

GLOBAL EDUCATION FOR PROJECT MANAGEMENT

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1. PROJECT MANAGEMENT

Introduction

The growth and development of the internet has provided a powerful means for social and economic development, and has increased the need for people worldwide to become better educated. Indeed, the need to pursue life-long education is now the accepted model globally, and it is accelerating the need for more diverse and flexible education opportunities.

Today, most businesses prefer to utilize people who do not need on-the-job training, be they temporary consultants or permanent employees - they want people who are already experienced. The clear trend is toward businesses that are flexible, nimble, learning organizations that can adapt to change easily. This trend flows directly to the people who perform the work and with it the need for learning and refreshing practical business skills.

Project Management techniques are now being used in many socio-economic endeavors to save precious resources by improving the effectiveness of implementation. Among the long list of groups that have or will gain from the discipline of Project Management, a few examples are listed below:

- Governments striving to minimize their work force
- Aid agencies attempting to reduce implementation costs
- High-tech firms seeking to reduce the risk of rapid change
- Service firms attempting to improve their quality
- Education institutions wanting to reduce cost and improve quality

Increasingly the world economy demands greater efficiency if an individual, firm, or country is to compete effectively in the global marketplace. To meet this challenge, productivity increases from Project Management skills must be nurtured and developed globally. This paper will explore one model to help meet these needs for Project Management education.

We will begin by discussing the relationships between government, industry, and education, and why Project Management techniques can offer distinct benefits, followed by a description of our education model.

In describing this model we will discuss the need and means for achieving:

- Education Excellence - How to provide high quality through premier staff, professor as guide, and actual practice. Globally available Project Management education provided without geographical restrictions.
- Global Perspective - Enrichment of the education process by facilitating the trade of ideas across cultures and languages. The model makes use of industry participants for intern programs, and guest speakers to consistently connect the theory to the practice.
- Standards - PMI as the basis of standardized global education, accreditation, and continued learning.

Relationships

There has always existed an implied, if not tacit, connection between government education and business. All governments should recognize the obvious link between education and higher GDP, and better living standards for the citizens - certainly business has long understood this simple equation. Not so long ago the proven model was that government subsidized the education of its citizens (to varying degrees), then business subsidized the cost of the customized education required for the particular work-place. In the days of life-long employment, there was not a pressing need for business (or government for its employees) to worry too much about continuing education. This approach supported the nationalized systems that defined the government/education/business model to satisfy local conditions and practices. In large measure, government agencies still effectively offer life-long employment, but are subject to increasing economic pressure to consistently improve productivity and cut costs.

As the 20th century came to a close changes were happening more rapidly due to new geo-political conditions. New world trade participants, increasing mobility of labor (immigration), the spread of the

internet, and the growth of e-business fueled the changes. There are countries that have yet to feel the full effect of the changes, but many are now adjusting to these changes in the national social and business structures.

Change is evolutionary, and describing the current global business conditions is at best like trying to describe a river flowing past. However, there are some general trends evident to some degree in the 50 countries where we have experience. The current changes portend the structure of the next model for the government/education/business relationship. The pressure on nations to be ever more productive with their resources is increasing rapidly. With a more mobile work force, it is becoming easier for business to acquire highly and specifically trained resources without geographical constraints - by mobility we mean immigration and the internet. Governments must do more with less and that requires additional skills to boost productivity. Business sectors are changing rapidly, and what is a growth sector today can well be a laggard tomorrow - witness the technology sector in the USA. People must understand that life-long learning is now the norm rather than the exception, and the momentum is toward more and better education. The adjacent insert is based upon an article in the *Economist* [1] that showed the growth in tertiary education from 1970 to 1996. We took the basic 1996

% of Total Population Enrolled in Tertiary Education					
Country	1970	1996	Average Change Per Year	Population 2002 (Mill.)	Estimated Students 2002 (Mill.)
Brazil	0.44%	1.17%	10%	174	12
Britain	1.08%	3.25%	12%	60	12
China	0.01%	0.49%	188%	1,281	38
France	1.58%	3.54%	9%	60	13
India	0.44%	0.65%	6%	1,050	41
Indonesia	0.20%	1.16%	22%	217	15
Iran	0.26%	0.91%	13%	67	4
Israel	1.86%	3.59%	7%	7	2
Mexico	0.49%	1.76%	14%	102	11
South Africa	0.37%	1.49%	15%	44	4
South Korea	0.63%	5.65%	34%	48	16
Turkey	0.48%	2.35%	19%	67	9
United States	4.14%	5.37%	5%	287	92
Estimated Students					268
Sources UNESCO, UNPD, PRB		1995	1997		

average change per year times the 2002 population figures (not shown for clarity) for the countries listed to arrive at the Estimated Students numbers. The trend for continuing education is clear, worldwide, and the rate of change is most likely increasing as well.

Project Management

According to the Project Management Institute's PMBOK [2], Project Management is *the application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder needs and expectations from a project*. Many firms and agencies have moved from a matrix structure to a project structure in the last decade, in order to efficiently focus and motivate resources. The essence of Project Management is the rapid construction of an integrated team to tackle a specific project, and to complete it to the quality specified, within the time and cost constraints established. The conventional task force ("fire fighter") approach of having a group of loosely affiliated people tackle a project, while working on other assignments, has proven to be far less effective. Obviously a project conducted by a Project Manager who is trained and disciplined has a far greater chance of leading a successful team.

International firms and agencies are under great pressure to offer quality services that *meet or exceed stakeholder needs and expectations*, whether they be private firms, NGO's, charitable organizations, or government agencies. These firms and agencies must do so with minimal resources, often with nonspecific scopes or objectives. There are frequent advertisements for Project Managers in the international press for humanitarian and medical projects, development banks, conventional firms, and government agencies. Such advertisements seek people with technical training in a particular discipline, medicine for example, and training in Project Management - *application of knowledge, skills, tools, and techniques*.

In a world of tough competition for resources, efficiency in resource utilization is critical if we are to extend an increased quality of life to as many people as possible. This must be done externally and internally, and can be facilitated by easier access to high quality education for Project Management skills and techniques.

2.

EDUCATION EXCELLENCE

Theory Meets Practice

Conventionally it has been the job of the educational system to impart theory, and that of business to put theory to practical use through experience. As we indicated earlier, when life-long employment was the standard model this system provided highly trained individuals in a stable business environment. Today firms and agencies must be nimble if they are to survive. They often do not have the luxury of always knowing what skill sets will be demanded of their employees in advance of the needs. The conventional educational/business model was largely sequential in nature; today's model needs to be concurrent in nature.

In an ideal world firms and agencies would have flexible fluid workforces that could adapt effectively to new challenges immediately. This means people need the theory, and the practical experience, but most importantly training in how manage the synthesis in a chaotic environment. The theory is the easiest of

the requirements, and can be provided in numerous ways. Likewise, the practical experience can be practiced via case studies and problems. But, the student needs a learning environment that mirrors the real-world if they are to build a bridge between theory and practice. We believe that this last important dimension must be provided by individuals with real world experience. It makes sense that more of the training be pushed back into academia, but it also requires a marriage, if you would, between business and academia if people are to acquire these extra skills outside the workplace.

Distance Learning via online courses is proliferating as colleges attempt to eliminate the barriers of time and location to higher education and training. The journey to delivering “anytime-anywhere learning” has not been an easy one for higher education institutions as they have had to overcome the historical inertia that causes change to occur slowly, massive faculty resistance from those that believe the traditional methodologies are the only methodologies that work and from those who are not comfortable in the technical arena, along with continuing questions about the efficacy and quality of online learning.

Education Guide

Practical experience in business is provided by people who have real-world experience (veterans), and by practice. The conventional model for business is to take a person with an academic education, and have them perform tasks under the guidance of a veteran. By applying the educational information gained, and by feedback on performance, the individual was trained in how to apply the knowledge gained in the educational process. Often this process was supplemented with additional education, and with information gained and shared with peers. Four keys to the success of this process are:

- The knowledge of the Education Guides
- The effectiveness of the educational experience
- The interaction with peers and the real world
- The current issues associated with the educational experience

In a perfect world, the academic educator would be a veteran, and the veteran would have educational experience and training - Education Guides. In this way the individual would consistently be exposed to the theoretical, and the practical. This model not only allows for concurrency of training (multiple levels or disciplines at the same time), but also creates a culture of learning, curiosity, and flexibility. The dilemma is that these Education Guides are geographically remote from the institutions and firms who wish to utilize their expertise. Fortunately this is where the internet can bring together supply and demand.

Our model is based upon the use of Education Guides to serve as educators and veterans in the educational experience, via the internet. The Education Guides help the students navigate through the theory and practice, and in this added mentoring role help the students to interpret the information being presented. The internet allows the connection between the Education Guides and the students through the infrastructure of the core learning institutions. The core learning institutions provide the necessary infrastructure to support the e-learning systems, the library and book requirements, the scheduling, the tuition, and the anchor for the students.

Our model also includes the use of Expert Speakers who are also linked to the students via the internet. The Expert Speakers are a group of internationally experienced educators and veterans that offer practical insights into the topics for which they are selected. This serves to provide students with real-time examples in the market, and with a variety of perspectives on the issues. The Expert Speakers come from different backgrounds, disciplines, cultures, and work environments. As with the Education Guides, these people are scattered around the world, and are coordinated and linked through the core learning institution.

Educational Experience - Effectiveness

Ample educational research has been conducted to confirm that the most productive experience includes:

- Virtual Instructor Interaction,
- Variety in information inputs (e.g. written, verbal, visual),
- Variety in information outputs (e.g. assignments, tests, presentations),
- Peer Interaction (e.g. team assignments),
- Practical Examples (e.g. case studies),
- Self-study (e.g. text book).

The foundation for our model is virtual interaction provided by an Education Guide. Depending upon the subject matter the interaction will range from periodic emails, to chat rooms, to voice (perhaps video) sessions where interaction closely mimics the conventional classroom and workplace. This interaction is enhanced by Expert Speakers who provide real-time insight into specific topics, and who offer a perspective that is different from that of the Education Guide.

We utilize a text book for our courses to provide yet another form of information input. Reading at a different pace and off-line enriches the experience, and permits the student to concurrently build a reference library. The text book is supplemented with the on-line course material that is prepared by the Education Guide. This on-line material is provided in Microsoft PowerPoint® format so that text, data, photographs, voice, and video may be combined to maximize the variety of information inputs.

Our model utilizes individual and team assignments to help the student gain experience with different learning experiences. Equally important however is that our model provides the student with the opportunity to learn as people normally learn in the workplace. We utilize case studies, research, tests, and assignments all in an on-line environment. Since effective communications are critical in the workplace, we also make use of student presentations to offer the experience of combining knowledge, research, and people skills to convey information to others. The presentations are delivered on-line to the entire class.

For courses in Project Management we have designed our courses to make use of virtual teams, and a Project Manager for each team. We assign teams at the beginning of the class, and rotate the responsibilities of the Project Manager to imbue a sense of the *feel* for carrying the responsibilities and difficulties associated with this role. The Project Manager is responsible for his or her team to:

- Communicate and coordinate virtual team meetings
- Communicate changes to schedules and meetings with the Education Guide
- Assign and acquire input from each team member
- Prepare and submit assignments, case studies, presentations as so forth from team input

Each student of a team receives the same grade for the team assignments. As in the real world, the success or failure of a project is a result of the work of the Project Manager, and the team.

Another key aspect of our model is an internship program. As we said earlier, business now looks to education to shoulder a larger share of the training responsibility. Business has a key role and responsibility to bear if education is to bridge the gap between these two worlds. To this end our model offers extended credit for students to intern, virtually, with firms and agencies. Because of the diversity of the workplace, and time zone considerations, we believe that this is best done as a subsequent course after the student has completed the Project Management course. Through a network of firms and agencies, our model will offer the student the practical experience desired by potential employers. The virtual internship is structured in our model to provide the guidance and assessment of the student's work by the Education Guide with input from the firm or agency.

We have built our model to mirror the workplace in as many ways as possible, and to blend the need for theory and practice to fit the needs of the marketplace.

Educational Experience - Current Issues

The requirement for significant investment in capital and personnel infrastructure to offer online courses, in a quality manner, is a difficult issue for colleges and universities that increasingly face declining budgets. Colleges must plan for significant increases in technical personnel costs, costs of course development, cost of a course management system, 24 hour a day support for online students in other time zones, and network infrastructure costs, to name just a few.

In the continuing education and training areas, businesses have rapidly come to see online learning as a cost effective and efficient method for employee training, eliminating the need to take employees away from their work assignments for training. However, experience shows that if supervisors do not allocate time for employees to do the online work, one of two situations occur. First, employees either don't complete the online work or complete it in a very cursory manner so that training outcomes are not reached. Second, if employees feel pressured to complete the work on their own time, then resentment and ultimately low employee morale may result. Excellence in course design is also a significant challenge in creating and delivering online training. Interactive multimedia design, rather than just putting text on a screen, is necessary to assure learning and to provide students with team experiences that are so important in a business environment. Businesses must also be willing to step up to the plate to provide experiences for online students such as virtual internships and input into online team projects.

One of the most difficult issues related to online learning is the issue of identifying students who are likely to be successful in online learning. Unintentionally colleges may be luring students into online learning without the academic and personal skills to be successful. Unless carefully designed, online learning decreases the amount of instructor support and collaboration and support of classmates that often make the difference between success and failure when students experience difficulties. Time management skills are a basic prerequisite skill to successful online learning. Most students have significant competing demands on their time and energy. This combined with a decrease in support from teachers and classmates makes online learning a high risk venture for many students. Appropriate computer skills are also

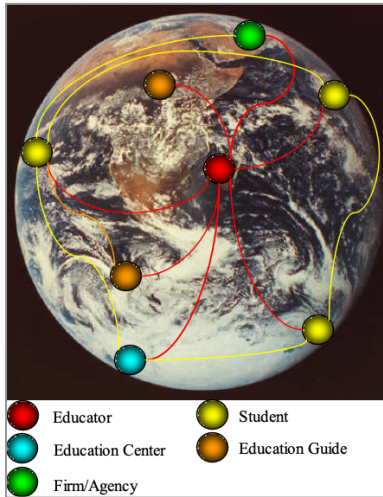
necessary. Colleges and businesses must do a better job in the future of helping students and employees identify what behaviors are required to be a successful online learner and to point students who lack these skills to other methods of instruction.

3.

GLOBAL PERSPECTIVE

Participants

The world economy is more closely synchronized and dynamic than at any time in the past. Global enterprises with national faces require a workforce that is diverse and tolerant of diversity. While nationalism is still strong in many countries, the momentum for economic improvement will force greater mobility into the workforce. For these and other reasons, the educational process must provide the exposure to different cultures and work practices. Our model aspires to offer this diversity by constructing our classes of participants from around the world. The depiction at the left shows graphically the basic theme of the model that we have designed.



In our experience the best way to nurture this experience is to create global teams that must work together to learn. In the confines of a course schedule this requires quick teambuilding, communication, cultural, theoretical and practical challenges to each student. In fact this mirrors the very nature of Project Management - rapid team building and motivation to undertake a unique project. The diversity and uncertainty of the model course will help prepare the Project Manager to be more agile in their thinking and more tolerant in their views. The richness of the experience will also offer synergies from the different ways that people do business and solve problems.

There are clearly challenges associated with language, time zones, copyrighted information, and technology in practice. We have found ways to work around most of these issues, and have seen a reduction in their effect as the technology has evolved and become more economical. The benefits to society are so large that these issues pale in comparison to the potential gains in quality of life.

4.

STANDARDS

Global Standards

Project Management standards are now well developed by the Project Management Institute (PMI) and by the International Project Management Association. Unlike measures and codes, it is fortunate that the standards for Project Management were established in the 20th century and so fewer practical options were created. Our model focuses on the need for international portability of expertise, and therefore on a single standard.

We have chosen the PMI standards as our benchmark, and we have designed our model with a view toward ultimate certification by each Project Manager as a Project Management Professional (PMP). To become a PMP a Project Manager must have experience and practical training that is demonstrated by the ability to pass an examination. Thus, in our model the course to assist with the preparation of the PMP exam would follow the internship, and the subsequent work experience requirement.

In the marketplace English is the accepted standard for business. One example is air traffic control where English is used to avoid confusion and misunderstandings. To take advantage of a model such as ours, there must be a single common language due to the global nature of the educators, speakers, firms, agencies, and of course participants. As is the case with all multi-national firms or agencies, a standard of communications is essential, and the default has become English.

5.

REFERENCES

- [1] The Economist, November 1, 2001, *The New Workforce (UNESCO, UNDP)*, and *Population Reference Bureau* www.prb.org.
- [2] Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK)*