

# Apprenticeship and Economic Advantage: A Blueprint for American Industry and Public Policy in the 21st Century

John Aaron, Alice Rowland, Christina Rude, James Wessel

## Section I: Our Current Challenge

In a recent interview, Larry Bossidy, former chairman at Honeywell International Inc. and former second in command to Jack Welch at General Electric, argued that many of today's businesses fail to meet their profit objectives because they don't follow through on executing the strategies they spend so much time formulating. In his words, "In many organizations there has not been a lot of time devoted to the nuts and bolts of making sure that things get done."

During the interview Bossidy further explained the reasons why he believes a "culture of execution" is being lost in Corporate America. These include:

- Execution has little charm as it is not glamorous or intellectually stimulating
- Execution is not rewarded adequately
- Execution implies the possibility of failure, and failure is painful
- Senior executives don't understand the details of their own businesses

Bossidy's comments reflect a growing concern among CEO's, which is that U.S. corporations must rekindle an emphasis on achievement (i.e., "getting things done") in order to successfully compete in a global economy. From a public policy viewpoint, execution translates into productivity, which is a critical driver of our domestic economy, our standard of living and our competitiveness internationally. A key policy objective of the U.S. Department of Labor (DOL) in 2003-2004 is to help U.S. industries and the U.S. workforce retain, and in some cases, regain an orientation toward execution and productivity.

Wanting to improve productivity is one thing, but actually doing it is another. To accomplish this, America's workforce must first make productivity a social priority. We must also have the support systems and infrastructure in place to enable it.

In its most basic form, productivity refers to output per worker. A worker's productivity is inextricably tied to his/her possessing requisite skills, a sense of practicality and achievement, motivation and the general ability to get things done even under times of adversity. It is also linked, of course, to receiving a fair wage.

The American philosophy of focusing attention on the achievement of practical outcomes goes back to Benjamin Franklin in the 1700's. Franklin, America's most notable apprentice, is probably best known for his inventions and contributions to political thought. Yet, perhaps Franklin's greatest contribution was his focus on the practical and his demonstrated ability to follow through on ideas and convert them into tangible outcomes that yield real social benefit. His form of practical thinking was undoubtedly developed and cultivated during his tenure as an apprentice in the printing business. Then, as now, apprenticeship emphasized the practical, and it relied upon on-the-job learning as a vital component to the worker's training process.

Over the years, as America has become increasingly influenced by technology, society has lost focus on the apprenticeship principles that were vital components of a worker's overall training experience, competency attainment and productivity. Indeed, while modern day technology has changed how workers perform their work, technology has not really changed the way workers need to learn their jobs. Today's workers still require the fundamental principles of apprenticeship, which include on-the-job training and structured guidance from those who are experts in a given field.

All too often, workforce development programs have taken shortcuts in worker development by focusing solely on knowledge and shifting the responsibility of worker training to academia (schools and educational institutions). Knowledge alone is not enough; skill is also required. And skill is not normally developed in a classroom. By forgetting that skill is also a required dimension in workforce development, we expose our workforce and our economy to reduced competitiveness in the 21<sup>st</sup> century.

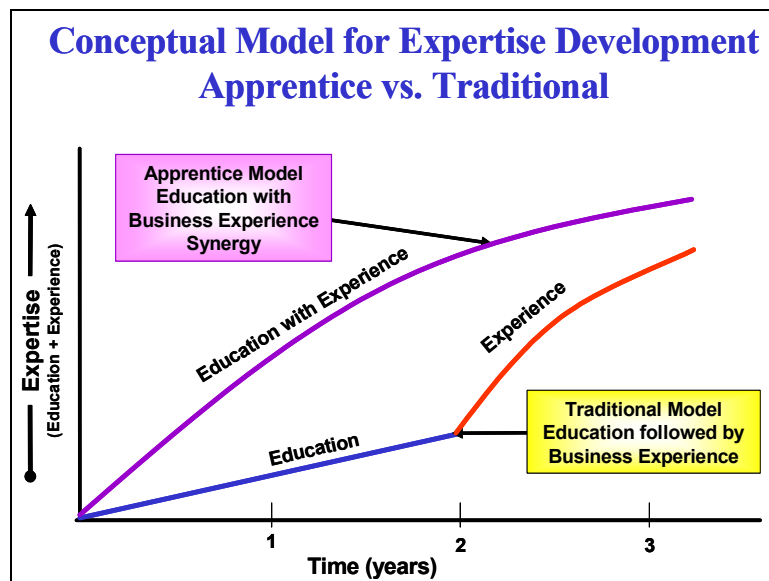
This paper is a call to America's industry leaders and policy makers to adopt and foster 21st century apprenticeship methods and systems as a vehicle to maintain our focus on productivity and to remain competitive in a world economy. In this paper we discuss: 1) 21<sup>st</sup> century apprenticeship as it is today; 2) apprenticeship programs that exist for both managerial and technical occupations; 3) why apprenticeship is cost effective for government and industry; 4) how apprenticeship can improve execution and productivity; and 5) how apprenticeship affects the U.S. economy. We will close this article with a description of the Department of Labor's Advancing Apprenticeship Initiative, which shows how government can help to leverage self-interest and free markets without increased regulation and without large scale government spending.

## **Section 2: What is 21st Century Apprenticeship?**

Most people today are aware that apprenticeship is an effective methodology for training and developing workers in "construction trades" such as plumbing, electrical, sheet metal, etc. This classic notion of American apprenticeship, which is traceable to before Franklin, contains two distinguishing characteristics. These characteristics are: 1) structured on-the-job training, which is delivered to an apprentice under the guidance of a journey worker, and 2) complementary related classroom instruction,

which is also delivered to the apprentice. In its classic form, apprenticeship relies upon the coordinated and combined use of both of these components.

The underlying rationale for the two learning components of apprenticeship is that worker competency is a function of both knowledge and skills. With this approach, practical aspects of work are mastered through on- the-job training under the guidance of an expert or journey worker, and theoretical aspects of work are mastered during related instruction in the classroom. In the traditional model of classroom education, an individual first spends a substantial amount of time in classroom instruction with little or no hands-on experience prior to employment. After employment, the individual requires significant additional time at work to learn the needed job skills and to validate their competency. Under apprenticeship, classroom education is synergistically combined with on-the-job experience and competency validation producing a fully productive employee in a shorter time. This concept is illustrated graphically in Figure 1.



**Figure 1**

The combined arrangement of on-the-job learning and related instruction ensures a worker's employability and competency by providing a complete range of skills and knowledge during training. Under apprenticeship, knowledge is converted to value because it is immediately applied on the job. The apprenticeship process produces workers who are execution-oriented and practical, but also have adequate understanding of the theoretical underpinnings of their jobs.

The efficacy of apprenticeship is universal. It is not limited to the construction industry or to systems administered by unions. Nor is apprenticeship limited to blue-collar workers; it applies equally well to managerial and white-collar occupations. Recent studies on the application of apprenticeship in the U.S. Information Technology (IT) industry and in the U.S. Health Care and Social Services industries have

demonstrated that the apprenticeship process shortens the time required to bring workers up to full productivity and reduces worker errors throughout the training period.

A 21<sup>st</sup> century apprenticeship features both structured on-the-job learning and related classroom instruction just as the classic version, but it also adds one or more of the following elements to enhance program effectiveness:

- Identified skill standards and competencies that are benchmarked with government or industry requirements.
- A skill validation process whereby each apprentice must demonstrate his/her ability to execute the specific competencies required on the job before becoming fully credentialed.
- One or more coaches filling the role of the traditional journey worker who are trained as mentors.
- Opportunities for the apprentice to chart his/her own *individual* choices for on-the-job training under the guidance of the coach.
- Appropriate tools, technologies and organizational development methods that facilitate the learning process and motivate the worker to learn.
- A measurement and training process that charts the learning progress and productivity outcomes of each apprentice.

The Information Technology (IT) apprenticeship program at McDonald's Corporation is an excellent example of a 21<sup>st</sup> century apprenticeship program. The McDonald's information systems organization is implementing apprenticeship as a vehicle to train and develop IT project managers to ensure that its information system projects meet business objectives. Several key tools of the McDonald's apprenticeship process include:

- Knowledge and skill validation mechanisms including certification examinations, skill qualification sign-offs, progress reports on learning, and productivity outcomes
- Regularly scheduled peer group meetings and mentoring meetings with coaches (journey workers)
- Measurement of the learning progress and productivity outcomes
- A process for on-the-job learning whereby each apprentice develops and executes his/her own strategy for competency attainment

A second example of a 21<sup>st</sup> century apprenticeship program is the IT apprenticeship program implemented by the Naval Undersea Warfare Center (NUWC) Keyport. Established in May 2002, Keyport's three-year program includes:

- Foundational skills (interpersonal skills, technical writing, public speaking, team building, problem solving, activity base costing, etc.)
- Technical skills (introduction to the network, network documentation & troubleshooting, switch configuration, Installation of copper cable, configuration of servers, e-mail services, virus perimeter & firewall concepts, etc.)
- Documented “building blocks” for foundation skills and technical skills that specify what is to be learned, as well as the competency an apprentice must demonstrate for completion
- Software systems with associated metrics for monitoring and tracking apprentice performance and competency development

Both apprenticeship programs mentioned above, one in government and one in the private sector, are operating successfully in white-collar environments, debunking the myth that apprenticeship can only apply to blue-collar occupations. Moreover, one of these apprenticeship programs—McDonald’s Corporation—is using apprenticeship to develop IT managers who will play a significant role in the corporation’s future success.

Aggregate statistics on apprenticeship bear a similar message. Of the 18,370 registered apprenticeship programs in existence today, 61% are outside of construction and 78% are non-union. In reality, apprenticeship is a universal methodology to develop workers.

### **Section 3      Apprenticeship Effectiveness in Today’s Organizations**

Most employer organizations already offer some type of training program for their employees. A report by IDC, a premier global market intelligence and advisory firm in the information technology and telecommunications industries, shows companies in North America spent \$12.9 billion in 2002 to train their IT staffs. Given that this is only a fraction of the total amount spent on training, adopting apprenticeship may not require new investment for many companies, but rather a “fine-tuning” of existing training processes and methods.

Apprenticeship outperforms the traditional form of worker training that relies solely on classroom instruction prior to employment. Research studies performed by the DOL and the Computing Technology Industry Association (CompTIA) with a small and diverse group of IT employers indicate that on-the-job training, a signature component of apprenticeship, provides much more effective training when combined with classroom instruction than just classroom instruction on its own.

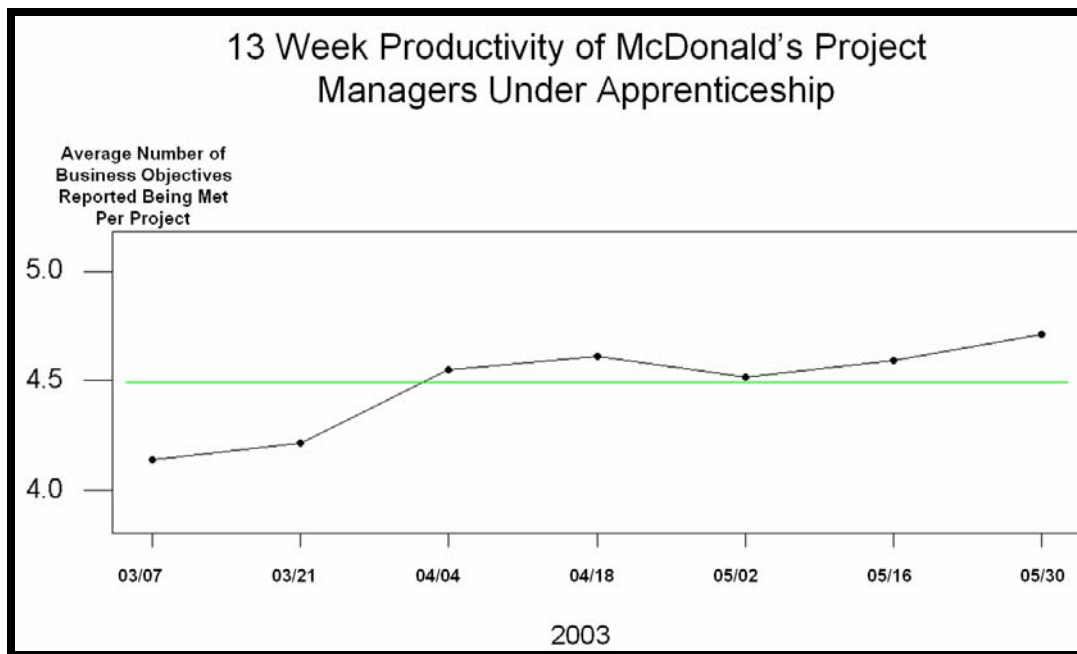
The inference to be drawn from these studies is that most organizations already offer some type of training to their employees, and it makes good business sense to deliver this training within the context of apprenticeship. A 21<sup>st</sup> century apprenticeship enables faster learning with a definitive linkage to

productivity. Moreover, because apprenticeship focuses upon execution and engenders employee loyalty, it is an insurance policy that ensures training dollars are used wisely.

From this vantage point, the how can any organization afford to not provide an apprenticeship program? As we will see in the following section, organizations can obtain greater return on their training investment by upgrading their existing classroom instruction programs to apprenticeship.

### **Apprentice Execution and Productivity**

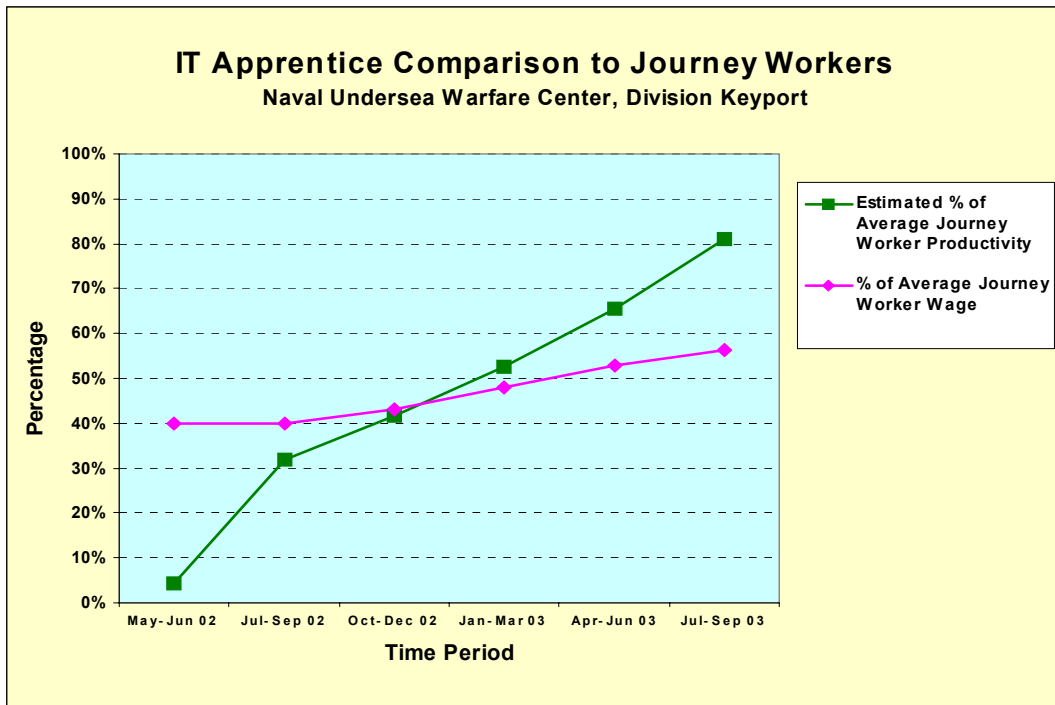
There is both factual and anecdotal evidence to show the linkage between apprenticeship and worker output and productivity improvement. For example, in a pilot study, McDonald's Corporation demonstrated that apprenticeship significantly improved the performance and job satisfaction of ten IT project managers. The average scoring of the apprentices in relation to the business performance of their projects (i.e., ranging from zero to five business objectives being met for any project) is illustrated in the graph in Figure 2 below. The McDonald's data suggests that significant productivity improvements in terms of improved project performance occurred within 13 weeks after the introduction of structured on-the-job learning as part of the overall training process.



**Figure 2**

Data collected over a one-year period from the IT apprenticeship program at the Naval Undersea Warfare Center Division (NUWC) Keyport also supports the strong linkage between apprenticeship, worker productivity and economic value. The NUWC analysis (Figure 3) illustrates that under apprenticeship, the rate in which entry-level workers become productive, as measured by the percentage of hours spent on

productive efforts, increases quickly. Moreover, the structure of apprenticeship enables employers to manage costs effectively by linking wage rates to specific job performance and competency criteria.



**Figure 3**

The NUWC analysis is significant because it shows how employers can create value quickly through apprenticeship. Apprenticeship provides the structure and criteria for employers to assess wages fairly based upon demonstrated competency and performance on the job. This gives employers the option to hire entry-level workers at low competency and low wage levels. Then, under an apprenticeship training method, the employer enjoys the benefit of worker productivity rising faster than wages. This creates economic value for the employer during the training period and throughout the worker's tenure with the employer. The findings also demonstrate that IT employers should consider apprenticeship as a cost effective alternative to awarding IT work to off-shore vendors.

Both the McDonald's and NUWC pilot programs point to four critical aspects of apprenticeship, which make it superior to the traditional training approaches commonly used in industry today. These components are:

- Structured on-the-job training that allows regular interaction between a coach (journey worker) and a worker apprentice
- Clearly defined skill qualifications for which each apprentice must demonstrate competency and receive sign-off from a coach (journey worker)
- A measurement process showing the learning progress of each apprentice as well as the productivity improvements of each apprentice

- Associated classroom instruction

Sometimes organizations fail to try on-the-job training because they fear it is too costly. The evidence suggests otherwise. From a business standpoint, the inclusion of on-the-job training is cost effective. At McDonald's, significant improvements in worker productivity and job satisfaction were achieved with an average investment of only one hour per week per apprentice being devoted to on-the-job training meetings between apprentices and their coaches.

Anecdotal evidence linking apprenticeship with positive worker attitudes about execution, practicality and a results-orientation has existed for years. The Department of Labor has helped organizations administer apprenticeships since 1935. Consistently, DOL staff has observed that people who go through apprenticeship programs tend to share the following attributes:

- They are practical, hardworking and results-oriented
- They are self-confident and have a strong work ethic due in part to the fact that they have demonstrated an ability to achieve results even under adversity
- They have an orientation to the practical
- They have "street smarts" as to what is required to get work done and how to get it done
- They tend to be loyal to their employer

It is not coincidental that these attributes are similar to the target qualities of workers and managers that Larry Bossidy was describing. These attributes define an execution-oriented worker.

#### **Section 4: 21<sup>st</sup> Century Apprenticeship Systems**

While the benefits of apprenticeship to employers are clear, start-up costs can be an issue. If a company had to start an apprentice program in a vacuum, it would incur costs to cover the development of an apprenticeship administrative infrastructure, along with development of skill standards, procedures, measurement processes, and tools. These start-up costs could form barriers to any individual company's participation in apprenticeship.

In order to reduce such potential barriers, the DOL is partnering with selected non-profit industry associations to establish "demand driven", industry-wide apprenticeship systems that make apprenticeship affordable and attainable. DOL has demonstrated a willingness to co-fund the initial development and roll out of these demand driven apprenticeship programs.

The term demand driven deserves some elaboration. DOL works with industry associations to help them design and develop industry-specific apprenticeship programs that meet the specific requirements of their industry member constituency. These apprenticeship programs are designed to be financially self-



sustaining, fee-based operations that will remain solvent because they provide win-win opportunities and value for all industry stakeholders including employers, employees, suppliers, and training/educational providers. The National Information Technology Apprenticeship System (NITAS) is a case in point, and we will describe it in some depth to illustrate the principles involved.

NITAS serves the U.S. Information Technology (IT) industry by providing: 1) IT employers with the opportunity to secure competitive advantage through apprenticeship, and 2) IT workers with clear career paths, clear standards of performance and a career transcript that documents competency. The target scope of the apprenticeship system is the 7 to 10 million U.S. IT workers.

NITAS was created after two years of research, development and pilot testing performed by the Computing Technology Industry Association (CompTIA) under the auspices of DOL. During the third year (2003), CompTIA is introducing and rolling out NITAS apprenticeship modules in specific skill concentrations for use by IT employer companies. It is estimated that apprenticeship tracks will be available for 70% of all IT occupational concentrations by the end of year four. The NITAS system is a prototypical apprenticeship system for industries that are new to apprenticeship. As part of our national initiative on apprenticeship, DOL will help other industries create similar apprenticeship systems.

Since NITAS is a demand driven system, IT employers will participate because it makes good business sense to do so. NITAS will provide each participating employer with the apprenticeship tools and infrastructure that ensure:

- New IT workers entering the organization become productive quickly with minimal start-up periods and with little or no re-work
- Existing IT workers learn new jobs, roles and skills as quickly as possible with minimal errors made during the training period
- Existing IT workers adapt to new technology and innovation more quickly and leverage those opportunities to secure competitive advantage for the organization
- All IT workers understand and appreciate the business dimension of their work and are able to effectively integrate IT as a strategic business driver

Participating IT employer companies will be able to use the NITAS tools, skill standards and web-enabled infrastructure to initiate and deliver their apprenticeship programs in an efficient and cost-effective manner. The NITAS system is designed to be flexible so companies can add company-specific elements to their apprenticeship and have the freedom to manage their programs in a way that meets their own company requirements. Similarly, IT workers will participate in NITAS because IT employers will demand the credentials.

To participate in NITAS, an IT employer will register the organization with CompTIA using their web-enabled, on-line infrastructure. The employer will then receive the infrastructure systems, skill standards and training to deliver a NITAS apprenticeship program. With NITAS qualifications, each participating employer becomes a member of a nationally recognized network of organizations that follows best training practices. Registration in NITAS becomes a symbol of excellence that provides stature for a company enabling it to attract and retain the best workers. Participating companies will pay CompTIA an annual participation fee which will enable the association to recover costs and sustain the system without continued government financing.

IT workers will also have incentives to participate in NITAS. Participating IT workers (i.e., employees of sponsor organizations) will benefit by receiving a more complete training experience. They will learn faster and rapidly gain specific IT competencies during their training period, which will enable them to advance more quickly. And, they will become execution-oriented. Similarly, workers wishing to enter the IT industry (including the disadvantaged or those needing retraining) can implement their new career more easily because NITAS provides clear direction and criteria for entering and advancing in the various IT career concentrations.

Employees will join the NITAS system by registering with CompTIA through their employers. Upon registration, each employee will receive a unique apprenticeship transcript that will follow the worker throughout her/his career. This career transcript will contain documented records of educational attainment, training received, skills demonstrated, and certifications held in various IT concentrations.

NITAS represents the prototypical 21<sup>st</sup> century apprenticeship system to be deployed in those industries that are new to apprenticeship. Other industries beginning apprenticeship programs should tailor them to meet the unique requirements of their own industry, yet all should share the following best practices of apprenticeship:

- They are demand driven systems based upon voluntary participation
- They are designed to become self-sustaining
- They are developed and administered by non-profit industry associations
- They provide the tools, methods, skill standards, and infrastructure that enable participating companies to initiate and deliver apprenticeship systems at an affordable cost
- The skills, competencies and certifications within the apprenticeship system are benchmarked to industry requirements yet the system is flexible enough to allow individual employer companies to add their own unique requirements for skills and competencies

## **Section 5: The Advancing Apprenticeship Initiative**

As mentioned above, NITAS was funded in part by the Labor Department's Employment and Training Administration (ETA). It is one component of ETA's larger Advancing Apprenticeship Initiative. Through 2002, DOL's apprenticeship office sponsored a series of forums and focus group sessions to engage apprenticeship stakeholders and employers in new and emerging occupations on how to expand the current apprenticeship system to meet the needs of the 21<sup>st</sup> century workplace and workforce. On May 6, 2002, DOL announced appointments to the Secretary's Apprenticeship Advisory Committee. The committee established five workgroups: Education and Outreach, New and Emerging Industries, Legislation, Career Lattice, and Staff Training & Development around the Advancing Apprenticeship Initiative. The workgroups will provide recommendations and advice which will be the basis for a strategic plan advancing the apprenticeship system.

"The Advancing Apprenticeship Initiative has four primary goals," said Emily Stover DeRocco, Assistant Secretary of Labor for Employment and Training. "First is expanding access to the apprenticeship system to employers, especially those in new and emerging industries. Apprenticeship is a proven model for developing a skilled workforce and more employers should have the opportunity to benefit from this model.

"Second, we would like to strengthen the linkages with the workforce investment and educational systems. The workforce investment system can provide the human capital and the education system the classroom instruction to complement the on-the-job training provided by the employer.

"The third goal is to increase both the number and diversity of individuals entering apprenticeship programs. With the labor force expanding to include more women, minorities, persons with disabilities, and others, apprenticeship must continue to appeal to the full spectrum of available workers.

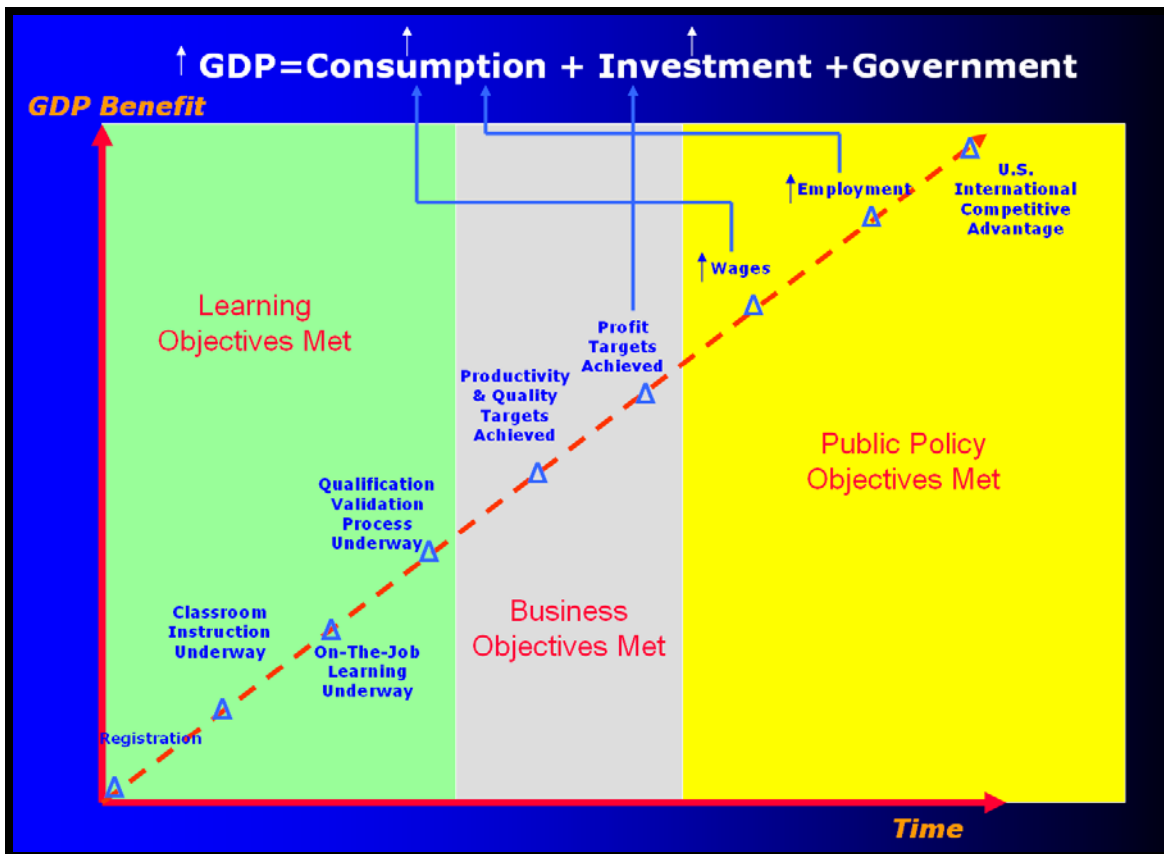
"Finally, by increasing the attention to apprenticeship models, we hope to improve the quality of all apprenticeship programs so that any worker who decides to become an apprentice receives the world-class education and experience he/she expects and deserves."

"The 21<sup>st</sup> Century Apprenticeship Model described in this paper is exactly the model that we are encouraging," said DeRocco. "It expands apprenticeship beyond its traditional industries, brings the best of classroom and on-the-job training together, and provides the foundation for a strong and growing economy."

## **Section 6:     Apprenticeship and the Economy**

Thus far in our discussion we have demonstrated the benefits of apprenticeship to both employers as well as to workers. As we will see, the adoption of apprenticeship *en masse* would have a positive impact on our economy and upon our competitiveness internationally.

The proven linkage between apprenticeship and productivity improvement allows us to transfer the potential positive impact of apprenticeship to benefits that ripple through the entire U.S. economy in terms of improvement in Gross Domestic Product (GDP). This argument is shown graphically in the GDP model of Figure 4 below.



**Figure 4**

Figure 4 illustrates the stages of potential GDP impact from large scale adoption of apprenticeship. Figure 4 also illustrates the close causal connection between the achievement of learning objectives for workers, the attainment of business objectives and the resulting attainment of public policy objectives. Apprenticeship ties all three together, and provides a road map for workforce development which leads to improved business performance which, in turn, leads to the attainment of economic, labor and social public policy objectives.

It is our belief that as more and more U.S. industries and companies adopt apprenticeship systems, the aggregate productivity of the U.S workforce would increase over time (as shown on the X axis of Figure 4). These increases in worker productivity would have several ensuing impacts over the long term. First, corporate profits would rise which would trigger an increase in aggregate investment. Secondly, wages would increase which would trigger an increase in aggregate consumption. GDP would increase as a result of the increase in investment and consumption. Over the long term the combined increase in consumption and investment would cause aggregate demand to shift upwards which would lead to an increase in aggregate employment, which would lead to even greater increases in consumption and ultimately GDP.

From an international perspective the increased productivity of labor and resultant increased corporate profitability would provide U.S corporations with more leeway to bid against the traditionally lower priced foreign competitors which would lead to increased exports. From an aggregate perspective this too would contribute to GDP improvements over the long term.

While a quantitative estimate of GDP impacts is not possible to develop with any degree of confidence, it is clear that large-scale adoption of apprenticeship would contribute to long term changes in the “right” direction for our key economic parameters. Moreover, these economic improvements would occur with no material increases in current government spending, instead, relying upon the free market adoption of self-sustaining apprenticeship systems offered through industry associations.

## **Section 7: Social Change and Training a 21<sup>st</sup> Century Workforce**

Efforts to expand apprenticeship will be effective only to the extent that they achieve acceptance of apprenticeship concepts within our society and changes our educational and training paradigm on certain dimensions. To achieve acceptance of apprenticeship we must grapple with and overcome several key social and educational issues. In this section we will explore those issues.

First, as a society we must recognize that there is more to developing workers than just giving them knowledge. Knowledge is important, but knowledge alone it is not enough. A fully trained worker possesses both knowledge and skill, and skill is best acquired on the job. All too often employers and employees erroneously believe that people are industry-ready once they graduate from school. They fail to understand that workers must also receive considerable on-the-job training before they can become skilled, competent and proficient in an occupation. Apprenticeship programs resolve this issue. Our society and our educational institutions need to understand this.

Existing corporate training practitioners, training providers and training vendors tend to make a similar mistake. They often equate a worker’s being “book smart” with being skilled. They offer classroom instruction for workers without ensuring that the workers can and will actually apply their new knowledge

on the job. In addition, the classroom instruction delivered within corporations is often too general and non-specific to be of real value to the worker.

The accelerating rapidity of change found in today's organizations coupled with the increasing demands on workers to move quickly in high speed business environments necessitates that training be highly specific and highly contextual. Under the apprenticeship model, workers are not required to extrapolate general principles to applications on the job; their training is highly specific and directly related to their job. Under the apprenticeship approach the training becomes highly relevant and is immediately applied to productive use causing return on the training investment to increase. This is a requirement for training a 21<sup>st</sup> century workforce.

Early implementation activities based on the model enacted under the Advancing Apprenticeship Initiative have already begun to bring about some of the required changes that are needed in this regard. For example, efforts are now underway in the U.S. Information Technology Industry to raise awareness and to effect change about the way workers should be trained. CompTIA is developing marketing processes to raise awareness and to help organizations adopt the NITAS system. In addition, to expand the base of qualified apprenticeship consultants, CompTIA is creating the Center for Excellence in Apprenticeship. The mission of the center is to: 1) train and qualify individuals in the setup, delivery, and maintenance of 21<sup>st</sup> century apprenticeship systems, 2) create and document an Apprenticeship Body of Knowledge, 3) sponsor annual symposiums on apprenticeship topics that advance the state-of-the-art in apprenticeship, mentoring and on-the-job learning, and 4) promote and encourage research on apprenticeship topics. DOL is leveraging these activities to promote cross-industry sharing of apprenticeship practices.

A second key issue that will impact the acceptance of apprenticeship relates to the need for corporations and industry associations to recognize that they must play a key role in worker training and development. Compounding this issue is the fact that our workforce is becoming increasingly diverse, and our work environments are becoming increasingly dependent on technology. To obtain greater industry involvement, our industry associations must be ready to create skill standards and to administer apprenticeship programs for their industry memberships. Similarly, employer organizations must recognize the productivity benefits of apprenticeship and be willing to participate in industry apprenticeship systems, as well as to enable on-the-job training. This will require a significant shift in practices.

As a third issue, educational institutions and training organizations must be prepared to introduce apprenticeship to their students and corporate clients and assist those clients in the establishment of apprenticeship programs at their facilities. In addition, educational institutions and training organizations must align their products and services to apprenticeship so that graduates of their programs can seamlessly transition into industry apprenticeship programs. As it stands now, the curriculum of the

typical American high school is geared toward preparing students for four-year colleges and universities yet only 30% of graduating high school seniors receive a four-year college degree.

Fourth, Government officials must use their influence to raise the awareness of apprenticeship. In addition, government can demonstrate first-hand the value of apprenticeship. Thousands of military and civilian workers currently hold apprenticeable occupations. Existing training programs for these occupations can and should be converted into apprenticeship programs.

## **Section 8: The Role of Government**

The 21<sup>st</sup> Century Apprenticeship model is a simple blueprint to expand the utilization of apprenticeship to assist in increasing the competitiveness and productivity of the U.S. workforce. The campaign requires government to be the facilitator, not the regulator or the big spender. The U.S. DOL has already raised apprenticeship as a priority, but has not increased spending to do so. Instead, they rely upon demand driven initiatives that leverage self-interest and the principle of free-markets. Government should not attempt to mandate compliance. Simply put, companies will adopt apprenticeship because: 1) they will have had a hand in building it; and, 2) it will make them more competitive.

The U.S. DOL's Employment and Training Administration should have a key role in the wide-scale adoption of apprenticeship through its implementation bureau, the Office of Apprenticeship Training, Employer and Labor Services (ATELS) and its High Growth Job Training Initiative. ATELS has already changed its strategic mission to fulfill its new role as a facilitator of apprenticeship for industry, as a repository for best practices, and as a vehicle to expand the use of apprenticeship throughout U.S. industry where it makes sense to do so. The High Growth Job Training Initiative is a strategic effort designed to model partnerships among businesses, educators and the public workforce system to develop workers' skills required in the labor market and to meet the needs of business for a skilled workforce. The ATELS organization and ETA's Business Relations Group that is implementing the High Growth Job Training Initiative have already successfully worked with the Information Technology industry, the Health Care industry and various Social Service industries to develop and test prototypes of 21<sup>st</sup> century apprenticeship systems. Now, their primary objective over the next decade must be to help deploy these systems across the U.S. to bring the benefits of apprenticeship to the entire industrial base.