
Document



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Quality SIG Newsletter

Skills and Education for Information Technologist

Robert Krull and Roger Grice

Fifty academic and industry professionals met at Rensselaer Polytechnic Institute in September to discuss the changing role of information technologists, particularly technical communicators. The conference, *The Five-Year Horizon: Skills and Education for the Information Technologist*, included a range of topics from the tools and products of information technologists to the new environments they will work in.

Presenters and attendees seemed to agree that there had been and was going to continue to be considerable change in information industries. For companies and their employees to produce high quality products, information technologists will have to be flexible and continually update their skills and the processes they follow. Job titles and work roles are likely to become even more blurred than they are now. The rest of this article includes summaries from some of the 24 presentations that were given at the conference.

Products and Tools

Whitney Quesenbery, of Cognetics Corporation, and Ann Rockley, of The Rockley Group, Inc., listed current work products, tools and skill areas that information technologists are involved with; the set is so comprehensive as to be beyond the capabilities of individual people. Work products, they and others agreed, will less and less frequently be in printed form and more and more frequently be in electronic form. But electronic environments are also diversifying rapidly, so that Web, multimedia, and PC-based online information delivery mechanisms can take many forms, each with its own set of development tools.

Information technologists will need to be able to match customers' goals with electronic environments and development tools. For technologists, this means knowing about goals, environments, and tools. It also means the having the capacity to learn new tools and techniques to meet customer demands. Information technologists won't be able to learn a few things well and then expect to work productively for several years. Instead, they may need to be able to learn new tools and techniques in a few weeks. Quality products and development tools are likely to be swiftly moving targets for at least the next five years.

Pete Orbeton, Lotus, described the Web-based user assistance that his company had produced to support Domino Notes. The Notes group uses the Web, not as a way to push information at customers, but as a means of engaging them in a conversation that supports short-term needs such as help about current challenges in using a product and long-term desires for product upgrades. Serving to illustrate the points made by Quesenbery and Rockley, Orbeton listed the many electronic media that Lotus uses to maintain its strong customer focus. Information technologists in the Domino Notes group have to work together to adapt content to these electronic media.

Not all presentations at the conference stressed tools over information content. Bernice Casey and David Hans, of IBM, for example, said that customers could be unhappy with information provided by companies no matter what the media used. Unless corporations met customers' needs for helpful content, elegant electronic containers did not meet with customer smiles.

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Working Environments

In addition to the accelerating-treadmill of developments in the tools area, equally swift changes are occurring in other work areas. Many attendees stressed how impossible it is for an individual to keep up with the demands of learning about new products, tools, and development processes. Collaborating groups of professionals, they suggested, were more likely to succeed. Merle Metcalfe and Joan Crites, Microsoft, for example, said that work teams of programmers who also know human factors and writers who also know programming need to collaborate rather than work independently. These professionals, whatever their job titles, need to see each other as companions in the development process. They need to be well trained, smart enough, and action-oriented enough to get products completed on time.

Cheryl Geisler, Rensselaer, said that her research showed that universities may need to go beyond insular, discipline-specific approaches to problem solving to produce graduates who can work in the way that Metcalfe and Crites suggested.

Another prominent feature of new work environments is the distribution of development effort across several corporate bodies. Metcalfe and Crites said that Microsoft is approaching 50 percent in hiring contract workers rather than full-time employees. Stephanie Rosenbaum and Lori Anshuetz, Tec-Ed, and Phylise Banner and Ann Moynihan, Documentation Strategies, talked about two different models of information technologists who work outside corporations.

Rosenbaum and Anshuetz illustrated a model in which a corporation specializes in vending a package of services. Tec-Ed supplies corporations with a team of professionals who have complementary skills and who have collaborated on projects before. Tec-Ed forms teams based on the challenges posed by projects and retains its employees for extended periods. Tec-Ed employees may not be employees of the corporations for whom they develop information products, but they are full-time employees.

Banner and Moynihan said that Documentation Strategies takes a different approach. It maintains a database of several hundred free-lance professionals whom it matches, individually or in teams, with corporate clients. Documentation Strategies maintains a smaller permanent staff than does Tec-Ed, but both companies find that employees prefer the variety of vended services to full-time

employment at one corporation.

Education for Information Technologists

Since the technical communication program at Rensselaer Polytechnic Institute organized this conference, we were naturally interested in what these industry trends meant for our educational programs.

First, it seemed that information design and design tools would be important features of future programs. Since so many speakers stressed electronic information development tools and some skill in programming, it seems that educational institutions should give students training in the underlying logic of electronic tools. It may be less valuable to give students in-depth knowledge of specific computer products because students' knowledge might then be obsolete by the time they completed their degrees. Generic training that combined theory of design with generic tools training may be more valuable in the long-run.

Second, cross-disciplinary design teams seem to be the method used to manage the overwhelming challenges posed by rapid product development. Many educational institutions already teach teamwork by asking students to complete at least some class projects in that framework. However, teamwork typically involves students working within the confines of their departments. Technical communication students, for example, work with other technical communication students. The themes we heard at the conference suggest that technical communication students also should work with engineers, programmers, and specialists from other disciplines. These more heterogeneous teams may be able to avoid development of the "us versus them" syndrome, something several speakers at our conference warned about.

In addition to changes in the working environments at corporate offices, our conference also included several presentations about evolving education environments. Susan Bray, principal in New Vistas and past head of Rensselaer's distance education program, gave figures showing that the need for continuing education of adults was much larger than is the market of 18-year-old high school graduates. Adult education, she argued, is more efficient when it involves partnerships between industry and educational institutions and when it eliminates absence from the work site for coursework.

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In the trenches

Quality in the Real World

Julia Land

Salesmen were known to fight over customers. Dunson mentioned fistfights and smashed lamps.

Recently, members of the Houston chapter of STC met with members of the Deming Association, the American Society for Quality Control (ASQC), and the Society for Software Quality (SSQ) to hear Mary Dunson describe a quality improvement program she helped implement at a local furniture store.

The search for quality began in 1988. The owner, Jim McIngvale, was concerned about customer satisfaction. Deliveries were late and merchandise was damaged. The sales staff worked on commission and salesmen were known to fight over customers. Dunson mentioned fistfights and smashed lamps.

The store began with Crosby's Zero Defects approach. The store established a Quality Improvement Team that met weekly. Every employee attended quality training classes. Over the next year, the staff moved forward rapidly, reducing errors by 50%. But they were exhausted and could go no further. The focus was "Do it right the first time," but still they made mistakes.

The quality program was revitalized when McIngvale read Deming's *Out of the Crisis* and attended a Deming seminar. He sent the entire staff, 10 to 15 at a time, to Deming seminars. Dunson

estimates they spent over \$1,000,000 on quality education. She believes the commitment to education was key to the success of the program.

The quality team focused on building strong systems. Not all the changes were easy. When compensation for salespeople changed from commission to salary, the most highly paid staff feared income loss. To overcome reluctance, McIngvale promised that no one would lose income under the new system.

McIngvale was not afraid to try new things. If a new procedure did not work, he was quick to change it. At first, procedures were documented. But later, changes were so rapid the lone writer could not keep up.

Despite the lack of documentation, the education and changes paid off well. Between 1991 and 1994, sales increased by 40 percent per year. When asked what she would do differently, Dunson said she would design the quality improvement efforts as an ongoing process rather than a program with a start and a finish.



Membership Report

Robbie Rupel

I am the new Membership Manager for the Quality SIG. Those of you who are new to the SIG already know me from the welcome packets you received. I am the Lead Technical Writer at Computerized Medical Systems in St. Louis, MO USA. I have been an STC member since 1986 and a Quality SIG member since 1996.

When I took over this position in June, our SIG had 363 registered members. As of August, our membership increased to 380 (a 5% increase!). Our members are located throughout the world, including the United States, Canada, Australia, France, Israel, Japan, Belgium, Austria, Finland, The Netherlands, Slovenia, and the United Kingdom.

Fun facts: Did you know that 80 percent of our membership has at least one email address?

If you have questions about the Quality SIG membership, please direct them to me at Rupel@prodigy.net.

Using Technical Writers for documenting ISO 9000

Ralph E. Robinson

It had been brought to my attention that many ISO 9000 consultants recommend that their clients *do not* employ technical writers to write their ISO 9000 documentation. I had questioned some of my technical writing colleagues, and I found that they had difficulty aligning themselves with ISO consultants who would bring the writers in to provide writing services to their ISO 9000 clients. With this situation in mind, I recently posed the following question to the members of the ISO 9000 subgroup of this SIG: “Why should ISO consultants use/recommend the use of professional technical writers in the development of documentation required to support an ISO registration?”

Two members of the subgroup took the time to respond to this challenge, and I have paraphrased their responses below. Nick Gattuccio wrote that technical writers can bring a breadth of hands-on experience gained from exposure to multiple projects. This experience is rarely available in a company’s internal staff and is often not found among consultants. Documentation for ISO 9000 compliance is extremely labor intensive and consultants want to do the work rather than allow technical writers to do the work. Reluctance to use seasoned technical writers on an ISO project is *prima facie* evidence of greed intruding on good judgement.

John Bush wrote that a qualified technical writer can provide concise, correct (to the extent of the information provided), and compliant ISO documentation that takes the load off upper-level management. By providing editing services, the writer moves the various levels of documentation away from being novels or marketing pieces to meeting their required goals — providing documentation of the day-to-day operations of the company showing how they meet the requirements of an ISO-compliant quality system.

Do any of you have an opinion on this subject? Send your responses to Ralph Robinson at r2innovations@myna.com

Ralph Robinson is leader of the Quality SIG subgroup on ISO 9000 and author of the book “Documenting ISO 9000: Guidelines for Compliant Documentation” available through R2 Innovations in Mississauga, Ontario.

His email address is r2innovations@myna.com. His website is <http://www.myna.com/~r2innovn/main.htm>.

Reluctance to use seasoned technical writers on an ISO project is prima facie evidence of greed intruding on good judgement.

Reprinted with permission from the September 1997 issue of the France STC Chapter newsletter *L'Antenne*

Looking For Information

David Dick

After scanning [the table of contents] for several seconds, she flipped to the back of the book and began reading the index.

I learned a valuable lesson about the importance of knowing how people look for information in a book. I learned this valuable lesson without the use of usability labs, audience surveys or consultancy—simply by using casual observation.

On the way home from shopping for software at a computer shop, I observed how my wife opened the user’s guide for a new software package she had purchased. The first thing she did was open to the table of contents, then after scanning it for several seconds, she flipped to the back of the book and began reading the index. I asked her about it because I had not seen anyone look at the index to get familiar with a manual. She said that

she does it all the time. The index gives her an idea of what the manual’s authors think is important, and it also gives her an idea of the depth of the information. I asked my peers for their opinions of what I observed.

The response was that most people refer to the index to find out where functions and tasks are located and/or what functions and tasks the product supports. Many of us look at the index to assess the topic details, and we are impressed by an index with multiple synonyms of the same item. A good index should be a topic-analysis of the book.

See Looking on page 5

The great readability-index debate

Steven Jong

The most controversial product metric is the readability index, which calculates a grade-level equivalent for passages of text. Many word-processing packages measure readability, and it's easy for managers to mandate a score ("thou shalt write to the eighth-grade level"). But we hate it.

The problems with the indexes (Flesch, Fog, Kincaid, etc.) are well known. The range and domain are unclear. We're typically asked to write eighth- to twelfth-grade text, but the index can come out negative. What does "Grade -2" mean? Complex passages can score high, but is a level of "Grade 28" accurate? Passages from the classics score absurdly high yet are readable. You can measure a score for nonsense text and even foreign languages. Some software doesn't even compute scores correctly!

With all these problems, does anyone take readability seriously? Yes: textbook publishers. That's a domain in which the metric is calibrated. (The Flesch index was originally an empirical formula based on reading scores of Depression-era Iowa primary-school children.) Newspaper and magazine editors, whether consciously or not, also keep their publications at some consistent level.

Readability indexes usually measure two things: the length of sentences in words, and the length of words in syllables. Studies show that text with long sentences and big words are harder to read and comprehend. But, is this a causal relationship—the

text is hard because the sentences and words are longer—or merely a correlation—the text is hard because of other factors, of which these are merely side effects?

Actually, learning theory implicates two causal factors: sentence structure and the symbolic content of words. Long sentences tend to contain clauses, which require additional parsing. Polysyllabics tend to be Latinates or otherwise require decoding ("translation," if you will). This is why acronyms tend to creep into technical writing—they shorten sentences. (What does "DOS" stand for?) Surprise! Readability indexes measure things that correlate to readability. In a limited sense, then, I endorse them, but only as part of a suite of metrics.

Let me give Rudolf Flesch the last word. In *The Art of Readable Writing*, he wrote: "Some readers, I am afraid, will expect a magic formula for good writing and will be disappointed with my little yardstick... What I hope for are readers who won't take the formula too seriously and won't expect from it more than a rough estimate."

Next time: Process metrics: getting the vice-president off your back

Steven Jong is Documentation Group Leader at Lightbridge, Inc. in Waltham, Massachusetts.

With all these problems, does anyone take readability seriously?

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The table of contents provides a general structure of the book. However, if properly structured, the table of contents should have two levels of heads (not just chapter titles, but the major headings within the chapter), and verb phrases that match the users' goals and tasks. The table of contents should be the best way to get the 'big picture' both of the product and what the manual covers.

I asked some colleagues how they used a book to find information. The result was an even split between the index and table of contents. Try the test yourself. Observe how people open a book and scan through it before making the decision whether or not to purchase it. Ask questions. Learning how people look for information helps writers best meet audience's needs.

David Dick is a technical writer with Swift in La Hulpe, Belgium.

A Juran Institute Report—Quality Wars: The Triumphs and Defeats of American Business, by Jeremy Main. 1994. 382 pgs.

Reviewed by Amber Gray

Part One discusses specific elements of the Total Quality movement in the U.S....Part Two focuses on successes and failures....

In the introduction to this book, Jeremy Main says that most books on Total Quality Management (TQM) are in one of two categories. They are either dry, methods-oriented works used for training, or enjoyable, anecdotal works used for inspiration. He didn't want his book to be either one.

Main succeeds in his attempt to write an objective review of TQM in America. He discusses formal TQM methods only briefly and uses a "lessons learned" approach to discuss the quality efforts of various American companies. The style is anecdotal, which makes the book easy to read, but the stories are definitely not meant to be mere cheerleading for TQM. Main backs up his assertions with research and interviews; the bibliography is excellent and extensive.

The book has two parts. Part One discusses specific elements of the Total Quality movement in the U.S., with chapters on The Beginning, The Leaders, The People, The Customers, and The Tools. Part Two focuses on the successes and failures in industries where TQM has been practiced (for example, automobile manufacturing and railroads), companies whose TQM efforts are exemplary (The Pacesetters), companies whose TQM efforts have not been particularly successful (The Fumblers), and three areas that are just beginning their move towards Total Quality (services, professions, and the government).

Two things stood out in my reading. First, the three years since the book was published has revealed some big changes within specific companies. While companies such as Southwest Airlines continue to excel in their areas (Southwest has outstanding safety and on time records), others, most notably Intel, have had some not so quality moments since the book was published. Remember the math error in the Pentium chip? Remember Intel's cover-up attempts, denials, and the ensuing media fiasco? Second, for a Juran Institute report on quality, this book had a lot of distracting typographical and editorial errors.

Main does make some excellent points though. For example, while the tools used to implement "formal" TQM are excellent, sometimes companies get bogged down in a large quality bureaucracy and jargon. Also, management must be trained first for TQM to be effective. Some companies encountered difficulties when they sent a TQM-trained workforce back to work with untrained (and sometimes outright hostile) managers. Finally, TQM does not have to be a formally implemented program to work. It can be just a basic part of the corporate culture. Overall, this book is a good overview of the TQM efforts of American companies from 1980 to 1993.

Amber Gray is a freelance technical writer working in Albuquerque, NM. She specializes in documentation for the electric utility industry

SIG news

Like our new layout?

We've made some changes to the layout of the newsletter. We hope the you well like the new, more open layout. We'd like to hear your comments. You can post them on the SIG LISTSERV at stcqsig-l@stc.org. If you aren't on the internet, you can send us a postcard at the Quality SIG mailing address. Thanks!

Are you on the listserv yet?

Sign up for the Quality SIG listserv! Send an email to majordomo@stc.org. The first line of your email must read "Subscribe stcqsig-l". After you sign up, you can post comments and questions in an email addressed to stcqsig-l@stc.org.

Read a book!

If you've read a great book on quality, technical communication, or a related field, we'd like to hear from you. book reviews are really great ways to share your thoughts with other SIG members. If you would like to submit a book review, please contact Mary Ann Campbell at Mary-Ann.Campbell@compaq.com.

Next submission deadline: December 15, 1997

Communicating in Business and Technology: From Psycholinguistic Theory to International Practice by Jan M. Ulijn and Judith B. Strother, 1995, ISBN 3-631-43289-5

Reviewed by David Dick

In June 1997, Jan Ulijn presented a summary of his study and his book at a meeting of the France Chapter of the Society for Technical Communication. (Incidentally, he received the Society for Technical Communication Associate Fellow award at that meeting). Jan possesses an impressive knowledge of inter-cultural and language issues, and has a high regard for technical communicators. I bought the book to learn the rest of the story.

The global marketplace, with its need for experienced technical writers, translators, scholars, engineers and managers, has had few resources available for understanding international technical communication objectives and issues—until now.

Communicating in Business and Technology effectively addresses the complex topic of communication within and between the international business and technical communities. The strength of this book is of its authors: Jan M. Ulijn and Judith B. Strother whose research, participation, and study of international communication is internationally known.

Communicating in Business and Technology examines multiple methods and levels of communication—listening, speaking, reading, and writing. It moves from a theoretical framework to the application of theories within businesses and technical settings. It stresses practical application as it bridges the gap between pure theory and the application. The book places particular importance on international and inter-cultural perspectives, with particular focus on American and European needs and practices. The English of business, science and technology, and the importance of technical communication is stressed.

Communicating in Business and Technology is informative reading for students specialising in international communication—international business, and technical writing, as well as business managers and engineers. Researchers in management, business and technical communication, linguistics, psycholinguistics, and cognitive psychology will find valuable ideas for studies and research projects.

David Dick is a technical writer with Swift in La Hulpe, Belgium.

The global marketplace...has had few resources available for understanding international technical communication objectives and issues—until now.



Usability Testing Bibliography

David Robbins

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***Guerrilla HCI:
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Usability Evaluations Versus Usability Testing: When and Why?

*...the role and
working life of
technical
communicators is
changing rapidly.*

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Ted Carpenter-Smith, Andersen Consulting, said that while there were tremendous opportunities for educational institutions to fill the gap between industry needs and industry training capacity, educational institutions were insufficiently attentive to the opportunity. This showed up, he said, in universities' failure to deliver relevant course material and inability to adapt to industry changes, scheduling, and course delivery needs.

Quality Technical Communication in the Future

The Five-Year Horizon conference certainly gave the same sense one gets at the STC Annual Conference—the role and working life of technical communicators is changing rapidly. Perhaps our profession and those of trainers, programmers, and graphic designers is merging

into a less clearly demarcated field of information technologists. But, since rapid change seems to have become the norm, even that homogenized field may develop into something else or again break into several disciplines. What does seem clear is that a technical communicator who concentrates on printed documents and who has minimal familiarity with electronic tools, electronic delivery or graphic design will not be thought of as delivery a high quality service. Well, at least for the next five years.

A list of symposium attendees, abstracts of some papers, and copies of some of the presentation material are stored on the conference web site: www.rpi.edu/~gricer/five_year. We will be updating this site to include additional symposium material and reports of ongoing dialogs and projects.

Robert Krull and Roger Grice are professors at Rensselaer Polytechnic Institute in Troy, New York. Both teach in the Human Computer Interaction Program.

DocQment

Quality SIG Newsletter

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