creating a community vision of the career learning experiences for school-aged youth; redesigning the school and the curriculum to enhance student learning and achievement in previously defined career clusters; ensuring qualified leaders and teachers; and promoting continuous improvement.37 For schools to be successful, the community must decide what the goal and purpose of the school are, what standards and expectations are created for all students, and how to hold the school accountable.38
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Address: 1091 B Avenue, Loxley, AL 36551

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