

WILD About Testing



Volume 1, Issue 1
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A newsletter aimed at certification professionals interested in continuously improving the certification experience for their certificants and other stakeholders (employers or government agencies that might use the certificate).

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From the Editor

Welcome to the first issue of **WILD About Testing**. During and after the 2008 NOCA meeting, many of you participated in a survey of what should be included in this e-zine. You will see that this issue is designed with your feedback in mind. (Anyone who would like to provide additional feedback may go to www.wildandassociates.com to help in the design of future issues.)

What did survey respondents say and how have we responded? Everyone who responded to my quick survey indicated that they would like to learn more about internal audits and setting priorities – these topics and others you requested will be included in the “Continuous Improvement Tips” section of the e-zine. Respondents wanted to learn about “best practices” and these will be highlighted with interviews in each issue.

Enjoy the newsletter and share it with your colleagues. Please use the “Forward to a Friend” link in the e-mail that delivered this to your desktop and help me reach out and find everyone who can benefit from years of great experience, which I am delighted to share.



Dr. Cheryl Wild, President
Wild & Associates, Inc.

Continuous Improvement Tips:

Conducting Periodic Internal Audits

Why?

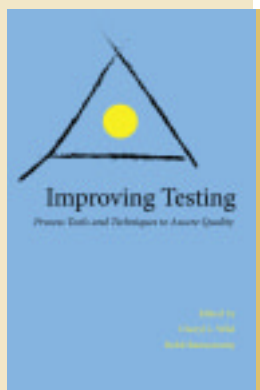
Internal audits can identify future improvement efforts. Conducting an audit of your whole organization requires you to consider the overall needs, rather than just responding to the hot topic of the hour. You can conduct an internal audit without making the effort public.

What Standards?

The first step is to identify what standard you will use for your internal audit. Will you use internal standards? Or is there an external standard? There are more than 25 different standards that relate to testing and/or to quality management of your organization (see the chapter by Wild and Knapp in *Improving Testing*).

The two most commonly known standards for certifying bodies are the *International standard ISO/IEC 17024 Conformity assessment – General requirements for bodies operation certifications of persons*, and *National Commission for Certifying Agencies Standards for the Accreditation of Certification Programs*.

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This best selling book was recently reviewed in *CLEAR Exam Review* and cited as “a valuable addition to the reference bookshelf which covers a number of topics not well represented elsewhere in the testing literature.”

For more details go to:
www.wildandassociates.com/books.html

Interview with David O. Anderson, Ph.D.



Cheryl: David, thank you for agreeing to be the inaugural interviewee for the **WILD About Testing** Newsletter. This newsletter is intended for certification professionals interested in improving the effectiveness and efficiency of their organizations. The intended outcome is to improve the certification experience for certificants and their employers. With your 35 years of experience in the field of testing and especially because of your unique combination of psychometric and process design skills, I'm looking forward to sharing your ideas. Would you please explain your unique expertise for our readers?

David: I am certainly honored to be invited to share my experiences in psychometrics and process management with your audience. Since my doctoral work in educational measurement at Northwestern University in the early 1970's, I have had the privilege of working on a variety of educational and testing projects, all of which have exposed me to the breadth of educational and training programs and their need for reliable and effective measurement of student ability. Through the years I have worked on learning disabilities tests, Title I program evaluations, Head Start Program assessments, insurance and real estate agent licensing exams, teacher certification tests, graduate school admissions tests, computer literacy assessments, and college preparation exams. Besides the typical psychometric work of item analysis and equating, I also was involved at various points in RFP and proposal writing, running a small computer center, consulting with school districts and foundation boards, improving corporate financial systems, managing computer programmer teams, and so forth. In addition, my 20 years as a psychometrician at ETS has afforded me the opportunity to acquire additional personnel and process management skills, include training in Six Sigma methodology and business process consultation.

Cheryl: Your experience certainly qualified you to write "Six Sigma in Testing" – a chapter in *Improving Testing*. The results of the applications of six sigma at a testing company are impressive. Is there one example of the use of six sigma that might titillate our readers into reading the whole chapter?

David: Among the many Six Sigma projects at ETS, one that stands out in my mind dealt with improving our accuracy in forecasting test center volumes for one of our

large-volume certification tests. Timely and accurate knowledge of the number of examinees expected for a given test administration is an essential requirement of a multitude of decisions across an entire testing company (among them, bulletin and test book printing, answer sheet processing, essay/CR reading, test center administration, and score reporting). Several times a year, administration materials for over 100 test titles were being sent to about 700 domestic test centers; however, our volume forecasts fluctuated over and under actual volumes by more than 10% and, for one test, over 30%. In one year, this resulted in an absolute variance of about \$4.5 million from budget. Part of the problem was the over-dependence on accumulated personal intuition ("gut-feeling") in the forecasting process.

After detailed study of the process, we developed a multiple regression model using several years' worth of registration and actual volume data. This approach reduced our forecast variance to about 5%, 8 weeks prior to test administration – sufficient time to adequately staff the test centers and our post-administration stations. Not only are we saving money, but this tactical change means we are now managing using real data rather than relying on experience-based, but subjective, adjustments. Based on these impressive results, ETS has implemented a formal demand planning department to handle our portfolio of testing programs.

Cheryl: Many certification bodies are small. Do the tools you applied at ETS also work in certifying organizations? What can certifying organizations learn from your experiences?

David: Certainly the Six Sigma DMAIC steps of Describe, Measure, Analyze, Improve, and Control and the components of Business Process Management are applicable to companies of all sizes. All businesses, large and small, need to carefully and completely document (describe) all of their processes, collect and analyze metrics along the way, identify deviations from customer expectations or requirements, plan and implement improvements, and then add controls to “lock-in” and monitor those improvements.

Cheryl: Many certification organizations and small testing organizations do not see the need for formal application of quality management tools. Why do you think this is and what is your recommendation?

David: For many small certification or testing organizations which have been functioning seemingly well, it would take only one major scoring error to result in a negative newspaper headline or candidate lawsuit. Processes get designed and implemented and may work well initially. However, often there are modifications to handle special situations, increased volume, new content, new item types, new delivery modes, and so forth. Many times these are patched onto the existing system without a thoughtful study of their impact. The formal application of quality management tools takes time, effort, and money, which is sometimes skimmed on in the rush and excitement to get the project completed.

Especially with certification programs, an examinee’s job future may be on the line based on one test score. It is our obligation to do everything possible to insure that this test score truly reflects their ability – from the decision about test content, test question development, test administration, scoring (multiple choice, essay, or performance), and reporting. Quality needs to be deliberately built-in to every part of the end-to-end process. Only when each of these steps (and those of our other ancillary services) are thoroughly planned, documented, monitored, and controlled, can we be confident in the process and the accuracy of the end results.

“For many small certification or testing organizations which have been functioning seemingly well, it would take only one major scoring error to result in a negative newspaper headline or candidate lawsuit.”

Cheryl: Where can readers learn more about applying quality management tools?

David: Beyond the insight and examples in your book, I would point readers to the process management and quality improvement books by experts such as Peter Pande, Geary Rummler, and Thomas Pyzdek.

In addition, there are several important websites such as www.iSixSigma.com, www.bpmenterprise.com, and www.asq.org where readers can learn about the various tools available for process and quality improvement. Avi Allalouf of the National Institute for Testing and Evaluation in Israel also has some interesting papers and presentations specifically on the topic of quality design in the testing industry.

Cheryl: Many certification organizations outsource parts of their work – like test development and statistical analysis. How can certification organizations evaluate the quality management of a vendor’s work?

David: Certification organizations and vendors should work together to look at best practices in the educational and certification testing industry, as well as past metrics in terms of the vendor’s test question survival rates, the accuracy and timeliness of score reports, and the responsiveness of customer service staff. Following this, very specific service levels should be discussed and agreed upon. Be aware, though, that overemphasis on low cost and speedy score reporting can lead to an increased possibility of embarrassing and costly errors.

Cheryl: Thank you for sharing your ideas and I look forward to seeing you (and hopefully some of our readers) at the Association of Test Publisher’s meeting.

Benchmarking – Clear Goals Define Project Design

In the recent survey of the Certification Network Group (see **In the News**), 50 percent of respondents identified benchmarking as a tool used in designing new services. Benchmarking is a fun tool – it is often called industrial tourism and, as the name implies, is often used just to learn what is out there and as a good excuse to talk with colleagues. I don't mean to down play the importance of informal benchmarking – what I want to emphasize is something not everyone knows – benchmarking has a known process just as developing a certification test is a known process. There are steps for benchmarking and guidelines for conducting benchmarking studies.

I've been teaching a benchmarking course in a Master's program in quality management for the National Graduate School for the past 10 years, and helped with benchmarking for several clients. I've learned that when the benchmarking process is applied in a disciplined manner it can identify breakthrough ideas for an organization.

Keys to Implementing an Effective Benchmarking Project

During the next several months, this column will cover issues that certifying organizations may come across in designing and conducting benchmarking:

- Conducting secondary research,..
- Selecting benchmarking partners
- Identifying metrics for the benchmarking
- Keeping benchmarking costs down

Has your organization conducted a benchmarking study? Would you like your lessons learned included in this column? Please write cheryl@wildandassociates.com to share your benchmarking experience with others.

Identify Goals

How do you know what questions to ask in a benchmarking study? Who should be on your study team? Who should you benchmark? What metrics should you use to measure the success of your benchmarking partners? The answers to all these questions flow directly from the goals of your benchmarking study. Clear goals help define your project and set the parameters for the design of the project – beginning with selecting your team.

Goals are related directly to what your organization wants to improve. Is your goal to decrease cost, increase the number of certificants, decrease the calendar time required to report scores, etc.? Is there a part of the certification process that you are interested in studying – registration, recertification, continuing education, or marketing? Are there constraints to the project (i.e., you can't afford to change your computer software or you have a limited budget)?

Goals can be refined as you go through the benchmarking process – more about that next month.

Benchmarking Team

Once the goal is determined, the expertise needed on the benchmarking team becomes clearer. Your team may consist solely of staff members, or you may want to invite other constituents (e.g., board and committee members) to be on the team. Including board members and others on the team can significantly improve the buy-in for implementing the findings at the end of the project – not to mention the fact that the additional perspectives and expertise can increase the quality of the results! In terms of expertise, if you are looking at contracting, you will want to have someone on the team that has expertise in contracting. All benchmarking teams can benefit from having a member who is a librarian or a past librarian to help with the secondary research. Do you want to build support for the changes resulting from benchmarking among your board members or other committee members? If you are studying vendor relationships, do you want to invite one of your vendors to participate?

Conducting Benchmarking Study

Conducting a benchmarking study can take time – doing research, planning the study, preparing the benchmarking data collection instrument, conducting the primary benchmarking (whether an on-site visit, telephone surveys, on-line surveys, or some combination), analyzing the data collected, writing the report, determining the implications for your work, and implementing the new process.

Do your staff members have time and expertise to do the leg work? If you are going beyond certification tourism, if you are planning a major upgrade in your work processes and/or services, it is often best to hire a consultant who is knowledgeable about benchmarking tools and certification. As we will discuss in later articles, your ability to identify great benchmarking partners and encouraging them to agree to work with you is partly related to their perception that you are serious and not wasting their time on benchmarking tourism.

Later articles will also explore the possibilities of benchmarking using benchmarking consortia as a way of decreasing cost and encouraging broad participation.

Transparency and What That Means in Accreditation

Last week I attended the annual training for ISO/IEC 17024 assessors. We were discussing how the new administration might influence certification. My belief is that this administration is creating an environment of *transparency*. According to the *American Heritage Dictionary of the English Language, Fourth Edition (2006)* something is transparent if it is "easily seen through or detected or obvious: *transparent lies*." Another meaning is "Free from guile; candid or open: *transparent sincerity*."

How in the world can transparency apply to certification testing? Testing is usually based on the premise that examinees don't know the questions in advance. Just the lingo of testing – equating, item analysis, latent trait test theory, performance assessment – muddies the discussion so that certificants and the public can't really tell a transparent description of the testing process from one that is just using big words to impress the listener.

ISO 17024 accreditation is a mechanism for achieving transparency in certification. It is based on an international standard developed through an open and public process to assure fairness in certification. If a certification body achieves accreditation, it tells the public that an independent body has reviewed their processes and procedures and found that they meet the standard. It assures that information is provided the examinee (not the test questions, but at least a description of the test and relevant policies and procedures).

So, what will be the impact of this environment of transparency on certification testing? I believe it will mean that standards and accreditation will become more important in the field of testing. What do others in the certification field see as the impact on certification of this new environment? Sign-up to receive next month's newsletter for a series of interviews on transparency in testing.

In the News

On December 10th, 2008 approximately 150 certification professionals met in Washington, DC at the Certification Network Group.

In preparation for the meeting, 25% of the members responded to a brief questionnaire about their use of quality management tools and marketing.

To see this responses to this survey go to:
www.wildandassociates.com/CNGDecSurvey.pdf

Continuous Improvement Tips *(Continued from Page 1)*

Who Conducts the Audit?

You want someone from outside the department being audited and someone who understands the standards being used. Some larger organizations have their own audit department. Many certification bodies are small and do not have individuals with certification expertise outside of their departments, so they bring in an outside consultant with the appropriate expertise to conduct the audit. The right consultant can provide organizations with new perspectives on the standards and how an organization might go about meeting them.

Who Uses Internal Audits?

Identifying best practice organizations that use internal audits isn't straight forward. After all, internal audits are meant for internal use. Organizations are seeking continuous improvement and may not want to advertise what they found, or what they improve. Even if you don't know the results of an internal audit, you can find best practice organizations that use internal audits.

How? One of the requirements in the ISO/IEC 17024 standards is to conduct annual internal audits. You can go to www.ansi.org to find the current list of accredited certification organizations (you know that these organizations do internal audits), or see the list on page 6.

Exciting News: ISO Working Group

I have been accepted to be on an ISO working group to redefine International Standard ISO/IEC 17024 – Conformity assessment – General requirements for bodies operating certification of persons. This standard is growing rapidly worldwide and the revisions will impact many certification bodies in the United States.

In the United States, 23 organizations have become accredited. In this climate of increased monitoring, accreditation is likely to become more and more important to certification bodies. But standards aren't static. Experience with the standard has led to the member countries of the International Organization on Standards voting to form a working group to revise 17024 (156 countries are part of ISO).

If you are one of the thousands of certification organizations in the U.S. who certify internationally, or whose certificants desire their credential to be recognized internationally, you will want to know that knowledgeable people are representing the U.S. in this working group. The working group met for the first time on February 9th and 10th in Geneva Switzerland. There are 30 countries represented on the working group.

The U.S. Delegation includes:

- Dr. Cynthia Woodley, Chair;
- Dr. Sharon Goldsmith;
- Dr. Casey Marks;
- Dr. Cheryl Wild; and
- Mr. Jim Kendzel.

Dr. Roy Swift will also be in the working group as an international delegate.

The work plan for the revision of an international standard calls for a final draft ready to vote on by September, 2011 – almost three years after the first meeting. Why so long? Drafts are prepared in working groups meeting three times during the year after the initial meeting. Full committee comments are taken into account and work group drafts revised. Finally, a committee draft goes out to review for comment. Comments are resolved and a final draft goes out again for review. The final draft must be approved by a vote before it is accepted as the new national standard.

Association of Test Publishers Workshop

Please join me at the Association of Test Publishers on February 23rd from 2:00 to 4:30 pm for a workshop on applying quality tools in certification and licensing organizations. The purpose of this workshop is to introduce several process tools and techniques that can be used to assure high quality tests and services. Exercises on Cost of Poor Quality, Process Design and Measurement, and Process Management and Control will be presented.

Quality Design, Control, Monitoring, and Improvement For Certification Testing Programs

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As of January 23, 2009 the following organizations were listed as having achieved ISO/IEC 17024 accreditation:

- American Society for Clinical Pathology (ASCP)
- American Board of Multiple Specialties in Podiatry (ABMSP)
- American Registry of Diagnostic Medical Sonography (ARDMS)
- ASIS International
- American Society for Nondestructive Testing (ASNT)
- Board of Certified Safety Professionals (BCSP)
- Cardiovascular Credentialing International (CCI)
- Computing Technology Industry Association (CompTIA)
- Construction Manager Certification Institute (CMCI)
- InfoComm International
- Information Systems Audit and Control Association (ISACA)
- International Information Systems Security Certification Consortium, Inc. (ISC)²
- Global Information Assurance Certification (GIAC)
- North American Board of Certified Energy Practitioners (NABCEP)
- National Board for Certification in Dental Laboratory Technology (NBC DLT)
- National Center for Construction Education and Research (NCCER)
- National Commission for Certification of Crane Operators (NCCCO)
- National Fire Protection Association (NFPA)
- National Inspection Testing Certification Corporation (NITC)
- Project Management Institute (PMI)
- Refrigerating Engineers & Technicians Association (RETA)
- Society for Maintenance and Reliability Professionals Certifying Organization (SMRRPCO)
- Testing, Adjusting and Balancing Bureau (TABB)