



## President's Corner

Tariq S. Durrani  
 President, IEEE Engineering Management Society



Tariq Durrani,  
 President IEEE EMS

Dear  
 Colleagues

I write this column as I plan to travel to the next meeting of the EMS Board of Governors to be held in late July in con-

junction with the Society's flagship Conference \_ IEMC-2007 \_ the International Engineering Management Conference 2007 in Austin Texas from 29 July to 1 August.

The theme of the Conference is particularly timely: Managing Creativity - the rise of the Creative Class. Leslie Martinich and Walt Trybula have put together an exciting program, and are to be complemented for attracting a galaxy of key-note speakers that will explore the theme from a variety of perspectives ranging from creative approaches to managing large scale organizations to enlightened leadership that drives creativity and innovation. Besides keynote addresses, in inimitable Texan style, the Conference includes the New Stars Track, the Creative Class Track and the Reach for the Stars Track, each addressing a different aspect of creativity that involve "engineering management and economic development of technology-focused communities."

The Society leadership has taken advantage of the presence of large number of EMS aficionados present at the conference, to hold specific information sessions on the 'Transitioning to a Technology Management Council', where colleagues will give detailed presentations on the raison d'être for the Technology Management Council and the transition process toward achieving this; a Chapter Chairs Workshop where a number of Chapter chairs have come to Austin to exchange ideas and experiences and to learn at first hand the reinvigorated role of chapters associated with the new Council; and finally the GOLD Track on 'Making the transition from engineer to manager.

GOLD represents 'Graduates of the last Decade' and the topic of the Track is of immense value to GOLD members.

In mid-June the IEEE held the Board Series of meetings in Philadelphia, culminating in the elegant Honors Ceremony where the good and the great were recognized for their contributions to the profession. The theme of the Ceremony was the Franklin kite bringing together the interesting juxtaposition of the IEEE logo in the home town of Benjamin Franklin. The Medal of Honor winner was Tom Kailath, the legendary polymath from Stanford University, whose work has touched an enormous number of fields - control, computers, communications to signal processing, and in between he has spun out a number of successful companies. There were many other worthy recipients; I would mention a few -Irwin Jacobs and Andrew Viterbi who successfully transitioned their research on Code Division Multiple Access technologies into the multi-billion corporation Qualcomm Inc. They are amazing leaders whose innovative work spawned the cell phone industry. They were the recipient of the first ever joint IEEE/ Royal Society of Edinburgh Wolfson James Clerk Maxwell Medal. There is an interesting coincidence here. The Royal Society of Edinburgh is the national academy of sciences and letters in Scotland, which was established in 1783, and Benjamin Franklin was elected its first Honorary Fellow. It is also worth mentioning that our very own Luis Gandia received the IEEE Haradan Pratt Medal. Luis Gandia, a long-standing EMS volunteer was the General Chair for IEMC-1998 which was held in Puerto Rico.

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The Awards Ceremony was preceded by the meeting of the IEEE Technical Activities Board where the business of IEEE Societies and Councils is conducted. Here, in addition to the execution of routine business of approval for a publishing rates or changes in by laws, a highly perceptive and far reaching presentation was made by Mary Ward Callan the TAB Executive Director, who talked about the Grand Challenges that fall into the purview of the IEEE, and where IEEE members are taking an active role and contributing their expertise. The challenges cover Energy, Environment, Healthcare, Mega-cities, Disaster Recovery and Security. While the challenges associated with each area are interconnected, there are two that would be of specific interest to EMS members.

Solutions to the Grand Challenges require a paradigm shift in the approach that we take - changing the solution framework from being domain focused to issues/problem focused; changing the role of IEEE activities from information collection, dissemination and archiving to providing leadership in shaping/organizing the problem space, managing responses; collaboration, facilitation, and understanding solution coverage, leading to best practice products and not archival products. Aligning with industry, government and humanitarian groups; driving focused innovation; focusing on projects and being goal oriented. There is an exhortation that to resolve the grand challenges IEEE members should provide the needed coordination, leverage local groups - Chapters and Sections, better utilize existing volunteer talent, and complement resources with other technical talent.

There are new approaches to community building arising today. You Tube, MySpace, FaceBook, Second Life, the

Personal Bee, Zude are just a few examples. These are just some spaces where young engineers are playing. They offer interesting opportunities for IEEE societies to engage with the next generation, where mentors and youth can be linked in through social networking. As an instance, Second Life represents a 3-D Virtual world entirely built and owned by its residents. It was started in 2003, and has had an explosive growth with a current population of 7,893,240 people from all over the globe. The IEEE has bought a (virtual) island on the site, has started work on building a conference center, and is identifying members in space. There is a challenge here for IEEE societies to partner and make more effective use of the island. In other areas the IEEE Computer Society is experimenting with Podcasts of relevant society activities.

The IEEE staff has been working on building a methodology and a business model to engage in new ways to address the Grand Challenges. The methodology includes exploiting the Web environment through social networking, allowing for viral behavior, engaging a large volume of participants, offering flexibility for teaming, individual participation and private participation, establishing solution workshops for the sharing and assessing of ideas.

Another instance of working together is the IEEE partnering with the United Nations Foundation with the goals of bringing a more systematic approach to applying technology to help solve world problems; driving innovation in a directed way; identifying problem areas and viable goals; developing solutions based on areas of critical need that have a component of sustainability to ensure long-term management given the environmental, cultural and structural con-

ditions where they will be deployed.

The UN Foundation is a public charity created in 1998 with entrepreneur and philanthropist Ted Turner's historic \$1 billion gift to support UN causes and activities. The UN Foundation builds and implements public-private partnerships to address the world's most pressing problems, and broadens support for the UN through advocacy and public outreach. The IEEE and UNF have identified several areas of mutual interest. These include: available, affordable healthcare; environmental climate change; sustainable infrastructures; disaster first response management and recovery. The opportunities for the IEEE in partnering with the UN Foundation are seen as offering higher visibility, conducting work that will make a difference, driving innovation in humanitarian areas. Work has been initiated in the area with a drive towards creating challenges and framing the problems/solutions. The challenge to IEEE societies is to drive some trials and share outcomes and processes with each other.

In this context the key issues that are relevant to proponents of engineering and technology management are how to create an external view of technology areas that is timely, dynamic, and market driven while maintaining an internal view that allows effective functioning of activities; how to sustain the new technology and grand challenge activities that could be self sustaining; attendant issues are the need for expert identification, engagement of IEEE volunteers in mentoring via social networking tools, etc.

If you have an interest in participating in these projects, please write to me at: [t.durrani@ieee.org](mailto:t.durrani@ieee.org).

**With all best wishes  
Tariq S. Durrani**

# Call for Papers for IEMC-Europe 2008

The IEEE International Engineering Management Conference IEMC-Europe 2008

MANAGING ENGINEERING, TECHNOLOGY AND INNOVATION FOR GROWTH

June 28-30, 2008, Estoril, Portugal  
<http://iemceur08.tagus.ist.utl.pt/>

The IEEE Technology Management Council (formerly known as the Engineering Management Society) and the IEMC-Europe 2008 Conference Committee invite full paper contributions from researchers, educators, managers and students of engineering management on the theme Managing Engineering, Technology and Innovation for Growth. Contributions may be conceptual, theoretical or experimental. They should be the result of research activity, case studies or best practices, must shed light on the theory or practice of engineering, technology or innovation management and consider the strategic objective of economic growth. Topics include:

## 1. Decision Analysis

- 1.1 Decision Analysis with Multiple Criteria
- 1.2 Decision Analysis Tools for Risk Assessment, Management, and Communication
- 1.3 Decision Analysis for Public Decision-Making

## 2. Technological Change and Management of Innovation

- 2.1 Innovation and Productivity Growth
- 2.2 Technology-based Entrepreneurship
- 2.3 Managing Organisational Change
- 2.4 Technological Foresight

## 3. Operations and Supply Chain Management

- 3.1 Operations and Supply Chain Optimization
- 3.2 Environmental Issues and Sustainable Operations
- 3.3 Close Loop Supply Chains

## 4. Cross-functional Emerging Domains

- 4.1 Actor Networks and Collaborative Models
- 4.2 Organizational Learning and Knowledge Management
- 4.3 Education in Engineering Management

## Submission of Papers

Papers, in final form, should be written in English, have a maximum of five

pages and use the format prescribed in (<http://iemceur08.tagus.ist.utl.pt/TRANS-JOUR.doc>) TRANS-JOUR.doc. Each paper should mention the name and number of Topic and Sub-Topic within which it is submitted. Papers will be blind reviewed. Primary authors will have to sign an IEEE Copyright release and at least one author for any paper must register and participate in the conference. Papers that have been presented at the conference will appear in the IEEE Xplore database and edited in paper and CD proceedings.

## Important Dates

Papers submission deadline  
25th January 2008

Notification of acceptance  
28th April 2008

Early registration deadline  
8th May 2008

Normal registration deadline  
23rd May 2008

Conference dates  
28-30th June 2008

# The Effective Engineering Manager

Leslie Martinich

Effective engineering managers understand three things very well. They understand themselves, their relationships, and their organizations. In this article, we'll address the first three things you need to understand about yourself in order to be effective.

To understand yourself, you need to understand at least seven things.

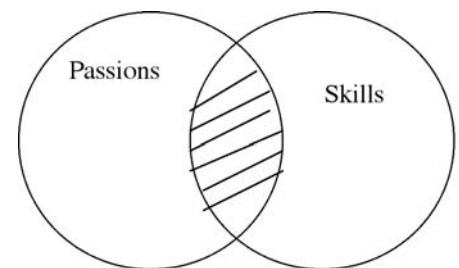
1. What are your strengths?
2. What are you supposed to contribute?
3. How do you best perform?
4. How do you best learn?
5. How do you best communicate?

6. How do you solve problems?
7. How do you plan?

1. Your strengths are a combination of your passions and your skills. What is it that you love to do? Do you love to solve problems? Do you love to figure out a way to communicate with others who use a different set of paradigms? Do you enjoy visualizing the future? Do you enjoy starting projects? Do you enjoy finishing projects?

Now ask yourself, what are your skills? Are you an expert in human-computer interfaces? Do you have expertise in project planning and using tools to

break down the project into parts. Are you skilled in estimating the task durations accurately? Are you fluent in several languages?



The area of overlap is the area where you will find your strengths.

Many of the strengths will not be related to your work. Completing the diagram with a third circle, representing your organizations goals, will show you where to find the golden triangle for you in your career.

2. What are you supposed to contribute? In order to figure this out, consider who your customers are. They may be internal or external. Perhaps your customer is the person who sits down the hall from you. Or perhaps your customer is a user located on another continent. Perhaps your customer is your manager!

Then ask yourself, what does my customer need? Does she need the project to be completed by a particular date? (Schedule need.) Does she need a certain level of quality? (Quality need.) Does she need particular features? (Feature need.) Or does she need an

improvement in efficiency of production? (Financial need.)

Consider who is your customer, what they need, what results have to be achieved in order to make a difference, and your particular strengths. Now you are ready to see what you should contribute.

3. What are the conditions for your peak performance? Different people perform better under different circumstances. Some people prefer to work alone, others in groups. Some people perform best with very clear expectations, schedules and defined tasks. Others perform best in flexible organizations where plans and expectations change quickly. Those people are skilled adapters and leaders of organizational change.

Consider a time that you would call your “peak performance.” What were

the conditions? Was it something in which you participated as a team member or as a single performer, such as an individual sport like swimming. How did you solve problems? How did you learn what you needed to learn in order to be effective?

With this, you can figure out how you can be the best at what you do, and how you can differentiate yourself.

In future articles, I’ll discuss different learning approaches, communication styles, and problem solving approaches. I will also discuss different planning approaches.

And finally, I’ll wrap it up with discussions of your relationships and understanding your organization.

Write to me if you have questions! My email is [lmartinich@ieee.org](mailto:lmartinich@ieee.org).

## Supporting New Managers

*Sue Dorward*

In June, I had the privilege of coaching and presenting at an executive education program sponsored by the Society for Women Engineers (SWE) and Smith College Executive Education for Women. **From Specialist to Strategist: Business Excellence for Women in Science, Technology and Engineering** is a management development program for women four to ten years into their careers who are poised to assume first-line management positions or higher levels of leadership. This annual program is just three years old, fills up early, and has grown each year. This year there were 75 participants from around the world, hailing from such blue chip companies as IBM, Kimberly-Clark, and Rockwell Automation.

This year the program included a new, highly integrated coaching component. A team of five coaches ensured that all participants could have a coaching session if desired. About a third of the participants indicated that their companies offer them coaching and

mentoring, which I found very encouraging. Companies are starting to understand the value of coaching their junior leaders, not just the executives, especially as baby-boomer managers look forward to retirement and need to groom qualified successors.

### Challenges

I coached 15 of the program’s participants for 30 minutes each. These women impressed me with their competence, desire to succeed, and company loyalty. Not surprisingly, however, I noticed that they shared common challenges. Some of the women felt isolated, with no support in addressing their most difficult management challenges. They had no mentors or coaches and did not feel comfortable turning to their managers for help (due to not having a solid relationship with their managers, not wanting to reveal the challenges to their managers, or the managers’ time constraints).

Another common theme was dealing

with a difficult person in the workplace. A former peer may have sour grapes about the participant’s promotion to management, sometimes due to the peer valuing technical skills over soft skills and not understanding that soft skills are necessary for successful management and leadership. A subordinate may be generally difficult to manage, a challenge for any new manager. Or a coworker may constantly challenge new ideas, making a new manager feel threatened, defensive, or insecure. The participants found these situations quite stressful and expended a lot of mental energy trying to figure out how to deal with these people.

### Support

What can we do to support these new managers? Make sure that any new manager has one or two people to whom they can turn for effective, timely support. Also, help them anticipate whom among their co-workers may be difficult to deal with in their new role, and provide suggestions and

resources for dealing with these people successfully. Laying some groundwork with such people as well as the new managers up front can make a positive difference in the new managers' confidence, attitude, and overall success.

### Advice

You may recall that in the last EMS newsletter I introduced a new "the best advice we ever took" initiative, an effort to help support junior engineers and managers by passing down words of wisdom from those with more experience. At the Specialist to Strategist program, I gave a presentation on courageous leadership. At the end, I explained my best advice initiative, distributed note cards, and asked the participants to write down the best advice that they ever took. I wanted to see

what advice they had to pass on, but also to get a better understanding of what advice they themselves found to be the most valuable. In some cases, their advice helps us understand what they have found useful in addressing the challenges that they have had to face so far, and in other cases it highlights how limited the advice is that they have to draw on at this important time in their careers.

I am working on a separate article that will include some of their responses, but I would like to share here the advice provided anonymously by some of the participants:

1. You need someone to take over your job before you can move up. Don't feel good when you are needed.
2. When giving presentations, remember,

you are the expert.

3. You need to learn how to change light bulbs, hammer, etc. You can do anything a guy can do.
4. Learn to play golf. Decisions are made on the golf course.
5. Remember, it can always get worse!

Did the advice make you smile but, at the same time, give you a sinking feeling that we need to do more to help junior managers? Don't you just want to reach out and give them a helping hand? What advice do you have for new managers? Please email me with your advice for them!

*Sue Dorward is a tech management coach who coaches high-potential employees. She is based in New Jersey and can be reached at [sue@sudocoaching.com](mailto:sue@sudocoaching.com). For more information, visit [sudocoaching.com](http://sudocoaching.com).*

## IEEE Transactions on Engineering Management Appoints New Department Editor

Paul E. Bierly III is the new editor of the Technology and Innovation Management Department, succeeding Fariborz Damanpour, who has asked to step down as the department editor. During the transition Professor Damanpour will continue to process the papers already under review, and Professor Bierly will conduct the reviews of new submissions.

Paul E. Bierly III is the Zane Showker Professor of Entrepreneurship and Director of the Center for Entrepreneurship at James Madison University.

His degrees include: the B.S. degree, Wharton School, B.A.S. degree, Engineering School, University of Pennsylvania, 1983; M.B.A. and Ph.D., Rutgers University, 1995. His primary research areas are management of technology, innovation, knowledge management and strategic alliances. He has published over 30 articles in Strategic Management Journal, Academy of Management Executive, Journal of Management, IEEE Transactions on Engineering Management, Journal of Engineering and Technology Management, R&D Management, Journal of

Organizational Change Management, and numerous other management journals and books. He was recently on the Executive Committee of the Academy of Management, Technology and Innovation Management Division, and on the Editorial Board of IEEE Transactions on Engineering Management and International Journal of Learning and Intellectual Capital. Previously, he was an Officer on a fast-attack nuclear submarine in the U.S. Navy's Nuclear Power Program, a manager at Johnson & Johnson, and a consultant for Princeton Economic Research, Inc.

## Special Issue of IEEE Transactions on Engineering Management on Managing Innovation in Emerging Economies

Submissions are welcomed for the Special Issue of IEEE Transactions on Engineering Management on Managing Innovation in Emerging Economies, edited by Clayton Christensen (Harvard), and Chang-Chieh Hang and

Kah-Hin Chai (National University of Singapore). The deadline for submission is March 31, 2008. The full Call for Papers appears in the last EMS Newsletter and recent issues of IEEE Transactions on Engineering Management.

Contact: [tem-special@ieee.org](mailto:tem-special@ieee.org) or [iseckh@nus.edu.sg](mailto:iseckh@nus.edu.sg)

This special issue will focus on the management of innovation in emerging economies with widespread impact such

as Brazil, China, India, and Russia. This is a timely effort, since emerging economies are increasingly an important driving force in the world economy. In line with a recent report by The Economist (Sep 16, 2006), we define emerging economies as countries that were not OECD members prior to 1994, regardless of their current status. Because of the vast differences in education, political, economic, and geographical factors, the challenges faced by technology managers and entrepre-

neurs in these markets are numerous and multi-faceted. The emphasis of this special issue is on the management of innovation, engineering, and technology at the firm level rather than macroeconomic national policy-level.

We seek both research and practice articles which will enhance our understanding of the topic. Research articles are empirical or conceptual papers that present the results of research, new the-

ories which integrate existing literature, or state-of-the-art models in the relevant areas. Practice papers describe significant application issues, innovative case studies or actual implementations of existing concepts or methodology. These papers describe complex real-life situations requiring innovative solutions. They use rigor in their arguments, build upon appropriate literature, and reach conclusions that will have an impact on research and practice.

## Chapter News

### IEEE Engineering Management Society (EMS) 2007 Chapter Chairs Workshop July 29, 2007 Austin, Texas, USA

*Liang Downey, Workshop Coordinator*

The EMS 2007 Chapter Chairs Workshop took place in Austin at the beautiful Lost Pines Hyatt hotel on July 29 2007. Thirteen chapter-chairs or designates across the globe from North America, South America, Central Europe and Asia attended the workshop.

The purpose of this workshop was to facilitate the EMS leadership team to inform and discuss with chapter chairs an important change for EMS - the transition from a technical Society into a Council in 2008. In addition, the workshop intent was to provide chapter chairs an opportunity to share and learn from each other best practices.

Tariq Durrani, the President of EMS welcomed everyone and gave opening remarks. Celia Desmond, VP of EMS Membership Development, followed up with an overview of IEEE organizational structure. Mark Ciechanowski from Michigan, Antonio Bastos from Bahia Brazil, Anthony Lobo from Bombay India, George Glatz from Austria and Bob Bishop from Austin Texas each gave a presentation on his chapters' activities and shared good lessons learned. Chairs



*Left to Right: Mark Ciechanowski, Anthony Lobo, Antonio Bastos, Charles Rubenstein, Celia Desmond, Liang Downey, Sedofia Gedzah, Nick Nonis, Osvaldo Perez, Georg Glatz, Ozeas Filho, Bob Bishop and Gus Gaynor*

and representatives from the Twin City, New York, Philadelphia, Argentina and South Brazil also spoke briefly about their sections and plans for the future.

Gus Gaynor explained the history of the "transition", the formation of a "Transition Committee" as well as tasks the committee will carry out from now until the end of the year. Irv Engelson, past EMS president, provided additional details on the transition operations. Many questions were raised and answered during Irv's presentation.

Here are a few key take-away points:

1. "Engineering Management" focuses on developing soft skills for engineers in areas of leadership, project management, teamwork and human communications. These skills are critical to every engineer, regardless of his or her position, to achieve career success;
2. Today's product is being researched in one location, developed in a 2nd place, manufactured at a 3rd site and served yet in the 4th location around the world. As we are stepping into the 21st century, as the world becom-

ing increasingly global, success in an engineer's career is dependent largely on whether he or she is capable of adopting to change, working in harmony with fellow teammates, not only performing one's work well but also motivating others;

3. The "transition" allows the "engineering management" practice to reach out to a larger IEEE audience therefore brings additional value to members in many technical societies;
4. Just like every company, organization and individual must constantly reinvent oneself to stay efficient and competitive, so does the Engineering

Management Society. The "transition" felt like a natural and organic change for the EMS to grow in the future.

Charles Rubinstein, VP of Conferences for EMS, shared with the chapter chairs the EMS conference plans for 2008 and beyond. Chairs learned a great deal of how to run IEEE conference successfully. Lou Luceri who is on the EMS BOG, explained to the audience how finance works inside EMS and what funding chapter chairs can leverage to run meetings. Sam Ghosh spoke about his experience in applying engineering management principles to run his Chapter. The workshop wrapped up toward the end of the day with Celia discussing ideas

and proposals to help grow 2007 EMS membership and 2008 subscribers.

Since the workshop took place in conjunction with the BOG meeting and IEMC 2007 conference, chapter chairs had the opportunity to meet with BOG members and IEMC conference contributors such as Joel Snyder, a Past President of IEEE and Leslie Martinich, the organizer of the 2007 IEMC and VP Publications for EMS. I attended the event as a coordinator, working with Celia Desmond and Leslie Martinich for the past five months, I am very pleased that the workshop turned out to be a valuable forum. Thanks everyone to help make this event a great success.

## Central Europe Chapter

*Harald Ackerlauer*

The general assembly, and thus the major event of our chapter, was focused on the topic "Management Challenges in Globally Networked Organizations" and took place in Vienna on June 11th. In his keynote speech Assoc. Prof. Michael Heiss, Head Knowledge/Innovation/Technology of Siemens IT Solutions and Services (SIS) and Vice Chair of the Central Europe Chapter, gave an insight into the working paper "Impact of knowledge networking and organizational learning on the performance of organizations." The points presented were then discussed

in more detail with the guest of honor, DDr. Udo Scheiblauer, former head of the software company SIS PSE. The thoughts and feedback of the 40 participants collected in this discussion were integrated in the paper, making it the first collaboratively created paper of the EMS Central Europe Chapter.

Furthermore the updated homepage of the chapter was presented (<http://www.ihrt.tuwien.ac.at/ieee-ems/>) and the new officers were elected:

Chairman: Dr. Bernd Kopacek, Austrian Society for Systems Engineering

and Automation, Managing Director  
Vice Chairman: Assoc. Prof. Dr. Michael Heiss, Siemens IT Solutions and Services, Head Knowledge/Innovation/Technology

Treasurer: Mag. Bruno Wöran, MBA, DANUBE, Managing Director  
Secretary: Mag. Harald Ackerlauer, Siemens Austria

The next event will take place in Linz, Austria, on October 16th, 6pm. This time it will be hosted at the highly successful steel processing group voestalpine and will focus on engineering management in the steel industry.

## Dallas Chapter

*Bob Bishop*

We met June 15, 2007, to discuss emerging issues in engineering management. Peter Elbow's Freewrite Process was used to get people to Freewrite their favorite subjects. A series of wide ranging discussions followed, leading to plans for future meetings at 1130 AM, at the Holiday Inn Express, Richardson, one half mile Southwest of Campbell Road.

On Friday, September 14, 2007 Carey Ritchey will speak on Immigration,

H1B Visas, what's actually happening, the realities and the myths.

On Friday, October 12, 2007 Bryan McNeill will speak on Solar Issues, high efficiency mass produced panels to raise efficiency way above the current 25%. Real simple solutions loom on the horizon, with 15 year Return-On-Investment. The role of Hybrid Vehicles in this scenario.

On Friday, November 9, 2007 Steve McCluer will speak on Virtualization, the

need for our infrastructure to keep up with technology, can we really live with Moore's Law?, the role of Future Shock where the pace of change keeps accelerating, leading to unintended consequences.

Many of us in the Dallas area are planning on attending IEMC '07 in Austin, TX, July 29 to August 1, to get more insight into engineering management, to find fresh relevant examples, and to learn about the new Technology Management Council, which starts January 1, 2008.

## EMS and the IEEE Communications Society

Celia Desmond, EMS Vice President

In June this year IEEE Communications Society held their flagship conference, International Conference on Communications (ICC) in Glasgow Scotland. EMS had a booth in the exhibit area. The conference attracted over 1000 registrants, and most of these did come by to see the EMS booth. Many people picked up copies of the EMS publications and some expressed interest in the management topics.

Celia Desmond, EMS Vice President -

Membership arranged and set up the booth. Since Celia was also involved in meetings at the conference, she was unable to man the booth most of the time. She arranged to share the booth with Region 8, and Region 8 provided some very active volunteers to man the booth, Thanks to Professor Yang Yang of University College London for helping with the booth, and to the students who covered the booth most of the time. Students included: John Wallace from University of Glasgow,

who covered the booth very vibrantly for most of the 3 days, Selen Toplu (University of York), Ferhan Ozkan (METU, Ankara) and Aminu Mohammed (University of Glasgow) Their active style pulled many people into the booth where they heard about IEEE, EMS, Region 8 and the IEEE program to link students to industry.

The next location for the booth will be the EMS IEMC conference in Austin Texas July 29-August 1.

## IEEE EMS Workshop on "Telecom Project and Quality Management"

The 2nd IEEE EMS workshop on "Telecom Project and Quality Management" took place in one of the most perfect surroundings – in Cologne's media tower, looking down on the city and Cologne's cathedral in full sunshine. The media tower is not made of ivory though – while the venue was a chance to take a step back from everyday tasks in project management, practical issues prevailed during presentations and conversations.

### Methodologies and Applications

*We tend to take our project management environment for given together with our practical improvements we have worked into this environment over the years. How do others proceed?*

Klaus-Dieter Heerklotz gave an overview on project models before focussing on the V Model XT (eXtreme Tailoring), an adaptable re-issue of the original V Model framework for project definition. Company and project specific customizations of the V Model XT approach shall minimize the amount of milestones and documents needed to ensure required quality levels throughout the project. The V model XT comes with mappings to the common development methodologies (examples were given for waterfall and agile development) and

with tools to perform the tailoring. The V Model XT is the approach of choice for public development projects in Germany and is particularly strong on buyer-vendor interaction in projects. Thus it is worth considering for system integrators, as well as for vendors and operators serving both private and public customers.

*The telecom business was quite static for its first 100 years. There was time to standardize and to deliver well-defined products. Now revenues in the traditional voice services dwindle and operators are frantically searching for the next killer application. How to manage projects when it is hard to define the market, let alone features?*

Christian Legl described the application of the Agile Development Process for a Policy Decision Server, a new product for admission to applications in 3 different access networks (2/3G mobile, cable networks and xDSL). Standards in these markets are still rapidly evolving and have rendered an initial approach with a traditional development flow useless. Operators are still in the process of gaining experience with these new elements and frequently conduct friendly user trials, followed by modifications in their requirements. Since the project is developed in 4 locations (India, Croatia, China and Germany), there are 4

scrum teams (agile development teams) taking over responsibility for a list of features in each iteration of the process.

The approach has borne fruit, eg. by US Cable Network Certification just a few weeks after the certification standards were changed on short notice. Christian pointed out the high importance of a working and highly automated development and test environment in the Agile Process. Even integration tests with access networks and application servers are conducted daily in automated test cases.

*Methodologies are necessary, but what happens when all contributors in a company know their role too well to look beyond their responsibility at the customer's experience?*

Bernd Kayser described his experiences in securing customer focus in a highly departmentalized organisation: Processes are well defined and each department has its place in processes, but there is no single point of responsibility for the end customer view on delivered services and bills. Individual organizations' targets were not linked to customer satisfaction, resulting in overly complex service offerings which were never groomed. Bertram developed a framework to capture and increase customer satisfaction about services.

## Human Factors

*When do we need projects? Well, when we can't just pack something into a box and send it over to the customers. That is, when the customer needs an individual solution in some or all respects. With individual solutions come individuals, and with them, the joys and sorrows of project management.*

From a background of 40 years of project management experience, Mahmud Wasfi gave examples about technical solutions, incentives and role model behaviour of the project manager. With occasional bold incentives and taking part in the lives of his project members (e.g. taking time to visit the funeral of a worker's father in a place away from the project site), Mahmud and his teams could turn critical projects around.

*Individuals wouldn't be as much of a problem if you could just swap the content of their heads. Do we have a silver bullet for that? Is the answer "42"? Or "Web2.0"?*

Peter Snowdon presented communities of practice as a means to transfer

knowledge and to foster change initiative in a multinational operator with central functions and local operating companies.

Web2.0 collaboration technology was used, but changes were made to adapt this to a company application:

- Bottom-up proposals had to be aligned to top-down goals to which senior management funding and support was directed.
- Qualitative ideas about improvement had to be transformed into measurable goals.
- Defined work packages had to be assigned to specific teams and persons.

The transparency of the initiatives and contributions led to peer and management recognition increased the motivation of the teams and yielded quantified results.

*Of course I'm hard-working, creative and a team player. Plus I know my project management tools. But what if there is an evil force that does not want my project to succeed?*

Guido Reuter whetted our appetite for more project management training with a short introduction into stakeholder management. This discipline helps the project manager to find out about motivations of players in the project, whether they play an active or a passive role to further or hinder the project, and whether they have enough power to pose a risk or to give a risk to the project. The formal view on these issues helps to focus away from emotions on actions for project success.

Presentations from this workshop are available on [http://www.is.rub.de/frames/ems-workshop\\_frame.htm](http://www.is.rub.de/frames/ems-workshop_frame.htm).

As the venue met with very positive feedback from the participants, chances are there will be a 3rd workshop next year. This year, one prospective participant was not allowed to submit his paper – his boss said: "If you have time for that it means you do not work hard enough on our projects." Please tell your boss its well worth to take an afternoon off the project to think, listen and discuss.

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For all other issues related to the conference, please contact Ms. Lan Hua at 86-451-86402178

# Aspects of Adventure Experiential Wilderness Education

Terrance Malkinson

*Adventure isn't hanging on a rope on the side of a mountain.  
Adventure is an attitude that we must apply to the day-to-day obstacles of life  
– facing new challenges, seizing new opportunities, testing our resources  
against the unknown and, in the process, discovering our own unique potential.  
- John Amatt, 1995*

## Introduction

As a manager; good judgement, compassion, respect for others, quick-thinking, courage, boldness, commitment to excellence, and a deep understanding of human nature is essential for career success. It is well known that leadership, effective interpersonal relationships, creativity, and innovation are enhanced through personal self-confidence.

There is a rising popularity of pursuits that include elements of challenge, thrill, adventure and perceived danger. A growing number of adults have the time, health, and discretionary income to participate in these types of experiences. Many individuals particularly those who are middle-aged are re-examining their life and embracing a more active and balanced approach, getting in touch with their core values and basic beliefs, exploring their spirituality, building ethical wisdom, enjoying the moment, and extending themselves to achieve their own personal Everest's.

Some, upon introspection, are having the epiphany that winning at work may mean losing at life. The relationship between employer and employee has changed considerably over the past decade and self-actualization is now often more valued than organizational loyalty. Globalization, finite resources and the necessity of environmental sustainability means that the world community in general and the business community specifically must attain an awareness of the importance of establishing new relationships with the natural environment and learning from the aboriginal and ancient cultures. There is a spiritual satisfaction in the reward emanating from physically and emotionally challenging experiences. Some are in search for their true self. There is the personal growth, the camaraderie and the lifelong friendships built during the program.



Today there are a variety of providers of adventure experiential education. For myself I choose to participate in an Outward Bound program when I was 50 and it had an incredible impact on my life. The most difficult part was having the courage to mail the registration \_ in reality it took several years before the envelope went into the mailbox. Subsequently, I have participated in many other experiential education

programs and fully intend to continue doing so well into the future.

Outward Bound has a long proven record of success of providing safe adventure wilderness experiences in all regions and environments of the world as a valuable and unique development method for everyone – young to old, men and women, formally educated or not, healthy or physically or mentally handicapped. Many corporations utilize such growth experiences for developing the skills of their staff particularly with regard to self-awareness, risk-taking, communication skills, analyzing problems, team-building, and leadership. Special professional development programs have been created. This is particularly so because of the integrity, courage, stamina and energy required to fulfill demanding responsibilities in today's complex, diverse, and multi-cultural business environment. An important component of many of these programs is a period of voluntary community service.

Learning expeditions form the cornerstone of wilderness experiential adventure programming. Skills and attributes of leadership and teamwork are developed and experienced on expeditions with a small group of ten or so individuals accompanied by skilled instructors. These range in length from 3 days to 3 weeks and longer. Generating a common vision, establishing direction, communicating with others, making decisions, and solving problems all become important as participants travel in the mountains, lakes, rivers, and trails of the wilderness.

The following are typical of adult oriented programs offered by experiential education providers.

- Team Expeditions
- Team Leadership
- Team Development Workshop
- Life Career Renewal programs
- Executive Development Programs
- Women's only programs (challenge, empowerment, life renewal)
- Aboriginal programs
- Healing and Recovery programs
- Semester programs

In addition to those advertised to the public courses can often be contracted by an organization and tailored to their specific organizational needs. Business sees the experience as



a developer of maturity, teamwork, leadership, confidence, the will to succeed, and promotion of excellence. These are traits that are difficult to learn using traditional educational methods. Challenges are presented in such a way that the recipient sees meaning and purpose in that which is to be learned — and what is learned is often not in any text book or offered in any walled classroom.

When choosing an experiential education provider take the time to investigate their operation. How long have they been in business? What are the qualifications and experience of the instructors? Do they have an independent program and safety review policy and procedure? What are their emergency procedures? What do their alumni say? Is their equipment up-to-date, regularly inspected, and well maintained? Do they have industry support? Is there an independent board of governors and do these individuals have an expertise in providing wilderness experiential education? What is their record of injuries?

### Our Life Journey

One in every three people in our society is a middle-aged “baby boomer.” Due to better socioeconomic conditions, nutrition, and medicine their quality of life in terms of health, energy, vitality and physical and mental function is excellent. These birth cohorts have collectively shared unique experiences. They have a diverse background of training and life experiences which have shaped their attitudes and behaviors. These individuals may in many cases be informal or formal community and business leaders and people of influence with the government and business policy and decision-makers. They also may have a role in increasing global understanding among the people of the world and making it a better and more peaceful place in a way congruent with the values and philosophy of the natural world.

Many adults are embracing a more active lifestyle and there is a considerable body of knowledge supporting the direct exercise-longevity relationship. Recreational or competitive sports/adventure tourism is a growing industry. The Adventure Travel Society reports that this sector is growing at an annual rate of 10–15%. A common motivation is escape from the increasingly programmed urban environment to an extraordinary wild place of perceived risk adventure.

As we journey through life we go through passages; periods of time of predictable specific growth and activity. Most of us in the developed world proceed through the following age group passages:

- 18–22 Leaving Home: Defining self-identity and establishing new living arrangements as an autonomous person. Exploring career options. Establishing peer alliances.
- 23–28 Transitioning into the Adult World: Launched as an

adult, establishing a home, marriage and having children, living and building for the future. Finding a mentor. Clarifying values.

- 29–35 Searching for Stability: Setting long-range goals while at the same time re-examining life structure and present commitments. Career growth, learning advanced job skills. Searching for personal values. Developing emotional flexibility.
- 36–43 Becoming One’s Own Person: Reassessing personal priorities and values, confronting aging and personal mortality. Separation from mentors. Learning new recreational skills. Taking more social responsibility.
- 44–56 Settling Down: Increased sense of self-awareness and competence, re-examining the fit between life structure and self. Career peaks. Becomes a mentor. Active participation in community events. Adjusting to decreasing strength/endurance. Broadening cultural interests.
- 57–64 Mellowing of Feelings and Relationships: Acceptance and adjustment to the aging process, possible health problems, death of friends, preparing for retirement.
- 65– + Life Review: Major shift in routines with retirement, finding new ways to be useful. Acceptance of own morality.

### The Adult Learner

Adventure experiential wilderness education is not just for the young. Instructors and program designers are aware of the psychological and physiological issues unique to adults in order to be effective in their program design and facilitation of their programs.

Adult learners bring with them an abundance and variety of experiences. They have achieved substantial accomplishments and want to be shown respect for these achievements. They are in the program because they want to be there. They are highly motivated, willing to invest the time, and willing to take a risk. They may have family responsibilities and therefore may have feelings of guilt about taking this time for themselves. Trust and sharing of experiences and knowledge is important.

Adults are not captive learners; rather they are partners in the learning experience and are participating by choice. They are eager and willing to participate fully. An adult’s time perspective is different from younger people. As we get older time becomes less expendable, more limited, and more important.

The educational interests of adults tend to reflect vocational concerns, personal and practical needs of everyday living, and an orientation to learning for action. They learn



best when the experiences are focused on their needs, life role, and personal interests. Without relevance and transferable learning there is little likelihood that the experiential learning experience will be successful. It is likely that they have experienced a public educational system that provided education in a much different teaching style than is now used.

They learn best when they have some sense of where they are going. Objectives and goals must be clear and specific. They expect their skills, talents, and life experiences to be utilized. Because of pride they may be reluctant to admit that they do not understand something. They are not interested in meeting standards and objectives set for them by others.

Adult learners are likely to be more rigid in their thinking and may be reluctant to adopt new ways of doing things. They may require a longer time to master learning tasks. They learn best when they can set their own pace. They may have positive or negative preconceptions about interacting in a group based on previous experience.

Adults learn best when they can set their own pace for learning and when time pressures are kept to a minimum. They are attending because they want to be there, not necessarily because they want to prove something.

To learn, an adult must be emotionally comfortable with the learning situation. Adults are more attuned to comfortable surroundings and are more sensitive to discomfort. Learning is facilitated when learning activities support opportunities to organize, understand, and inte-



grate new knowledge into existing knowledge. Participant diversity is one of the greatest assets of a multigenerational group. Before you can use it instructors and students must make the effort to get to know each other.

### Instruction/facilitation of Adult Learners

In 1938 John Dewey described the responsibilities of the teacher:

*The teacher must survey the capabilities and needs of the particular set of individuals with whom they are dealing and must at the same time arrange the conditions which provide the subject matter or content for experiences that satisfy these needs and develop these capacities. The planning must be flexible enough to permit free play for individuality of experience and yet firm enough to give direction toward continuous development of power.*

### Essential Qualities of a Learning Facilitator

- Establishes and maintains supportive relationships
- Nurtures natural curiosity, creativity, and a desire to grow
- Helps set realistic, yet challenging goals
- Monitors and intervenes when optimal learning is not occurring
- Assists the learner in participating effectively
- Provides constructive feedback
- Varies the teaching method
- Ensures that the learning process is dynamic, interactive and cooperative
- Derives personal satisfaction from the accomplishments of the learner

The role of a facilitator as an educator is not to directly control, or impose their ideas but rather to help learners achieve their goals. Adult learners generally prefer to structure their learning with activities that are congruent with their learning styles and learning objectives. Every person and organization has its own culture, needs, and training objectives. Wilderness experiential multigenerational programming

is customized taking into account:

- Learning objectives
- Time and financial investment
- Location and travel time
- Level of physical fitness
- Time to practice the skills
- Problem solving orientation

### Expected Learning Outcomes

- Enhanced leadership effectiveness
- Creating and maintaining high performing teams
- Successfully navigating the change processes
- Renewal and re-energization
- Promotion of risk-taking, creativity, and innovation
- Promoting greater social and environmental responsibility
- Building effective interpersonal relationships and alliances
- Clarifying personal values and directions
- Coping with stress and ambiguity
- Finding community and commonality
- Effective handling of conflict
- Influencing others
- Valuing diversity
- Training and coaching others
- Accepting responsibility
- Empathy for others
- Increased knowledge and growing curiosity
- Becoming a better citizen
- Furthering spiritual well-being
- Meeting new people and achieving a sense of belonging
- Escaping from routine and get away from personal problems

### Summary of Experiential Education Instructional Guidelines

- Learning partners in the team may be of different ages and the instructors and participants must be sensitive to this. Aging is a complex process governed by many variables including genetics, lifestyle, disease, and motivation all of which interact with one another and influence the different rates at which we age, determine our capabilities as we age, and influence how we react to the inevitability of

our approaching personal mortality.

- Participants will bring a diversity of experience, skills, and physical capabilities to the learning experience. They are mature adults who see the experience as an opportunity for self-actualization. They are willing to make the investment and take the risk to participate in a real adventure. They may also have the courage to say “no” – declining to participate in a specific challenge. They may be searching for high sensation, and the “endorphin-high” resulting, as they recognize that they do not have too many years left where they will be capable of such a physically demanding program.
- Participants desire to transfer the learning of technical aspects of outdoor skills to future leisure activities. For others this may be the only time in their life when they are engaged in these types of activities. They desire success-oriented activities that reduce the fear of failure and avoid the chance of being made to look foolish. They prefer to have the opportunity for choice in selecting their learning experiences and do not wish to be continuously under time pressures. They do not want a continuation of what they experience every-day at work.
- Participants see this as an opportunity to meet new people and as a result socialization is of importance. They are willing to share their experiences and skills with others including the instructors. They desire a climate of mutual respect, collaboration, supportiveness, mutual trust, active inquiry, and openness.
- Participants need to understand the objectives of each learning experience and the expected outcomes. They are used to scheduling their time. They require consistent, supportive and helpful feedback on their performance. Initially, course leader-

ship is autocratic by necessity and then evolves to democratic which will flow in time into situational and abdicratic where the instructors turn over the leadership to the group itself and become "shadows". At this stage the group should be adequately competent within the boundaries of "controlled" situations and will benefit from the challenge of applying their new knowledge and abilities to uncertain situations requiring analysis, problem solving, and good judgement.

- Participants want to follow a process such as determining the desired outcome, developing an incremental plan to reach the outcome, determine when the task is to finish, and finally evaluate how things went and lessons learned.
- Peak physical performance exhibits a parabolic relationship with maximum capabilities occurring during the second or third decades of life and then declining slowly as the body ages. Middle-aged course participants are on the initial falling edge of this parabolic relationship meaning that they still have considerable strength, endurance, and flexibility abilities enabling full participation in course activities.
- Comprehensive physical preparation guidelines should be given to registrants upon their acceptance into the program. Due diligence should be taken with individuals who register within a month of course commencement to assure their physical preparedness. Course preparation should include strength, aerobic, and flexibility components.
- Muscular Strength: Resistance training should be progressive, individualized and provide a stimulus to all muscle groups. To gain muscular strength training must be within the range of 60-100% of the one maximal repetition. Anything lower will

not result in an adequate training stimulus. Three sets of 8-10 repetitions of each movement – 2-3 sessions per week is necessary.

- Cardio-respiratory/Endurance Fitness: An increase in VO2 max requires a training program of running, cycling and swimming, or any other aerobic in nature activity. It is important to achieving a heart rate of at least 50% between the anaerobic threshold and VO2 max. 2-3 sessions per week for a minimum of 30 minutes is necessary.
- Flexibility Fitness: If done properly, stretching increases flexibility and this translates into reduced risk of injury. Should be performed a minimum of 2-3 days/week. Include both static and dynamic stretches involving all muscle groups moving from an easy stretch where you feel a mild tension to a controlled developmental stretch, avoiding the stretch reflex. Stretching exercises increase tendon flexibility through mechano-receptor mediated reflex inhibition and viscoelastic strain.

The growth of fitness centers and improvement in exercise equipment facilitates increased awareness and ability to achieve wellness by anyone at any age. Well-trained kinesiology graduates, and physicians specializing in exercise medicine means that the most effective and scientifically based training programs can be designed for anyone who has the motivation to improve their health.

## Conclusion

Kurt Hahn the founder of Outward Bound was as we know was a key figure in the development of experiential education. Born in 1886 the key concepts of his educational philosophy are educating people for life by providing opportunities for:

- Personal development through challenge and adventure



- Establishing self-worth through craftsmanship and mastery
- Showing compassion through skillful and caring service to others
- Developing international understanding through personal interaction

There are many other providers of adventure experiential education. Participation not only has value for personal development as a young person but also is a valuable and unique professional development method for adults of all ages. This is particularly important today because of the stamina and energy required to fulfill demanding work responsibilities. It is also important to give you the courage to maintain the highest standards of business ethics and integrity.

For some there is an inner desire that drives us to our limits \_ limits that need to be explored and pushed forward. Motivation is energy and the sense of self-directedness is one of the most powerful sources of energy available. Through personal internalized motivation you will gain the stamina to persevere, endure discomfort and to make sacrifices with your time and energy as you move closer to your goals.

When an engineering manager can overcome fear, agony, discomfort, and conquer a wilderness experiential learning crisis situation he or she is better equipped to successfully conquer work challenges.

Not a day goes by when I do not think of, and apply the learnings \_ the experiences transformed me into a better person. No one should settle for less than an extraordinary life.

I have never regretted mailing in my application \_ perhaps the only regret is that it took so long to do so.

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Printed in the U.S.A.

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Periodicals postage paid at New York, NY and at additional mailing offices.

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