

The Role of The McDonald's IT Project Management Pilot in Developing a Model for 21st Century Apprenticeship

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Abstract

Throughout 2003 the Information Services organization of McDonald's Corporation will deliver an IT Project Management Apprenticeship pilot program. The program is in association with CompTIA's National IT Apprenticeship System (NITAS) as part of the grant from the U.S. Department of Labor.

The McDonald's pilot will demonstrate how a large scale IT organization can use registered apprenticeship as a vehicle to achieve rapid and uniform competency attainment as well as productivity improvement in its IT workforce. The pilot will show the criticality of producing measurable business results from apprenticeship.

The McDonald's pilot has and will continue to help the CompTIA team develop and refine its design for IT apprenticeship. This paper describes how McDonald's is handling several key design and operational questions affecting the implementation of apprenticeship in a large scale IT organization. These are:

1. How Can On-The-Job Learning Be Delivered In A Cost Effective Manner and in a Way That Reflects the Realities of Today's Modern Organizations?
2. How Can Apprenticeship be configured to ensure that the IT Journey Worker, as well as the Apprentice, Receives Personal Developmental Benefits?
3. How Can Apprenticeship Be Configured To Drive Performance Outcomes and Productivity in IT Organizations?
4. How Can CompTIA Offer Adequate Value to Gain the Participation of IT Employers in The National IT Apprenticeship System (NITAS)?
5. What Unforeseen Issues or Benefits Will Emerge During the Delivery of an IT Apprenticeship in a Large Organization?

In addition to testing the current design of CompTIA's National IT Apprenticeship System (NITAS), the Information Services Organization Development and Training group at McDonald's has pioneered a key innovation to the delivery of on-the-job learning. This innovation, coined the Voyage of Discovery approach to on-the-job-learning, is critical to market acceptance of apprenticeship by 21st century organizations.

The Voyage of Discovery Approach emphasizes a mentoring and coaching role for the IT Journey Worker which provides faster payback of the investment in apprenticeship. This paper describes the nuances of that approach.

This paper is a précis describing the critical considerations for implementing registered apprenticeship in a large, modern day IT organization. It summarizes the company's productivity objectives and expectations from apprenticeship, it describes how CompTIA's apprenticeship infrastructure will be utilized, tested and refined.

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Introduction

Throughout 2003 the Information Services organization of McDonald's Corporation will deliver an IT Project Management Apprenticeship pilot program in association with CompTIA's National IT Apprenticeship System (NITAS). The pilot, termed the Voyager Program, will enable 10 IT project managers, six mentors and three coaches to participate in a registered apprenticeship process containing both classroom instruction and structured on-the-job-learning.

McDonald's is using apprenticeship as both a training methodology and a vehicle to raise project management productivity, to reduce project risk and to improve business outcomes on I/S projects. In addition, as part of its apprenticeship implementation, McDonald's is working to test and refine the NITAS design.

The objectives of this paper are threefold. First, the paper addresses how the McDonald's IT apprenticeship pilot will answer key design questions for implementing registered apprenticeship in large IT organizations. Second, the paper describes how McDonald's intends to use CompTIA's National IT Apprenticeship System (NITAS) as a vehicle to achieve rapid and uniform competency attainment as well as productivity improvement in its IT project management workforce. Third, the paper discusses several important insights obtained thus far from the pilot.

The lessons learned from the pilot at McDonald's will be critical to making final adjustments and to close out key design issues for version 1.0 of the CompTIA-DoL apprenticeship system targeted for general release in November 2003.

Key System Design Questions

The work performed for Phase I of the CompTIA IT apprenticeship grant provided "proof of concept" for the efficacy of apprenticeship in Information Technology. The Phase I market research and pilot site findings indicated that 1) apprenticeship is effective as a training methodology in bringing workers up to

speed quickly and 2) IT employers are ready to adopt apprenticeship. These encouraging findings notwithstanding, several important operational and product configuration issues remain unanswered regarding how to “package” and deliver apprenticeship so that a critical mass of participation is achieved among U.S. IT employers.

These issues can be distilled to five basic yet critical *system design* questions:

1. How Can On-The-Job Learning Be Delivered In A Cost Effective Manner and in a Way That Reflects the Realities of Today’s Modern Organizations?
2. How Can Apprenticeship be configured to ensure that the IT Journey Worker, as well as the Apprentice, Receives Personal Developmental Benefits?
3. How Can Apprenticeship Be Configured To Drive Performance Outcomes and Productivity in IT Organizations?
4. How Can CompTIA Offer Adequate Value to Gain the Participation of IT Employers in The National IT Apprenticeship System (NITAS)?
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The McDonald’s IT Project Management Apprenticeship pilot will address each of these questions as described below.

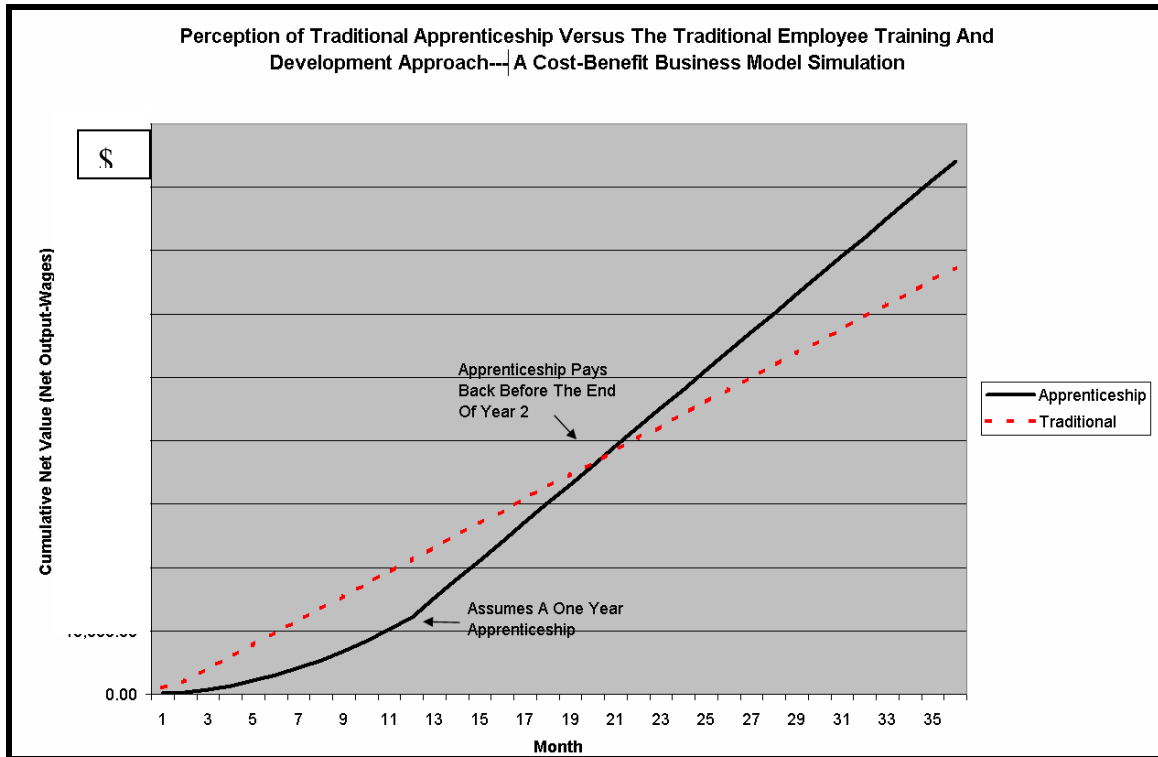
On-The-Job Learning Will Be Delivered In a Cost Effective Manner and in a Way That Reflects the Realities of Today’s Modern Organizations

As part of the Phase 1 research the CompTIA project team learned that the general acceptance of IT apprenticeship by IT employers will be critical to obtaining market penetration. One commonly voiced concern expressed by IT decision makers is the high opportunity cost incurred by having IT journey workers spending a disproportionate amount of their time providing OJT and not enough time getting their own work done.

The CompTIA project team modeled this concern using simulation, and discovered that anticipated financial payback for apprenticeship was too long and that new approaches toward the delivery of OJT would be necessary to overcome the objections regarding the loss of journey worker productivity. Refer to Figure 1 below. The Information Services Management team at McDonald’s shared this same concern, yet they also recognized the criticality of ensuring the

transfer of learning from classroom instruction to improved knowledge and changed behavior on the job. This was the driving benefit that resulted in recognizing apprenticeship as a suitable opportunity.

Figure 1



In order to overcome these concerns, the McDonald’s team, with the assistance of DeVry University’s Center for Corporate Education, expanded the concept of on-the-job-training (OJT) to include a broader, more applicable concept of on-the-job learning (OJL). On-the-job-learning goes beyond the traditional concept of OJT and includes coaching and self-directed discovery as alternative options for the apprentice to learn by doing on the job. The McDonald’s team is committed to this broader definition of OJL as a vehicle to reduce opportunity costs and remove objections.

The McDonald’s Information Services Organization Development and Training group added a major dimension to the concept of OJL by introducing the “Voyage of Discovery” process. This approach to OJL, as depicted in Figure 2 shown below, reflects a paradigm shift from the traditional methods of delivery for on-the-job-training that have been traditional to apprenticeship programs in the “trades”.

The “Voyage of Discovery” approach to on-the-job-learning (OJL) contains the following components:

--OJL is the responsibility of the apprentice who can use a variety of learning resources on the job. These resources include mentors, coaches, supervisors, peers, internal resources, processes and proven practices.

--OJL is a structured discovery process and each apprentice charts his/her own course as depicted in Figure 2. Using the analogy of a *voyage* on a ship was effective in communicating the assignment to apprentices, mentors and coaches.

--Mentoring and coaching requires a combination of directive and facilitative approaches along with active listening that make the apprentice an active learner. In this way most of the learning will be obtained through self-discovery. The apprentice's face-to-face time with the journey worker is minimized, which limits a loss of productivity on the part of the journey worker, and maximizes the efficiency of the interaction. During the apprentice/mentor interaction, the discussion is structured with a goal of validating work progress and planning/guiding further action.

--OJL interactions must lead to real business outcomes and results for the apprentice. For apprenticeship to be successful the design must ensure that neither the journey worker nor the apprentice lose productivity on the job. The apprentice/mentor face-to-face interaction must be mutually beneficial. The system must enhance productivity even during the learning period.

The requirement that apprentices achieve business results while learning is a vital component to the "Voyage of Discovery" approach to OJL. In the rigorous McDonald's I/S environment apprentices still remain accountable to their supervisors for getting results and meeting schedule, scope, cost and quality objectives on their projects.

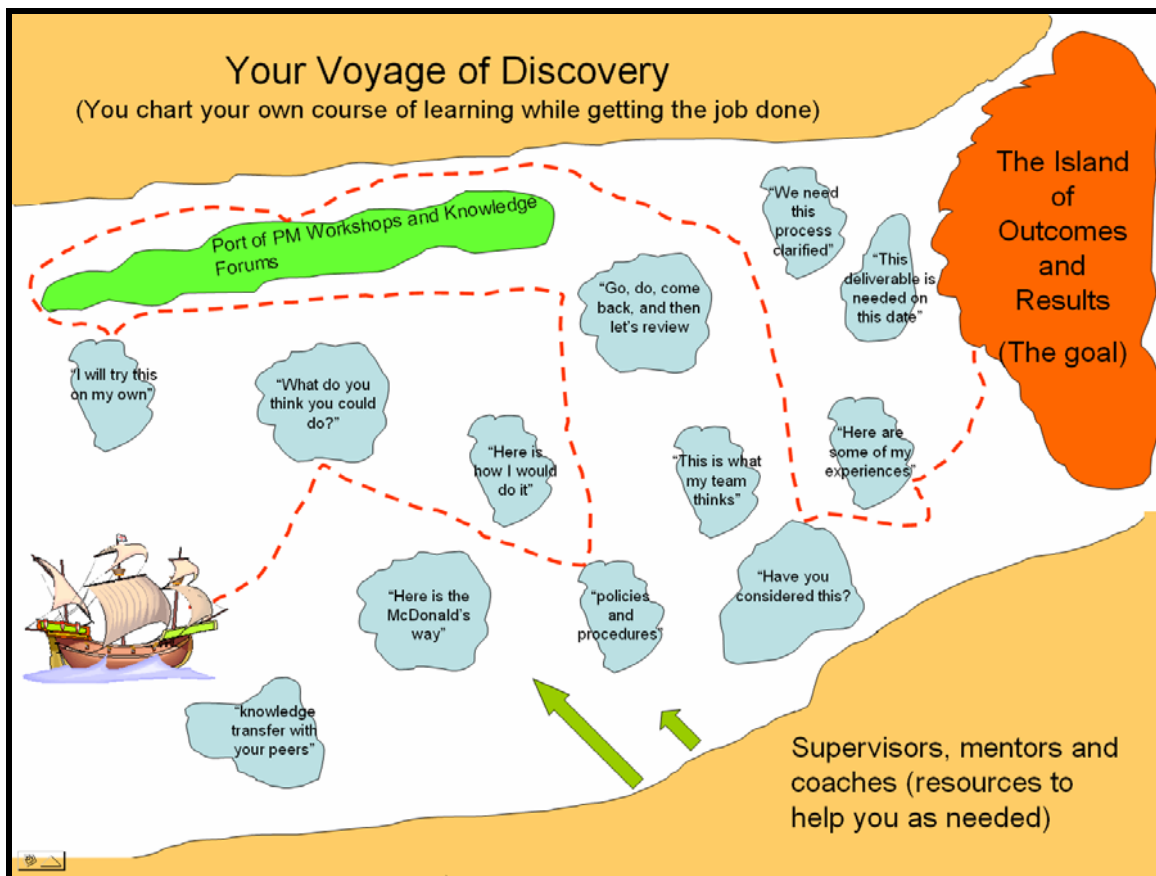
In addition, as part of the "Voyage of Discovery" approach a two day "train-the-trainer" workshop was delivered to mentors and coaches. During this workshop the mentors and coaches were taught how to facilitate on-the-job learning for apprentices using a combination of directive and facilitative styles. Also, during this workshop the mentors and coaches helped validate and refine the target skills and proficiencies of the apprentices.

The net result of the "Voyage of Discovery" approach to OJL is that the opportunity cost and payback period is substantially lessened making apprenticeship economically viable for the McDonald's Information Services organization. The I/S Organizational Development and Training group at McDonald's will continue to refine and hone this OJL process throughout the pilot period.

Apprenticeship Will Be Configured To Ensure That the IT Journey Workers, as Well as the Apprentices, Receive Personal Developmental Benefits

Training practitioners have long recognized that teachers learn as much as their students throughout the instructional process. The “Voyage of Discovery” approach to OJL builds upon this principle by enabling a formalized learning opportunity for the mentors that is equal to that of the apprentices and at a higher and more meaningful level. This learning on the part of the mentors potentially improves their productivity, performance and influence within the organization. In addition, individual involvement spanning level and function potentially drives organizational consistency and standards.

Figure 2



The design for the delivery of OJL at McDonald's seeks to ensure that apprentice/mentor face-to-face interactions are mutually beneficial. Apprentices benefit from their interactions by receiving the guidance of a seasoned IT practitioner journey worker. Mentors benefit from their interactions with apprentices by:

- 1) Validating their own thinking and practices through the process of teaching another
- 2) Helping another will often cause the mentor to face situations that are new and unfamiliar. This process will expand the mentor's own horizons resulting in personal and professional growth
- 3) In some interactions the apprentices may teach the mentors something new or a better way of doing things

The net result of these mutually beneficial exchanges between the apprentices and their mentors is a double productivity enhancement for the organization. The apprentices obtain new proficiencies and knowledge (as expected) and the mentors take back new knowledge and skills to their own work situations. This has significant implications in terms of payback (refer to figure 1) in that the benefits of the apprenticeship process are more quickly realized. A potential benefit to be tested in the pilot period is whether or not program participants will impact audiences beyond the registered pilot group. For example, will mentors use newly developed coaching and teaching skills with their own direct reports? Will apprentices informally teach newfound skills to their peers outside of the pilot? Will managers be influenced by the new proficiencies and knowledge gained by the apprentices?

Apprenticeship Will Be Configured To Drive Employee Performance Outcomes and Productivity

The kick-off of the IT Project Management apprenticeship at McDonald's in the first quarter of 2003 fit quite nicely with senior management's objectives to achieve application, results and measurable outcomes from the project management training initiative. Like most major IT organizations McDonald's Information Services organization provides training as an investment in human capital with an expected payoff in productivity improvement. In the case of IT project management the targeted productivity improvement is yielded when overall project management performance improves. McDonald's management views the IT apprenticeship program as a vehicle to drive the targeted productivity improvements to realization.

During 2002 McDonald's provided between 24 and 32 hours of classroom instruction in project management theory and techniques for each project manager. During 2003 an additional 20 to 30 hours of classroom instruction will be delivered. In addition for 2003, McDonald's is pursuing objectives to realize tangible, measurable improvements in business results from its Information Services' projects, and apprenticeship has become an important vehicle to help obtain that outcome.

Figure 3 shown below describes how McDonald's I/S Organizational Development and Training group is using IT apprenticeship to achieve this

objective. McDonald's is using apprenticeship as a vehicle to go beyond a *knowledgeable* workforce (a year 1 objective) and to make significant progress in obtaining a *skilled* workforce with demonstrable project management proficiencies and documented business outcomes (i.e. good project results) as a year 2 productivity objective.

To help McDonald's with this process, DeVry University created Qualification Cards that are tied to objectives from CompTIA's IT Project+ certification examination. These cards contain approximately 40 specific skill and competency objectives that are required for mastery by the McDonald's apprentices. Throughout 2003 each apprentice will demonstrate mastery of these proficiencies to his/her mentor in order to receive a qualification sign-off. CompTIA's administrative staff will use the prototype analytical and report writing functionality of CompTIA's NITAS to track apprentices' progress in achieving these objectives throughout the pilot period. This information will be supplied routinely to the McDonald's apprentices and management to help them manage the apprenticeship.

McDonald's requirement to drive performance outcomes and productivity improvement (i.e demonstrated proficiencies and documented business outcomes) prompted CompTIA to offer three possible levels of participation in the system-----Bronze, Silver and Gold. McDonald's will be participating at the Gold level whereby a rigorous level of productivity improvement reporting, proficiency sign-offs, and business outcomes reporting will be utilized. The McDonald's experience will help CompTIA validate the NITAS functionality and maximize the apprenticeship methodology in yielding productivity gains at minimal cost to the IT employer. Refer to Figure 4.

Figure 3

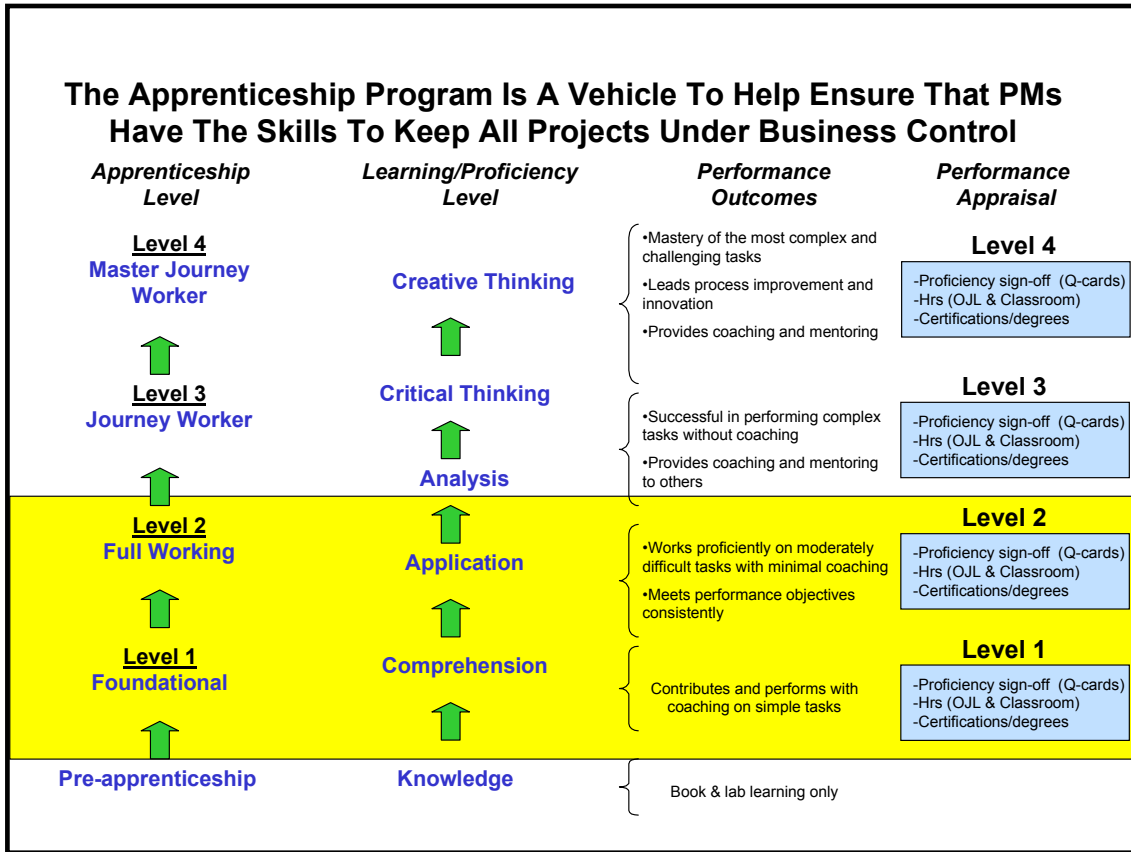
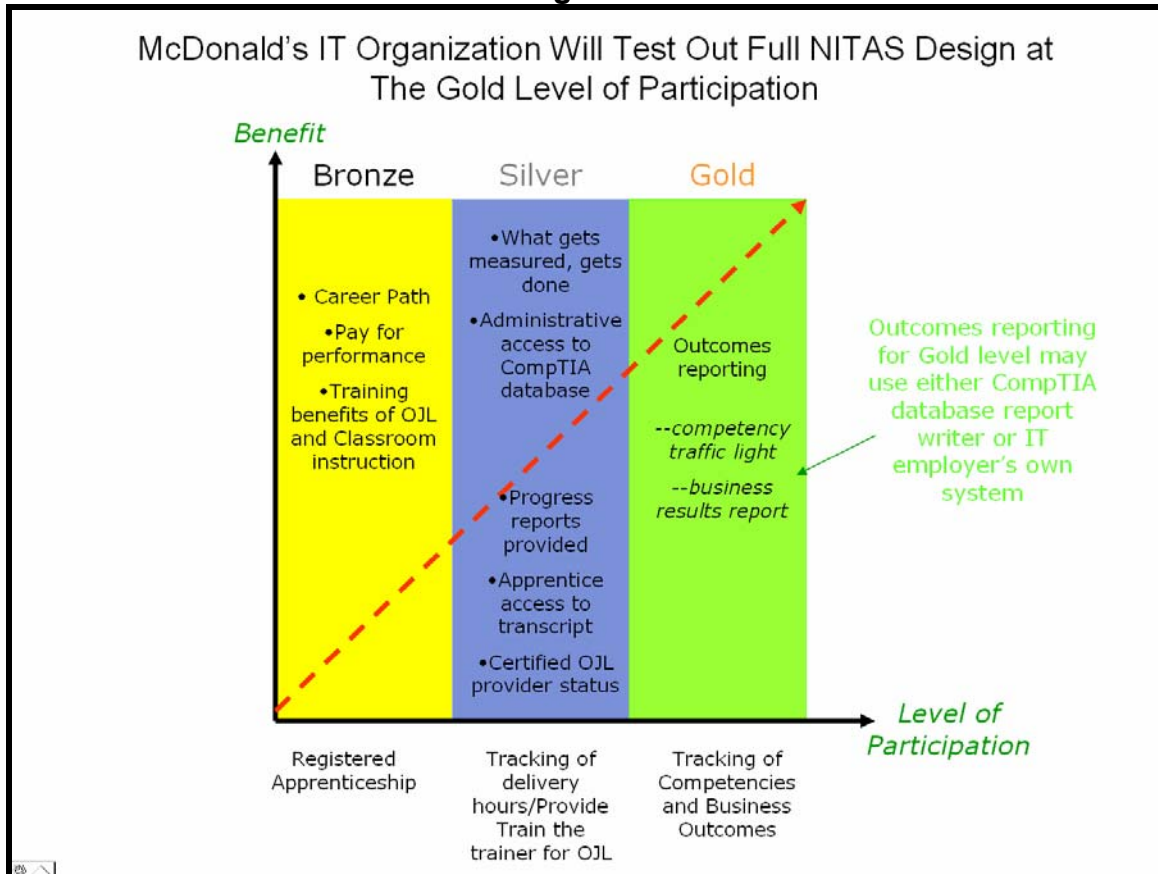


Figure 4



The CompTIA National IT Apprenticeship System (NITAS) infrastructure Will Be Used To Measure Progress and Drive Productivity Improvement

It will be essential for CompTIA to demonstrate to IT employers that NITAS offers value by producing improvements in their business performance. The McDonald's pilot is set up to demonstrate this.

As a service offering to McDonald's, a Gold Level participant in NITAS, CompTIA is providing:

- Registration with DoL
- Creation of a unique career ID and transcript for each apprentice
- Site visitation, evaluation and certification as an on-the-job-learning provider
- Competency tracking and status reporting of the apprentices' progress
- Assistance with business outcomes tracking

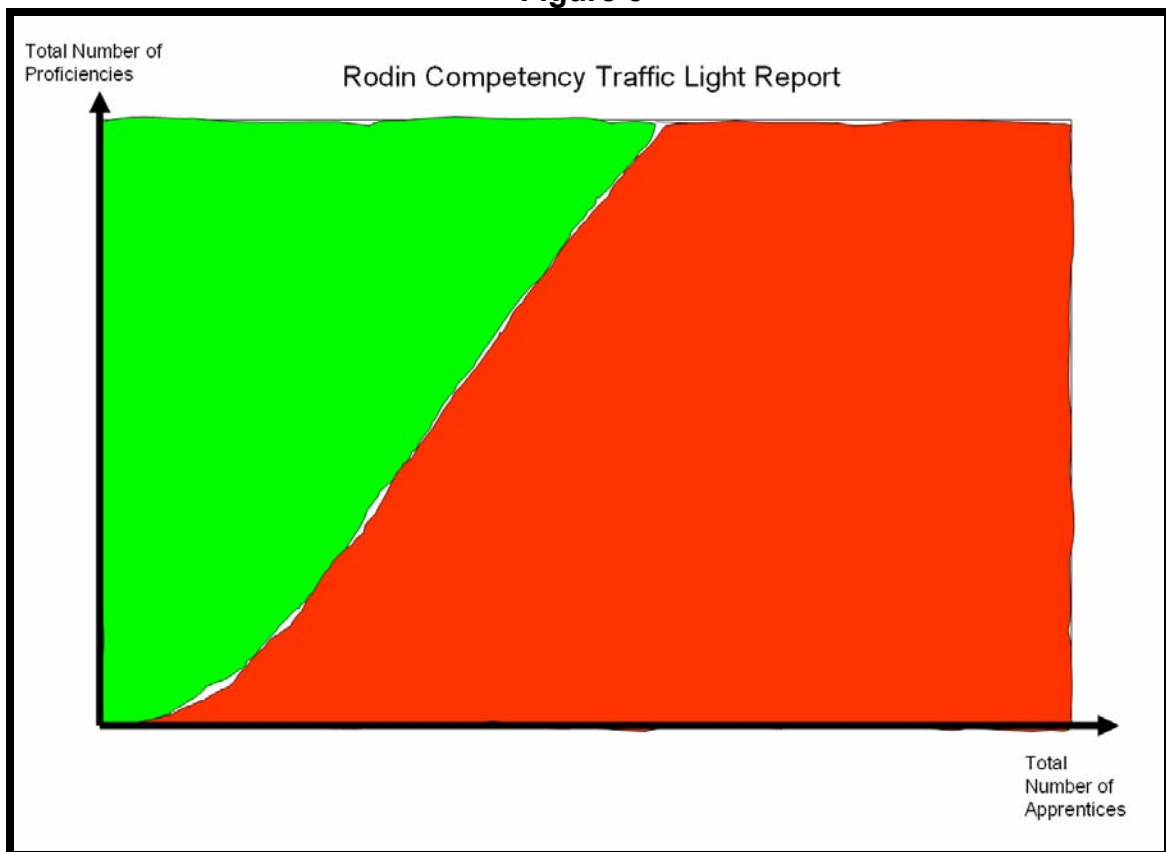
One useful report that the NITAS will provide regularly to McDonald's is the *Rodin Traffic Light Report* shown in Figure 5. This report (created by the IT group at the Naval Undersea Warfare Center in Keyport Washington) will show in

graphical format the aggregate progress made by all apprentices in achieving proficiency in project management.

As demonstrated in Figure 5, the area in the rectangle represents the product of total proficiencies required for each apprentice and the total number of apprentices. In the case of the McDonald's pilot the area within the rectangle will represent 400 total proficiencies (i.e. 10 apprentices times 40 required proficiencies per apprentice).

The traffic light report will be provided to McDonald's management routinely as a tool to show progress. The green area will reflect the fraction of total proficiencies demonstrated to date. Conversely, the red area will reflect the fraction of those proficiencies that remain to be demonstrated. The proportion of green will be a metric that suggests the degree of work force competency, and McDonald's management will expect to see the green area grow throughout the pilot period.

Figure 5

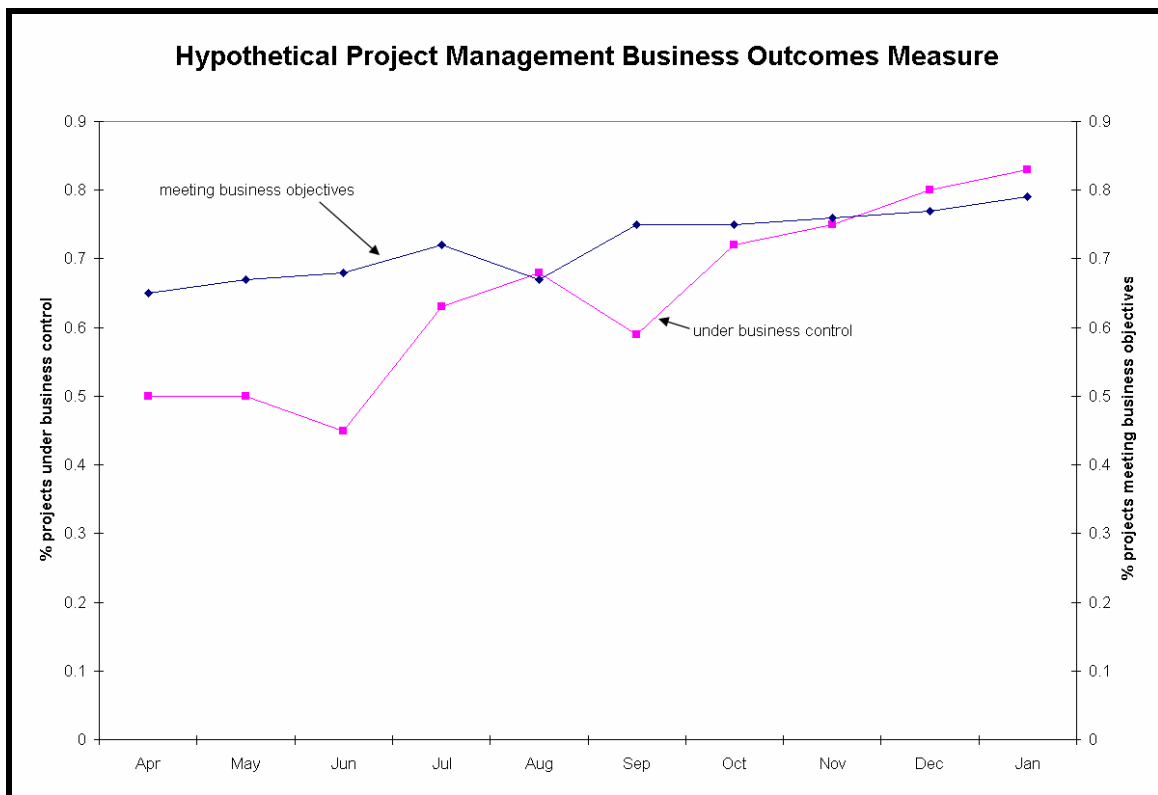


Another important metric that the system will provide for McDonald's management is a time series analysis of progress in achieving productivity and better business performance. To be successful at McDonald's the IT apprenticeship must support performance and productivity improvements in the following ways:

- 1) Projects within I/S portfolio must meet their business objectives more consistently,
- 2) Project Managers who manage projects within the I/S portfolio must demonstrate that their projects are under better business control.

To measure these outcomes McDonald's will periodically evaluate project management performance across several dimensions and publish performance metrics. As an example refer to Figure 6. CompTIA will assist McDonald's in this measurement and evaluation process.

Figure 6



Summary----Components of The McDonald's Apprenticeship Model

Figure 7 summarizes the components of the IT Project Management Apprenticeship that are being used in the Information Services Organization of McDonald's Corporation. The primary objective of the apprenticeship is to achieve measurable improvements in the productivity of project managers as evidenced by:

- more projects achieving their stated business objectives
- more projects being under measured business control
- project managers coming up to speed more quickly than using traditional training methods

Additional benefits expected from the apprenticeship include reduced portfolio risk, decreased project costs and enhanced managerial skills on the part of mentors (journey workers).

McDonald's apprentices will learn through a variety of instructional methods including workshops, interactions with mentors, knowledge forums, peer meetings and structured self-discovery activities.

McDonald's will participate as a Gold level participant in CompTIA's National IT Apprenticeship System (NITAS). The apprenticeship will use the NITAS infrastructure to track the progress of the apprentices, and McDonald's will utilize the diagnostic reports from the system to manage the program appropriately.

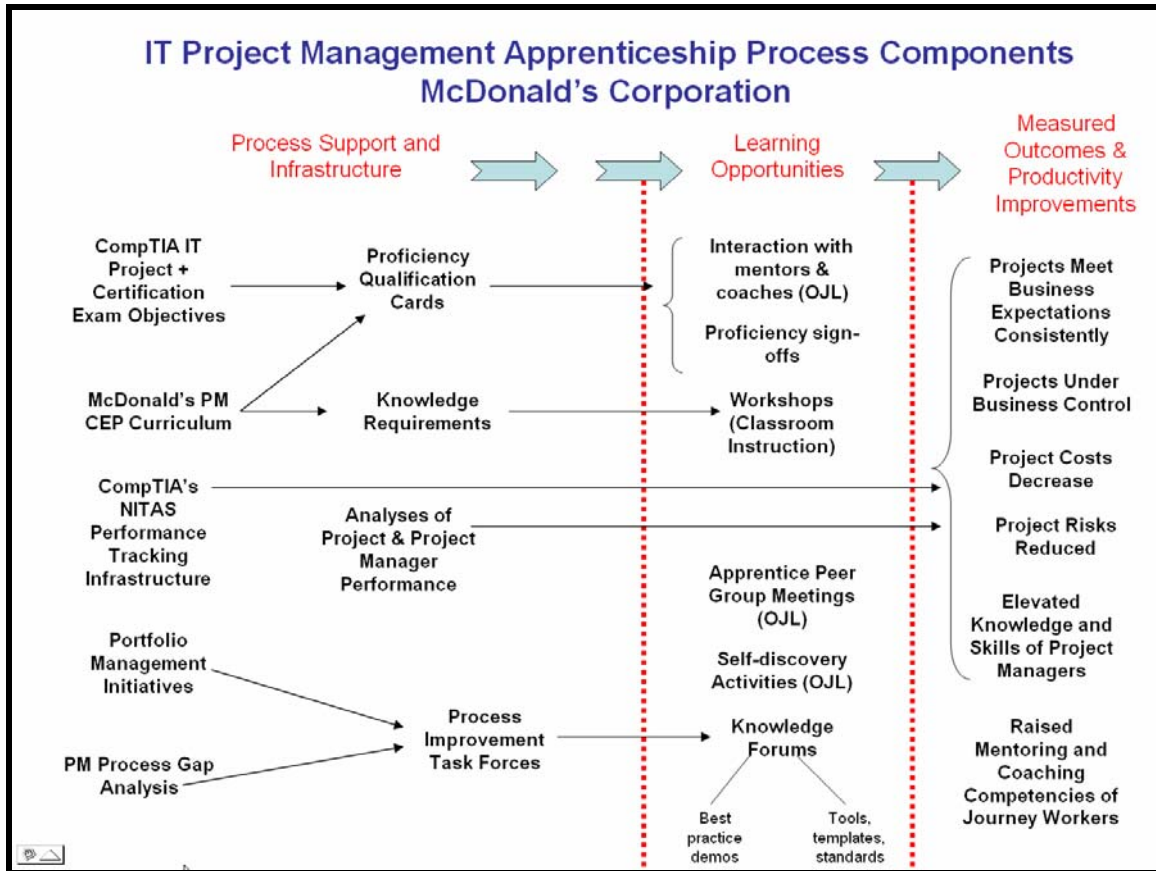
In addition to using the NITAS infrastructure, the McDonald's apprenticeship will utilize the Qualification Card process that is based upon CompTIA's IT Project + certification examination and has been tailored to meet the specific needs of McDonald's Corporation. This process requires that each apprentice pursue sign-off from a mentor on approximately 40 demonstrable project management proficiencies.

The classroom instruction delivered to the apprentices will be based upon McDonald's Project Management Continuing Education Program that was started in 2001.

Throughout the apprenticeship period McDonald's will continue to use 1) task forces to implement project management process improvements and 2) the monthly Knowledge Forum as one component of a Community of Practice whereby best practices will be shared and appropriate project management tools and templates will be reposted.

It is expected that unforeseen benefits and issues will emerge throughout the pilot program during 2003. These will be discussed in a follow-up paper provided in December 2003.

Figure 7



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