



# What's in your Toolkit? A Look at Testing Skills

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# Context Exercise

- 1: List the Qualifications that you would put in a job description for a Software QA/Tester that you want to hire to your team
- 2: What qualifications/skills/attributes do you think are required for a person to be successful and professional in Software Testing?
- 3: Is there a gap between what you put in a job description and what you think a person needs to be successful in a QA/Testing career?

# What is “Professional Development”?

- Professional Development is the process of evaluating what is in your personal 'toolkit' -- adding to, removing or updating the existing tools and techniques that you use in your daily work life -- with the intention of maintaining or improving the odds of your success.

# Professionals in IT?

- We are *Information Specialists* in an *Information Technology* Industry
- We *collect, classify, assess, manipulate, store, retrieve* and *disseminate* information
- What Tools, Techniques, Attitudes, Skills and Knowledge should we be looking for in new hires or develop for ourselves?

# Information Skills Development

- There are four broad areas of knowledge and skills within which learning expectations are organized :
  - Knowledge and Understanding
  - Thinking
  - Communication
  - Application
- They are interrelated, reflecting the wholeness and interconnectedness of learning

*(Source: Ministry of Education Ontario Curriculum on Language)*

*The essence of knowledge is, having it, to apply it;  
not having it, to confess your ignorance.*

*- Confucius*

# General Skills Development

( 1 / 4 )

## ■ Knowledge and Understanding :

- knowledge of content (e.g., forms of text; strategies associated with reading, writing, speaking, and listening; elements of style; terminology; conventions)
- understanding of content (e.g., concepts; ideas; opinions; relationships among facts, ideas, concepts, themes)

*I keep six honest serving men. They taught me all I knew.  
Their names are What and Why and When and How and Where and Who.*  
- Rudyard Kipling

# General Skills Development

( 2 / 4 )

## ■ Thinking :

- use of planning skills (e.g., generating ideas, gathering information, focusing research, organizing information)
- use of processing skills (e.g., making inferences, interpreting, analysing, detecting bias, synthesizing, evaluating, forming conclusions)
- use of critical/creative thinking processes (e.g., reading process, writing process, oral discourse, research, critical/creative analysis, critical literacy, metacognition, invention)

# General Skills Development

( 3 / 4 )

## ■ Communication :

- expression and organization of ideas and information (e.g., clear expression, logical organization) in oral, visual, and written forms, including media forms
- communication for different audiences and purposes (e.g., use of appropriate style, voice, point of view, tone) in oral, visual, and written forms, including media forms
- use of conventions (e.g., grammar, spelling, punctuation, usage), vocabulary, and terminology of the discipline in oral, visual, and written forms, including media forms



# General Skills Development

( 4 / 4 )

## ■ Application :

- application of knowledge and skills (e.g., concepts, strategies, processes) in familiar contexts
- transfer of knowledge and skills (e.g., concepts, strategies, processes) to new contexts
- making connections within and between various contexts (e.g., between the text and personal knowledge or experience, other texts, and the world outside the school; between disciplines)

# Side Note: Definition Distinction

- Skill (n): Proficiency, or dexterity that is acquired or developed through training or experience
- Tool (n): something regarded as necessary to the carrying out of one's occupation or profession

*“A winner is someone who recognizes his God-given talents, works his tail off to develop them into skills, and uses these skills to accomplish his goals.”*

- Larry Bird

*“A study in the Washington Post says that women have better verbal skills than men. I just want to say to the authors of that study: “Duh.””*

- Conan O'Brien

# So, What does *your* Toolkit look like?



# Tools & Skills for the IT Sector

- As professionals, we need tools and skills to gather information from and work with:
  - Computers (hardware, software, big systems and small, ...)
  - Other People (team members, managers, family, ...)
  - Yourself
  - The World (everything else – e.g. the Environment)
- Like the general skills these are also interrelated

# Tools & Skills for: Computers

## ■ Hardware:

- Measure temperature, speed, heat, frequencies, dimensions, mass, etc.
- Components and peripherals

## ■ Software:

- Operating Systems, Databases, Programming, etc.
- Measure resources (CPU, memory, IO, etc.)
- Software Test techniques, scripting/automation, etc.

## ■ Networks:

- Internet, intranets, etc.

# Tools & Skills for: Others

- Organisation skills :
  - Meeting management/facilitation
  - Project management, effective prioritisation
- Understanding human behaviour :
  - e.g. Myers-Briggs Type Indicator® (MBTI)
  - Team building skills
  - Conflict management
- Feedback – giving and receiving

*Testing is an intellectual job. It is the ability of balancing the roles between 'Professional pessimist' and 'Team player'.*

- Kalyan Rao

# Tools & Skills for: Others (cont'd)

- Communication :
  - Public speaking and (verbal) presentation skills
  - Writing and (data) presentation skills
  - Diplomacy, Listening skills
- Negotiation skills, Sales
- Interviewing and Investigation skills
- Relationship-building & Knowledge sharing :
  - Amplifying Your Effectiveness (AYE)
  - Coaching

# Tools & Skills for: Yourself

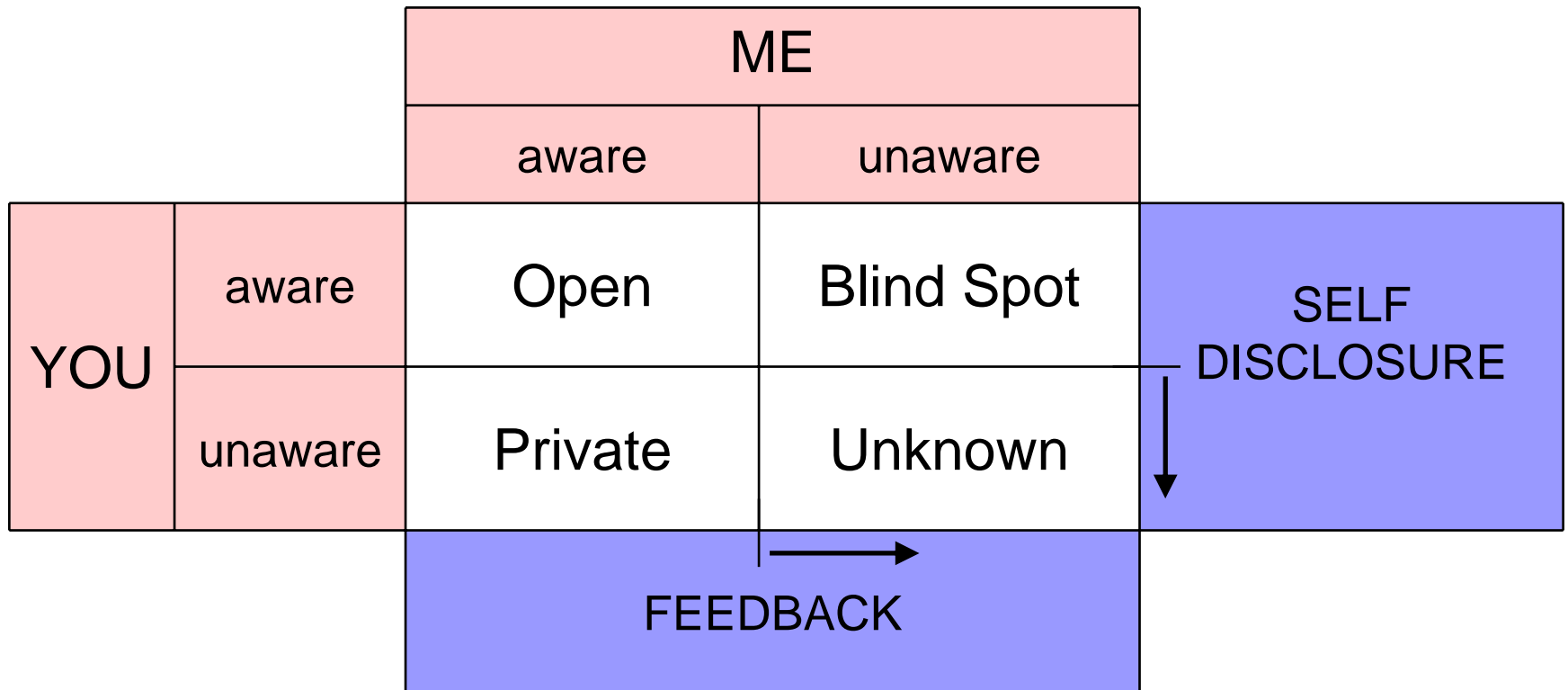
- Know thyself :
  - MBTI, [Johari Window](#), Emotional Intelligence, etc.
  - Learning styles (e.g. Visual, Auditory, Kinesthetic)
- Problem-solving and Critical thinking
  - Modelling skills, Statistics and Probability theory
  - Research and Observation skills
- Self confidence and Assertiveness

*“Research evidence supports the conclusion that the most effective people are those who know themselves, recognize the demands of the situation, and can adapt strategies to meet those needs.”*

- from the “Personal Profile System” by Inscape Publishing



# The Johari Window



# Tools & Skills for: Yourself (cont'd)

- Health :

- Diet/nutrition, sleep, breaks, sports/exercise, mental breaks, etc.

- Stress management :

- Fun, meditation, hobbies, vacation
- These can also be sources of *inspiration* and *insight*

- Leadership skills

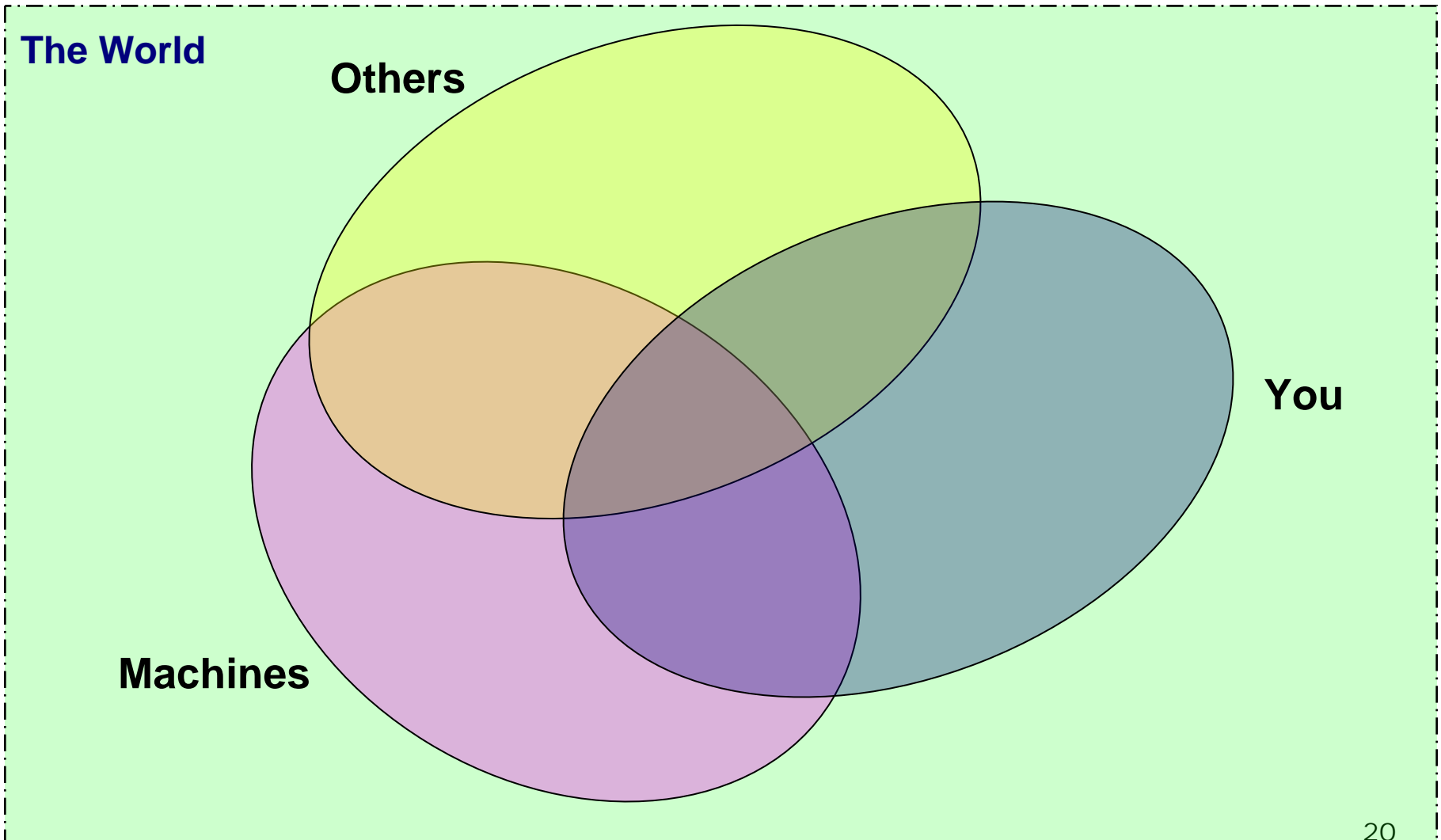
# Tools & Skills for: Yourself (cont'd)

- Entrepreneurial and Business skills
- Getting what you want :
  - Time management
  - Negotiation, Sales
- Community Involvement

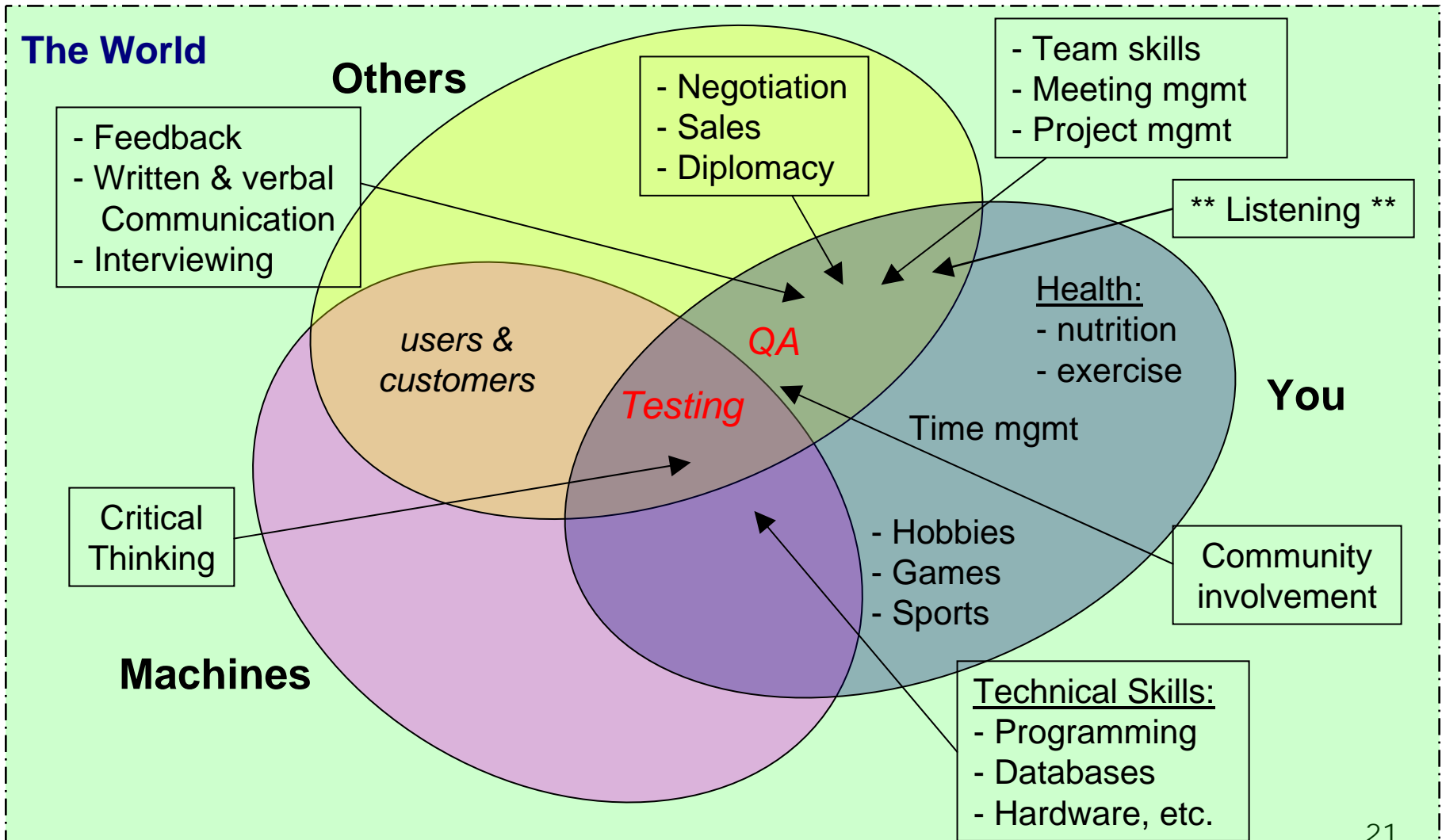
*“Luck is what happens when preparation meets opportunity.”*  
- Seneca (Roman philosopher, mid-1st century AD)

*“Opportunity is missed by most people because it is dressed in overalls and looks like work.”*  
- Thomas Edison

# A Different View: Skills by Interface



# A Different View: Skills by Interface



# Some Ideas to Get You Started

- Public Speaking; Giving and receiving Feedback
  - Join ToastMasters International
- Take a Writing course
  - Many good writing courses offered through colleges and universities (Continuing Education)
  - Befriend Technical Writers. Join the STC.
- Data Presentation
  - Edward Tufte's books or course

# Some Ideas to Get You Started

## ■ Dealing with Conflict

- The Team Handbook covers a wide range of Team related issues, including some useful insights and advice for dealing with conflict.
- Be CLEAR in difficult situations

## ■ Time management, Prioritisation

- e.g. *“The Seven Habits of Highly Effective People”*, or *“First Things First”* by Stephen Covey ([example](#))

## ■ Coaching

- Develops patience, respect, understanding
- Shares knowledge, builds relationships (teams)

# Stephen Covey – Time Management

	Urgent	Not Urgent
Important	<p><b>I</b></p> <ul style="list-style-type: none"><li>■ Crises</li><li>■ Pressing problems</li><li>■ Deadline-driven projects, meetings, etc.</li></ul>	<p><b>II</b></p> <ul style="list-style-type: none"><li>■ Preparation. Prevention.</li><li>■ Values clarification</li><li>■ Relationship building</li><li>■ Empowerment</li></ul>
Not Important	<p><b>III</b></p> <ul style="list-style-type: none"><li>■ Interruptions, some phone calls</li><li>■ Some mail, some reports</li><li>■ Some meetings</li><li>■ Many popular activities</li></ul>	<p><b>IV</b></p> <ul style="list-style-type: none"><li>■ Trivia, busywork</li><li>■ Junk mail</li><li>■ Some phone calls</li><li>■ Time wasters</li></ul>





# Final Thought

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If you have found any of these topics or ideas to be of interest, I would encourage you to learn more about them and to make them a part of your personal toolkit.

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# Selected References

- Center for Applications of Psychological Type : <http://www.mbti.org/>
- Keirsey Temperament and Character Web Site : <http://keirsey.com/>
- Edward Tufte, *Galileo of Graphics* : <http://www.edwardtufte.com/tufte/>
- \*\*\* Jerry Weinberg's Site \*\*\* : <http://www.geraldmweinberg.com/>  
( includes link to AYE conference )
- Cem Kaner Negotiation article : <http://www.kaner.com/negotiate.htm>
- STC Southwestern Ontario Chapter : <http://www.stc-soc.org/>
- The Team Handbook 3rd Ed. : <http://www.orielinc.com/prod.tth3.cfm>
- Toastmasters International : <http://www.toastmasters.org/>