

Career Advising in a VUCA Environment

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Recent developments in the knowledge-driven, postindustrial economy have radically affected college students' prospects for entering and completing successful careers. In this volatile, uncertain, complex, and ambiguous (VUCA) environment, fewer organizations find profitability in hiring, training, and retaining workers. Over the last 20 years, traditional careers, with lifelong security and opportunities for financial success, have been systematically replaced by a contract with workers who maintain their own employability. In addition, college degrees no longer assure graduates of having marketable knowledge and skills, and so traditional career advising yields limited results in a VUCA environment. This is the first in a series of articles outlining a human capital approach to career advising that addresses the challenges of a VUCA environment.

KEY WORDS: boundaryless careers, career advising, employability, human capital, VUCA environment

Something very odd is going on in the American corporate workplace. Employees are being told to prepare for a radical new condition of permanent insecurity, a future full of sporadic layoffs, endless efforts to upgrade job skills, and perpetually recombining work teams of insiders and “outsourcers.” Continuous corporate “rightsizing” will dictate a “portfolio career” strategy: Since workers will no longer spend their careers with one or two employers, accumulating a portfolio of portable skills will be essential. (Nash, 1994, p.72)

Beginning in the last decade of the 20th century, observers of American business and industry noted that fundamental forces of change were reshaping the employment realities of the knowledge-driven, postindustrial economy. By the first decade of the 21st century, scholars were forming a consensus around a new definition of employability. The great recession of 2008 added a sense of urgency for those who sought to offer a clear vision of the type of education and training that workers need to be employable in the foreseeable future. This new consensus has far-reaching implications for

higher education in general, and academic advising in particular, because it promises to provide the new paradigm necessary to provoke the paradigm shift of integrating career advising and academic advising called for by Hughey and Hughey (2009) in NACADA's recent *Handbook of Career Advising* (Hughey, Nelson, Damming, & McCalla-Wriggins, 2009).

Under the new paradigm, the expectation for a lifelong career is no longer realistic because the nature and pace of change in the workplace is so rapid and unpredictable that no curriculum can provide students with all of the skills and special knowledge they will need to be employable throughout their working lifetime. Furthermore, the changing conditions mean that businesses and industries no longer expect a positive return on their investment for formal on-the-job training (OJT) and that offering lifelong career tracks are no longer profitable. Employers have also learned that they cannot expect graduates of either high school or college to enter the workforce with sufficient skills and special knowledge to immediately meet job obligations.

As a result, employers have changed the operating economic ground rules for employability—often called the *labor contract*—and expect workers to develop and maintain their own employability through some combination of postgraduate education, formal training, informal upgrading of skills, or work experience. Workers are increasingly expected to manage and maintain their employable skill set as well as act as brokers for their own employment by finding suitable jobs, documenting their updated and upgraded skills and special knowledge, and successfully marketing themselves to potential employers. Students will need academic advisors who can help students think through the career implications of the day-to-day decisions they are making as they prepare to graduate.

This is the first article in a series of essays exploring the new paradigm of employability and delineating a philosophy of an integrated approach to academic advising and career advising in the postindustrial economy. We focus on theory and attempt to explain the new contract of employability that college graduates will need to understand

to prepare for success in the 21st century workplace. In the second article, entitled “A Human Capital Approach to Career Advising” (Shaffer & Zalewski, 2011 [pp. 75–87]), we articulate an approach to advising practice that will help students prepare to make career choices and to develop the habits of career management and skill documentation that will be required to succeed in this new working environment. Future articles will focus on specific topics related to human capital, including ways that students can leverage their higher education investment to develop and grow their own human capital.

The End of Careers and the New Contract

At the dawn of the 20th century, workers had no shared concept of a career (Buford, 2009; Mirvis & Hall, 1994). Most sons and daughters tried to follow in their parents’ footsteps, no matter what their parents did for a living. There were few choices of jobs for young workers and there was no expectation of upward mobility (Buford, 2009). The situation remained the same for the first half of the century. The idea of a career grew popular in the years after World War II and was embraced by people who knew about the Great Depression and the economic dislocations and sacrifices associated with the American efforts to win the war (Mirvis & Hall, 1994).

Sociologically, the term *career* refers to the longitudinal dimension of a worker’s experience within any particular occupation (Theodorson & Theodorson, 1969; Wilensky, 1961). While a person might actually have more than one employer during a working lifetime, a person was said to have a career if he or she remained in one identifiable occupation over the span of his or her working years, especially if that person showed a clear pattern of promotion from one role to another that involved greater challenges and responsibilities compared to the previous role (Sullivan, 1999; Super, 1957; Theodorson & Theodorson, 1969; Wilensky, 1961). Each occupation developed a recognizable pattern of sequenced jobs—accompanied by greater prestige, pay, and perquisites at each successive level—that could be called a “career ladder” (Mirvis & Hall, 1994). Ideally, the advantage of having a career instead of a mere work history was that careers brought job security—especially when the worker remained with one employer throughout her or his working lifetime (Hall, 1996a; Sullivan, 1999). Success came to be defined as upward mobility in the sense of progression up the identified career ladder within a

worker’s chosen industry from an entry-level position, through middle-level, typically managerial positions, toward the ultimate goal of an executive position (Mirvis & Hall, 1994). The process of the professionalization of many different careers encouraged more and more high school graduates to matriculate in postsecondary schools in hopes of beginning a career in one of these fields (Baker, 2009; Shaffer, Zalewski, & Leveille, 2010).

In the postwar, industrial economy, organizations created the traditional career model for their own economic interests (O’Mahony & Bechky, 2006; Sullivan, 1999). Companies could offer lifelong employment careers to good workers in expectation of making long-term profits because retaining employees was less expensive than recruiting new ones; that is, they received a positive return on investment by keeping the employees trained in firm-specific skills (Brown & Reich, 1997; Fierman & Hadjian, 1994; Nash, 1994). In the industrial economy, workers largely acquired skills through OJT, and employers willingly paid for such training because the resulting firm-specific skills and knowledge were not readily transferable to a new employer (Brown & Reich, 1997). Employers expected hires to bring with them basic literacy and numeracy skills from high school education, but these more transferable skills were merely preconditions of employment, easily monitored by checking that applicants had earned high school diplomas. For rank-and-file workers, college education was not necessary for securing a job.

With the rise of the managerial class in business and industry, as well as with the transformation of the economy from occupations associated with industrial production to those made in the Information Age, formal college education became necessary for entry-level positions as well as managerial and executive posts. This trend was welcomed by higher education leaders and was known by the slogan “College for All” (Grubb & Lazerson, 2005). Higher education became the embodiment of the American dream: getting ahead through one’s own efforts (Grubb & Lazerson, 2005). Soon the pace of change in the workplace meant that employees needed to continue to learn new skills to avoid obsolescence, meaning an expanded role for higher education through delivery of advanced course work, certification and recertification, and postbaccalaureate degrees.

This ongoing learning fit within the concept of careers as people spoke of advancement through corporate ladders. However, many of these higher

level skills were more transferable from one employer to another than those previously learned through OJT, and as a result, employers increasingly expected this potentially transferable, cumulative growth to be accomplished through formal education rather than OJT. By changing the training venue, employers transferred the costs of learning to the employee, who paid for it through tuition dollars (Brown & Reich, 1997). Employers may have offered educational benefits for long-term employees through educational reimbursement programs for college course work, often stipulating that the employees remain with their current employers for a certain amount of time. However, the process of transferring the locus of career management, and the principle of the employee bearing the costs of maintaining employability, had become well established by the end of the 20th century (Brown & Reich, 1997).

At the dawn of the 21st century, changes in the postindustrial workplace had resulted in fewer firms supporting traditional careers (Cooper, 2002; Mihail, 2008; Nash, 1994; O'Mahony & Bechky, 2006). As firms worked to become more agile—being able to compete in the marketplace by adding new, profitable lines of products and services and eliminating older, less profitable ones—they began minimizing permanent workers with core, firm-specific knowledge and skills and replacing them with *contingent workers*—such as temporary or contract workers—and by outsourcing many jobs (Cooper, 2002; Fierman & Hadjian, 1994; Nash, 1994). As a result, many companies began consciously and purposefully dismantling career ladders and divesting themselves of employees with obsolete skills (Arthur & Rousseau, 1996; Bernstein, 2003; Bridgstock, 2009; Lautsch, 2002; Lazarova & Taylor, 2009; Royal & Althausen, 2003; Waterman, Waterman, & Collard, 1994). Careers—as workers had come to know them—were coming to an end. Following the British custom for announcing succession within the monarchy, Hall (1996a) put it quite forthrightly: *The career is dead—long live the career*. The result is the transformation of a relatively stable working environment of careers (as well as career counseling and advising) into a VUCA environment.

The VUCA Environment

VUCA is an acronym that originated in the U.S. Army to describe the challenges of military leadership in a battlefield environment (Allen & Coates, 2009; Emmerling, 2005; Johansen, 2007; Schambach, 2004; Stiehm, 2002). The acronym

stands for four words (*volatile, uncertain, complex, and ambiguous*) that, taken together, capture the difficulties of strategic decision making created by the vagaries of gathering, sharing, evaluating, and interpreting information in dynamic contexts, especially when critical decisions are constrained by the demands of time (Bodenhausen & Peery, 2009; Free, 2009).

Volatile refers to the dynamic quality of the context for decision making. In the Information Age, phenomena as well as measurements of the current state of such phenomena change rapidly in real time. Continuously updated reports and data transform the definition of the situation in the mind of the decision maker.

Uncertain refers to the measured or perceived likelihood that projections or predictions will be realized. Decision makers often need to anticipate the probable consequences of their actions despite knowing that their projections for the future are less than certain.

Complex refers to the fact that causal factors or social forces at work in the situation are often competing with one another. Decision makers must often weigh the competing influences and make informed guesses about which forces will ultimately sway the outcome of critical events.

Ambiguous refers to the unknown significance of one or more factors in a situation. Decision makers will be unable to tell whether a development is good or bad, and they may be able to make equally plausible arguments for the likelihood of either outcome. While the battlefield is the prototype for a VUCA environment, all 21st century leaders are beginning to realize that the same principles taught to military leaders are applicable to decision making and long-range planning in all fields, including government and politics (Stiehm, 2002), health care (Sturmberg, 2010), and the world of work (Eisner, 2010a, 2010b; Emmerling, 2005; Free, 2009; Helgesen, 2001; Lindborg, 2010; Smith, 2010; Todd, 2010).

Volatile

Technology is a primary contributor to volatility because of the speed of change in knowledge generation and communication. Indeed, the means of production and the delivery of services that characterize the knowledge-driven economy are based on knowledge-intensive activities that lead to both the rapid advance of knowledge and skill development and an equally quickened pace of obsolescence (Pearson, 2009; Powell & Snellman, 2004). One example is the acceleration of product cycles

in business; by the year 2000, companies such as Intel found that products selling at the end of one calendar year had not even existed on the first day of that same year (McWilliam & Haukka, 2008).

Economic trends may be slower than technology generation, but they are often punctuated by crashes and bubbles (Den Haan, Wouter, Haefke, & Ramey, 2005). Economic turbulence is often associated with increasing numbers of workers (skilled, nonskilled, and managerial) being laid off because of obsolete skills (Costa et al., 2010; Den Haan et al., 2005). Since the great recession of 2008, workers who had been laid off discovered that, when they reapplied for their old position, they no longer had all of the skills expected in recent applicants for their positions (Rugaber, 2010).

In addition to rapidly evolving situations, volatility also refers to rapidly changing information about a situation (which may not be directly apprehended). Gelatt (1989) argued that volatility is an inevitable characteristic of the knowledge-driven economy because “facts rapidly become obsolete” (p. 254).

How long are the right facts true? What one knows for sure today may not be so tomorrow. The rapidity of change in today’s society makes the tenure of knowledge very capricious. What one often hears today is that what one learned yesterday is no longer true. It has become misinformation. (Gelatt, 1989, p. 254)

“Change is the new status quo” (Feller & O’Bruba, 2009; p. 21) and the pace of it is often shockingly fast. However, the volatility attributed to a VUCA environment is different than the conceptualization that usually accompanies these two truisms because most people think of change as the addition of new knowledge and technologies to the old ones rather than the obsolescence of old knowledge and skills. In traditional, philosophical terms, people are comfortable with andsum thinking, but they are not comfortable with transsum thinking (Wertheimer, 1972). For that reason, the volatility of a VUCA environment is often described as *chaos* (“In the thick of it . . .,” 2007). Career counselors have recognized this recent transformation of the job market but express the concept of a VUCA environment as chaos because they find chaos theory, based on physical sciences, to be a fruitful metaphor for developing an approach to counseling theory (Bright & Pryor, 2005; Duys, Ward, Maxwell, & Eaton-Comerford, 2008; McKay, Bright, & Pryor, 2005; Pryor & Bright, 2006; Pryor, Amundson, &

Bright, 2008; Stone, 2007; Zikic & Hall, 2009). Either term—*VUCA* or *chaos*—used to describe the postindustrial economy illustrates that rapidity is not the only salient characteristic of change, but change also brings uncertainty, complexity, and ambiguity as well.

Uncertain

Kahneman and Klein (2009) have identified two conditions that must be met before experienced and expert judgment about the future can be reliable and valid: The environment must provide the observer with valid cues concerning the nature of the situation, and observers must have an opportunity to learn the relevant cues. However, these conditions cannot be met in a VUCA environment. Accurate forecasts of the future can only develop in environments that are sufficiently regular to provide valid indicators (Bright & Pryor, 2005; Duys et al., 2008; Pryor et al., 2008; Zikic & Hall, 2009). Tetlock’s (2005) 15-year, longitudinal study punctuates the point: The study showed no consistent evidence that experts made better forecasts of future political or economic events than did untrained newspaper readers. Kahneman and Klein commented that:

The depressing consistency of the experts’ failure to outdo the novices in this task suggests that the problem is in the environment. Long-term forecasting must fail because large-scale historical developments are too complex to be forecast. The task is simply impossible. (Kahneman & Klein, 2009, p. 520)

In a VUCA environment, events do not necessarily follow currently accepted models and assumptions, making projections or predictions uncertain and unpredictable; new realities are created or emerge. In VUCA environments, the multiple influences may interact with one another producing effects that are themselves unpredictable. Stated more formally, VUCA environments are ill-structured problems that are inherently ambiguous (Mitroff, Alpaslan, & Green, 2004). Because employers are often unable to forecast their business or labor needs in this VUCA situation (Capelli, 2008; Feller & O’Bruba, 2009), advisors cannot tell students that a graduate with a particular major will be in demand. For example, in the 1950s and 1960s the United States experienced a critical shortfall of teachers and engineers, but news of this demand led to an overproduction of graduates in both fields, producing a glut of teachers and engineers by the 1970s (Gorelick, 1998).

Complex

Since World War II, many trends have added complexity to the postindustrial economy, including globalization, population growth, environmental problems, cultural diversity, economic uncertainties, and technological transformation. For example, the global information infrastructure, in which fiber-optic cable supports surplus bandwidth that allows work-flow software to redistribute service work throughout the globe without regard to geographic location, has contributed to the volatility and complexity of the VUCA workplace (Friedman, 2005). In the United States, much skilled labor in fields such as accounting, human resource management, medicine, software development, and technical support have been outsourced—and offshored—to India and East Asia (Friedman, 2005; Parker, 2008). Within a decade, business models were completely revised and work in the accelerating knowledge-driven economy flowed to regions where intellectual assets were ready and willing to meet the demand for high-speed, low-cost operations (Friedman, 2005; Parker, 2008). While the impact of any one of these influences on future demands for skill and special knowledge is difficult to anticipate, the challenges are multiplied both because of the sheer number of relevant influences as well as their interactions.

Ambiguous

In a VUCA environment, the application of the prevailing wisdom or the dominant paradigm produces incongruities that are unfamiliar and disturbing. Instead of being confronted with recognizable problems that have recognizable solutions based on the application of acceptable methods, participants find themselves confronted with quandaries, dilemmas, puzzles, and paradoxes (Allen & Coates, 2009). Experts, called to examine and offer advice on the problem, often disagree on a definition of the situation (Mitroff et al., 2004). Available cues often have no clear-cut meaning (Bodenhause & Peery, 2009). Careful observation of the economy often reveals seemingly contradictory patterns or trends. For example, some jobs within one field show a pattern of skill upgrading while other jobs display a pattern of deskilling; similarly, some employers lay off workers at the same time that they are hiring others (Kivinen & Ahola, 1999; Melymuka, 2000). Assumptions about how the world works—which are grounded in historically familiar patterns of work—may no longer be valid. For example, Arthur & Rousseau (1996) pointed out, “In today’s fluid employment situations, skills

create opportunities more than opportunities create skills. The new employment arena reverses traditional cause-effect assumptions” (Arthur & Rousseau, 1996, p. 31)

For career advisors, one source of ambiguity relates to changes in the meaning of job titles. Familiar titles will become misleading as jobs will evolve in incremental changes so small they escape notice, but the cumulative effect will be that the job descriptions will no longer resemble their original content. However, some occupations will change very little and yet be renamed, often as a recruiting device to attract new talent (Gioia & Herman, 2005). Therefore, titles are now of questionable value in helping students assess their own skills and human capital.

Some approaches to self-knowledge use occupational labels as a basis for an approach for understanding both what you like or what you can do. But how temporary are these approaches as new patterns of organizing changes the occupational structure and opportunities within it? Will the knowledge accountants of tomorrow look at all like the financial accountants of today? (Arthur & Rousseau, 1996, p. 34)

Identifying the knowledge-driven, postindustrial economy as a VUCA environment helps to explain why lifetime careers, which came into prominence after World War II, began to disappear by the end of the 20th century. The old contract, under which employers offered new hires the prospect of lifelong security, training, and advancement by following career ladders, has now been replaced by a new contract in which employees must take charge of their own employability, expect to have many different jobs and many different employers over their working lifetimes, and create their own security by maintaining their special knowledge and skill set through a lifetime of continuous learning (Arthur & Rousseau, 1996; Cooper, 2002; Hall, 1996a, 1996b; Handy, 1996; Knotts, 2002). As Carey (1996, p.76) expressed it, “Organizations will never stockpile people again,” and “employees must become their own career brokers.”

The New Contract

Despite a new, emerging pattern of employment that became identifiable by the last decade of the 20th century, the term *career* was modified by a series of descriptors that captures both the nature, as well as the impermanence, of the new relationship between workers and their employ-

ers. As employers became aware of the realities of operating in a VUCA environment, they began to systematically transform their organizations to remain competitive and they readily discovered that the conditions that favored creating career ladders and retained employees no longer applied (Arthur & Rousseau, 1996; Cooper, 2002; Hall & Moss, 1998). Figuratively speaking, employers cancelled the old contract and began negotiating from a new template, the new contract. The new terms include *portfolio careers* (Cooper, 2002; Handy, 1996; Nash, 1994), *protean careers* (Hall, 1996a; Hall & Mirvis, 1998; Sullivan, 1999), or *boundaryless careers* (Arthur & Rousseau, 1996; Lazarova & Taylor, 2009; Mirvis & Hall, 1994). The term *portfolio careers* emphasizes the need for workers to build and document their skills and special knowledge as a basis for continued employability. The term *protean careers* reflects workers' need to adapt to a constantly changing environment. The term *boundaryless career* is used to explain that workers must find their own work and to add value to employers across the boundaries of particular firms, occupations, or professions. In the next section, we explicate the consensual elements of the new contract and the corresponding implications for future employability of future graduates who will be expected to manage their own protean, boundaryless careers.

The New Contract and the Maintenance of Employability

Advisors operating under assumptions associated with traditional careers help students make the best choice of careers to meet their goals and abilities as well as selection of majors and course work that qualifies them for entry into their chosen career upon graduation. However, early in the transition to the knowledge-driven, postindustrial economy, employees found themselves working for multiple employers—and even holding multiple occupations—within their working lifetimes. The ethos of the 1990s was characterized as “the short-term contract culture” and more “portfolio careers” (Cooper, 2002, p. 355). By the end of the 20th century, American workers changed jobs every 4.5 years on average (Sullivan, 1999) and workers expected to have many careers during their working lifetime (Shaffer, 1997/2009). Today, graduates between the ages of 22 and 32 years have already averaged seven job changes in their brief working lifetimes (Eisner, 2010a, 2010b).

Under the new contract, employees expect an employer to provide a job with defined wages

or salaries as well as opportunities to learn new skills and knowledge to enhance their continued employability (Waterman et al., 1994). While some employees gained skills and knowledge through OJT, as under the old contract, the rapidity with which new jobs were created, marketed, filled, and then discarded as obsolete left too little time for companies to profitably create formal training programs. Therefore, to learn these skills, workers found themselves acquiring the skills, often informally, by learning-by-doing on the job (Shaffer, 2005). As a result, employers looked less for workers who had demonstrated mastery of all the skills required for a job and more to those who embraced the opportunity to learn new skills as they undertook the offered position (Feller & O'Bruba, 2009). These job opportunities, called *stretchwork* (O'Mahony & Bechky, 2006), create the core of a conscious strategy for developing protean careers. As Feller & O'Bruba noted, “The secret of success seems to reside in continuously learning to do what one does not know how to do. This should be the basic tenet of any advising development plan” (Feller & O'Bruba, 2009, p. 42).

Rather than expect a job for life, workers have learned to apply for new jobs when the current employer no longer provides the ongoing learning necessary to maintain the currency of one's skill set (Bridgstock, 2009; O'Mahony & Bechky, 2006; Parker, 2008; Waterman et al., 1994). Gradually, workers realize that they need to develop resiliency (Arthur & Rousseau, 1996) and be prepared to reinvent themselves regularly to avoid being throwaway workers with throwaway skills (Shaffer, 1997/2009). Employees who survive under the new contract become their own career brokers and lifelong learners to avoid obsolescence (Handy, 1996). In a VUCA work environment, job security does not result from having a job, but from purposely and self-consciously maintaining a currency of skill and special knowledge that assures employability (Friedman, 2005; Mihail, 2008; Parker, 2008). Indeed, the state of being employed has been reconceptualized as a manifestation of one's employability (Arthur & Rousseau, 1996).

The new loyalty, once given to employers, goes to the maintenance of one's employability (Friedman, 2005; Fejes, 2010; Parker, 2008; Waterman et al., 1994), and the content of the protean or boundaryless worker's portfolio is usually characterized as a set of portable or transferable skills (Parker, 2008). Transferable skills are not firm specific and so offer no wider-market value, rather they tend to be general skills, such as literacy or numeracy, that

are needed to complete specific jobs. Often, potential employees learn these in formal educational settings, such as liberal arts or general education courses associated with specialized or professional curricula (Gioia & Herman, 2005; Parker, 2008). Examples of such skills include interpersonal communication, teamwork, negotiation, conflict resolution, and leadership (Parker, 2008). Employability also involves workers' ability to manage their own careers: the ability to set and strategically follow meaningful life and work goals, locate and successfully apply for jobs, anticipate future directions for growth and acquire state-of-the-art skills, and continue to learn throughout a working lifetime (Carey, 1996). The demands of self-management in a boundaryless career are great, and the challenges of discovering how academic advisors can help students learn them need immediate attention.

Employers often value worker attitudes as much as their skills and special knowledge. The ability to deal with "messy, complex, unscripted problems" is now considered an essential learning outcome of higher education (Nelson Laird, Niskode-Dossett, & Kuh, 2009, p. 65). Workers need to maintain equilibrium and good judgment in a VUCA environment. They also need to be comfortable with ambiguity; evaluate the quality of available data; maintain a clear view of the larger picture; identify options when blocked, challenged, or rebuffed; scan media widely and efficiently; accurately identify the core issues in a conflict; challenge conventional methods, systems, and thinking; and generate reasonable optimism (Feller & O'Bruba, 2009; Gelatt, 1989; "In the thick of it . . .," 2007). Employers understand that recruits with the right skills and abilities quickly become costly liabilities if they display bad attitudes, especially if they infect other workers. However, capable people with good attitudes and interpersonal skills can be taught new skills by good trainers. The slogan that captures these lessons is the maxim "hire attitude, train skill" (Eisner, 2010a).

Implications for Career Advising Theory

Traditional Theories

Career and academic advising. Traditional theories of career development are of limited value for advisors. In line with the sociological concept of a career, theories of career development, such as those offered by Super (1957) and Holland (1997), are based on the assumption that workers pursue lifetime employment within one occupation with one or two employers and that climbing career lad-

ders led workers to success. However, these stage theories are poor descriptions of the protean or boundaryless careers that embody the new contract (Arthur & Rousseau, 1996; Bright & Pryor, 2005; Hall & Mirvis, 1996; Sullivan, 1999; van Vianen, De Pater, & Preenen, 2009).

Traditional career theory was a useful way to help students make career decisions by narrowing, funneling, or focusing their attention on potential occupational choices, often following a strategy of matching students' abilities, attitudes, values, or personality traits with specific occupations or professions (van Vianen et al., 2009). However, under the new contract, the preferred pattern of employee development involves continuous experimentation and growth as well as increased adaptability (Parker, 2008; van Vianen et al., 2009). Finally, the psychometric tools designed to aid advisors and students make informed predictions of the goodness of fit between students and potential careers are based on an assumption of a stable working environment and a steady student personality, which stands counter to the characteristics of a VUCA environment (Pryor et al., 2008). Academic and career advisors will find these familiar tools to be of diminishing value in their professional interactions with students.

New Theories and Practices

Because of the career changes driven by the new contract, advisors need to understand that major selection may be less important to graduates' employability than general education or cocurricular activities. They must help students realize that choosing the perfect major or program will not give students the specific knowledge in any occupation that they will need to be successful. They need to see formal, higher education as a preparatory phase of continuous, lifelong knowledge acquisition and skill building that is accomplished by a variety of means and media. Prior to graduation, students will build knowledge and skills through formal course work and assignments, internships, service learning projects (Hagan, 2004; Lu & Lambright, 2010; Simons & Cleary, 2006) as well as through cocurricular activities, volunteer and unpaid work, and mentoring (Fierman & Hadjian, 1994), often increasing social capital by developing networks of valuable contacts (D'Agostino, 2010). Service learning projects provide excellent opportunities to learn multicultural competence skills (Baggerly, 2006; Busch, 2009; Shaffer, 2008a).

After graduation, students will build knowledge and skills through postgraduate courses and

work toward degrees and certifications as well as formal continuous education. They will also take advantage of apprenticeships, formal OJT, just-in-time and informal learning on-the-job training, stretchwork, networking, and mentoring. Modern organizations offer employees benefits that they could not purchase for themselves in a formal educational setting: advanced training and real-world experience. In exchange, corporations expect new hires to act as intrapreneurs by taking ownership of the projects to which they are assigned and working cooperatively with others to add value to the organization (Nash, 1994; Seshadri & Tripathy, 2006).

One advising approach can serve as a framework for developing coherent programs of career advising that help students meet the challenges of the new contract and portfolio careers: accumulation of human capital (Shaffer, 1997/2009; 1998a; 1998b). In the other essay in this volume (Shaffer & Zalewski, 2011, pp.), we outline a human capital approach to career advising.

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