International Society for Performance Improvement

PERFORMANCE XPRESS

SUMMER 2021

DISRUPTION IN PERFORMANCE
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Supplemental Photography by Deborah Hood, PhD
A Summer to Remember...

Summer arrived with hopes of finally getting back to normal. Vacations were happily planned, people went back to meetings and gatherings, and businesses slowly began to start humming. With COVID-19 cases declining, many spent the beginning of July unmasked without a whole lot of social distancing and worry. Even the Olympic Games are occurring after being cancelled in 2020.

Amazing what a few weeks can do. As we end the month of July, the Delta variant of COVID-19 is rapidly spreading across the country forcing many to retreat to COVID protocols of masks, social distancing, and our ever-favorite Zoom meetings. Many are wondering if this pandemic will ever end. This has become a summer to remember, albeit for reasons we’d rather not have.

This is disruption...what seems to be never-ending disruption. Disruption that forces us to stop and change. Disruption that forces us to become innovators. Disruption that creates interruption but results in us getting better at what we do.

In this issue of PX, you will hear about how learning and micro-learning, problem solving and performance consulting can be impacted by disruption. You’ll read about the incredible impact made by our ISPI volunteers despite the pandemic.

We thank our contributors for their great submissions that make up this issue and invite you to consider submitting for the Fall issue. Whether you are a seasoned practitioner, a leader in industry or a student learning about the field, your shared experiences and shared knowledge is what this publication is all about.

What can you submit? Talk about research you are doing, or best practices that are working for you. Share your ideas on how to make our work more effective. Help us grow our toolbox of knowledge by sharing your experiences with the ISPI community.

Thanks for reading and again, send us your feedback and submissions to px@ispi.org. From both of us here at PX, have a wonderful Summer season. Until our next issue, stay safe!
Welcome to the Summer issue of Performance Xpress! We thank all who have contributed to making our online publication a great success!

As we EXPERIENCE THE VALUE OF PERFORMANCE IMPROVEMENT in an Age of Disruption, we celebrate our 2021 Annual Conference and thank all Sponsors, Speakers, Volunteers and Attendees who made this successful event possible! The theme of our flagship event was: The Value of Performance in the Age of Disruption: The Business Case for Augmented/Artificial Intelligence, Agile and Design Thinking and ROI (Return on Investment) and Best Practices to Improve Performance. As Performance Improvement Practitioners, we learned and practiced how this new age of disruption is shaping the work, worker, workplace and world. At ISPI 2021, thought leaders deconstructed the myths, explored the realities and harnessed the innovations that will continue to shape a bright future.

Thank you, ISPI Volunteers! We appreciate our wonderful volunteers who have made great contributions to our professional home and will continue to do so this year! Thank you ALL!

Welcome new ISPI Board Members! We are very happy to welcome new ISPI Board Members who will provide wonderful expertise to our Society! Yvon Dalat has served in many ISPI volunteer roles, including Chapter Partnership Committee Co-chair, Web Management Team Co-chair and President of the ISPI Michigan Chapter. Marsha Parker served ISPI as a Conference Track Reviewer and Speaker for both ISPI and the ISPI Michigan Chapter. Carlos Viera has served as ISPI Nominations Committee Chair. Please see more information on all serving Board members later in this article.

Celebrating 60 Years! During 2022, we will celebrate our 60th year as YOUR professional home in Nashville, Tennessee! Please watch for further information on this exciting opportunity to see colleagues, learn and practice our field and contribute expertise to our Work, Worker, Workplace and World!
Accomplishments
During our 2021 Conference, we also shared many accomplishments achieved for 2020-2021.

Board Members/Committees/Volunteers

Key Accomplishments in 2020/2021

- Manage and administer all facets of ISPI as a dynamic, professional, dedicated team
- Provide quality member products and services
- Build relationships among members to renew the spirit of ISPI
- Negotiated financial obligations to fulfill fiscal responsibility
- Reduced overhead expense
- Produced 2020 and 2021 Virtual Annual Conferences
- Upgraded website to embrace chapters and provide dynamic content
- Serve as editors/authors for all publications
- Researched publishing opportunities for society
- Contribution of books/materials to USCG Libraries (ISPI Archive-Virtual Readiness Command; Jan Kaufman/Roger Addison-USCG Petaluma, BABS Chapter and ISPI-EMEA)

Chapter Partnership Committee:
- Collected 2019 annual reports and Chapter award applications
- Conducted 4 quarterly calls with Chapter Leaders and 2 Chapter Leadership Workshop sessions in May 2020
- Established New Chapter Partnership Committee group page in ispi.org: resources and best practices
- Transitioned 4 chapters to ispi.org: Michigan, Texas, Tennessee, Montreal
- Published and promoted 50+ Chapter webinars
- Supporting 5 New Chapter/Chapter relaunch: Brunei, Chicago, Charlotte, Philadelphia, Montreal, Singapore
- Updated Chapter page in ispi.org

Website Management Committee:

Website
- Updated 71 web pages: content and style
- Created 10+ new pages: Resources, PX, Sponsor, ...
- Cleaned up 1,200 Member database
- Configure group/page: CPC, Advocate
- Uploaded China IPP data

Finance/Member Payments
- Configured Credit card payment
- Passed PCI Compliance
- Configured GL Account

New Offerings/New Revenue Sources
- Developed online store
- Added new offerings: Annual Conference Videos, PX Ads

Communication
- Published 60+ ISPI Events: society, chapters, partners
- Formulated and published 20+ email campaigns since August
- Developed and shared “Be part of the movement” brochure
- Configured new member welcome auto-messages
- Issued 5 monthly Board reports since August

Overall
- 12% net increase in membership between Oct and Dec
- First half average: 10.2 new members per month/Second half average: 16.4: a 62% increase
CPT Certification Committee
- Managing CPT Application and Recertification Processes Job Study, conducted by Hale Associates
- Plan to Celebrate 20 years CPT- 2022

Awards Committee
- Held the first online Award Ceremony in May 2020, during the pandemic.
- Accomplished 2020-2021 award cycle, including setting up the new automated online applications-reviewing-reporting system, notification, trophies (for winners in China), etc.
- Online Awards Ceremony 2021 successfully held.
- Reinstated Award Committee and collaborated with other committees.

Conference committee
- Provided THE 2021 Performance Improvement Conference Experience!
- Over 160+ attendees over 6 days.
- Recordings of all sessions will be available to paid attendees as soon as the conference is over.
- 54 events including Masters Series, the ROI Panel, plenary sessions, and virtual Happy Hours!
- An OUTSTANDING keynote delivered by Mr. Steven B. Wiley
- Founder of the Lincoln Leadership Institute at Gettysburg.

Governance
- Bylaws reviewed by our SCORE consultant and our attorney, as well as executive committee
- Initial bylaws revisions identified, endorsed by board, shared with and commented on by membership, and approved by board
- Additional bylaws revisions identified to be reviewed by board and shared with membership for review and comment
- 2021 board elections held, consistent with updated/revised bylaws

Marketing
- Developed Communication Plan for multiple committees ensuring appropriate Market strategy
- Implemented human-based strategy for new engagement activities
- Developing protocol for discovery of and updates to unmonitored social media presence
- Explored opportunities to globalize ISPI messaging

Collaboration Committee
- ISPI-TIFPI collaboration agreement negotiated and approved by Board
- Collaboration agreement templates for US and International agreements created by ISPI attorney

ISPI Education Offerings
- 2020 CPT Workshop, Hale Associates
- 2020 ISPI-EMEA Conference, Virtual (presented by ISPI-EMEA)
- 2020 FED Talks, American University partnership: Washington, DC & Virtual
- Dr. Rose Noxon
- Dr. Jim Hill
- Dr. Jack Phillips
- Dr. Judy Hale
- 2020 International Conference, Virtual
- 2021 International Conference, Virtual
- 2021 ISPI-EMEA Conference, Virtual (will be presented by ISPI-EMEA)
- 2021 Principles and Practices Virtual Workshop- planned August 2021
- 2021 CPT Workshop, Hale Associates- planned September 2021
Operations
Moved to all volunteer operations for core functions
- All Volunteer Staff
- Volunteer editors for PerformanceXpress (PX), Performance Improvement (PIJ), and Performance Improvement Quarterly (PIQ)
- Procure professional services as needed

International Focus
- Showcase Performance Improvement all over the world!
- Work, Worker, Workplace, World
- THE International Society for Performance Improvement
- All are encouraged to join! www.ispi.org
- Chapters throughout the world
- ISPI Asia-Pacific Center
- ISPI-EMEA (Europe, Middle East and Africa)
- Performance Improvement Global Network/Kaufman Center
- Latin America
- Europe

ISPI Strategy, Goals and Possibilities
Many of us celebrate ISPI as our professional home. Here are four strategic initiatives that our Board adopted last year for 2020-2022 and beyond:
- Add Value!
- Stabilize Society—Retain Current Board; add Board Members; Distribute Responsibilities for effectiveness and efficiency
- Grow Society (All Membership Levels: Advocate, Organizational, Individual)
- Diversify Revenue Streams
  - Effectively market existing and develop new products and services
  - Encourage/Grow Sponsorship Opportunities (offer value for sponsors)
  - Encourage appropriate donations that relate to donor priorities: Ask what is important: (i.e. scholarships, research, community service project(s), sustain Society)

Maintain good stewardship of ISPI resources

Let us continue to work together to build a new future and look forward to 2022, when we will celebrate 60 years of ISPI! This will be a great milestone for our field of performance improvement in work, worker, workplace and the world! We appreciate your continued support, encouraging you to volunteer and add value to others! We appreciate our wonderful volunteers who have made great contributions to our professional home and will continue to do so this year! Thank you ALL!

NANCY CRAIN BURNS, PH.D., CPT, PMP, PRESIDENT
ROSE BAKER, PH.D., PMP, TREASURER
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STEPHANIE JOHNSON, PH.D., DIRECTOR
JOHN LAZAR, DIRECTOR
BILL YEAGER, DIRECTOR
Thank you to our Conference Sponsors!

Silver Sponsor

Bronze Sponsors
Thank you to our ISPI Advocates!
What we do know as performance improvement practitioners is that a business, irrespective of the industry and the stage it is in, needs to be monitored on a constant basis. We also recognize that a business across its various stages of development has its own unique set of challenges. For a business in its nascent stages, managing its cash flow and ensuring a healthy pipeline of projects can be its most pressing concern. Similarly, for a company introducing an innovative product in the marketplace such as driverless cars there is a whole host of issues ranging from technology to ethics. The same rules apply for an academic institution trying to incorporate a hybrid or an online model in addition to its traditional face-to-face model; it needs to consider a whole host of internal as well as external factors.
Employee performance, organizational culture, quality, customer experience, reputation, values, time-to-market, time-to-volume, information security, efficiency, measurement, and so on are a subset of concerns typically faced by an organization. When ignored, the issue can metastasize and even threaten the survival of a firm. When addressed in a timely and appropriate manner, it results in growth and expansion of the firm.

Some issues can be confined to only a functional unit whereas issues of an ethical nature such as ethics in accounting practices, harassment and discrimination in the workplace, health and safety, technology and privacy practices, and so on tend to span the entire organization. Whistle blowing and social media rants, is yet another ethical issue for organizations today. For instance, you may be familiar when a Yelp employee published an article on the blogging website Medium about the unfavorable working conditions at the online review company; the author of the article was fired (SpriggHR, 2020). This incident called into question whether her post was justifiable or whether it was a display of disloyal conduct. To avoid ambiguity, organizations are encouraged to stipulate behaviors that would constitute an infringement (ibid).

Our experience with issues informs us that there are multiple ways that issues can be categorized. It can be studied and addressed through the functional lens, it can be based on values and reputation, on critical business issues where a problem or an opportunity is critical to the overall success of the organization (Evans, 2013), or one can simply address it on the basis of severity of the issue. The way issues are addressed depends on the stage the organization is in, its inherent complexity, resources available, which may also determine the prioritization of issues, and so on.
Bringing It Back To The Field of Performance Improvement

If the field of performance improvement, formerly known as Human Performance Technology (HPT), comprises of research, practice, and the professional body, how do we examine and categorize issues that confront us? Do the same rules apply to a field, which suggests that when an issue is ignored or not comprehensively addressed it can prove to be detrimental to the survival of the field? Is there a possibility of a domino effect of unaddressed issues on the presence of the field across business and academia? Issues have a tendency to interact with each other, often exacerbating the severity of the concern; reaching a momentum that is hard to recover from. As the dominance of the silent generation incrementally fades away, and as more baby boomers retire, it is likely that a thorough grasp and understanding of the issues that confront the field will widen.

So what do issues look like in the research of performance improvement? For instance, Swanson raised the issue of paucity of research within the field in 1983, and it has been a recurring concern for researchers in the field across decades. The following is a brief list wherein researchers and practitioners have expressed concern regarding the lack of research in performance improvement:

<table>
<thead>
<tr>
<th>No.</th>
<th>Researcher</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Swanson</td>
<td>1983</td>
</tr>
<tr>
<td>2.</td>
<td>Foshay and Moller</td>
<td>1992</td>
</tr>
<tr>
<td>3.</td>
<td>Brethewer</td>
<td>1995</td>
</tr>
<tr>
<td>4.</td>
<td>Dean</td>
<td>1996</td>
</tr>
<tr>
<td>5.</td>
<td>Foshay, Moller, Schwen, Kalman, and Haney</td>
<td>1999</td>
</tr>
<tr>
<td>6.</td>
<td>Sugrue and Stolovitch</td>
<td>2000</td>
</tr>
<tr>
<td>7.</td>
<td>Guerra</td>
<td>2001</td>
</tr>
<tr>
<td>8.</td>
<td>Klein</td>
<td>2002</td>
</tr>
<tr>
<td>10.</td>
<td>Kang</td>
<td>2012</td>
</tr>
</tbody>
</table>

Taking A Deeper Dive Into The Issue of Paucity of Research In The Field

The genesis of an issue particularly within a field that is a confluence of multiple disciplines may not be easily traced, or for that matter resolved. One conjecture is that each body of knowledge has its own set of concerns; now, since our field has borrowed concepts, theories, tactics, and approaches, it is possible that we may have inadvertently also borrowed issues that exist within a field.
Furthermore, the permeable boundaries of the field allows for issues from other domains to co-exist and interact, possibly exacerbating the nature and severity of issues. Thus, there may be several embedded challenges and to understand the genesis, trajectory, impact, and interference of an issue with other issues it may be difficult to glean, examine, and address it in isolation from other existing issues.

Let us take a singular concern in research such as the paucity of research within the field, and delve deeper into what the presence of numerous studies within our literature informs us.

1. One can infer that the lack of research has been a steady concern across the decades.
2. It also implies that it has remained unresolved over the years.
3. Next, we must ask why:
   a. Is it easier to publish since scholars and practitioners have raised this concern before?
   b. Does the vastness of the field overwhelm novice researchers prompting one to research a topic that has previously been studied multiple times compared to other lesser-examined issues?
   c. Does the lack of support in terms of funding deter researchers from undertaking a research agenda that may not further the field or address existing concerns within the field but resort to topics that are more amenable and research fund friendly?
   d. How does the lack of unique positioning within higher institutions affect and/or contribute to this issue?
   e. Or is it because researchers tend to function rather autonomously and pursue an agenda that is more in line with their individual interest, the demands of the department, or pursue a research agenda that receives funding?
4. What role does the presence of this recurring issue have on the identity, maturity, and acceptance of the field?
5. What issue has the paucity of research given rise to? And, how are these issues interacting with each other?
6. Can one foresee this issue metastasizing resulting in the demise of research within the field?
7. If no research was being conducted in HPT, can one say that the field exists? Or does the generic nature of the field of performance improvement provide intellectual solace and contentment to accept research being conducted by other disciplines equally dedicated to performance improvement but do not exhibit the fundamental concerns that our field has?
Layered Concerns

There are other issues within the research of our field. Each of these issues interact with each other, just as issues do in business, and it may give rise to other issues, or it may have already had an impact in its growth and development as a field, and in its rate of acceptance by various stakeholders. Similarly, issues may also exist within our practice and the professional body – so we must ask ourselves, what is the cumulative impact of all these issues?

Although seemingly tangential, nevertheless related, we must also question how the nomenclature of our field “Performance Improvement” affects the detection and categorization of issues across its research, practice, and professional body? The inherent vastness of “performance improvement” implies non-ownership since it is the pursuit of every domain of knowledge, industry, function, and individual; the pursuit of performance is what undergirds civilization and progress. Thus, can uniqueness be maintained in the face of all of this? And, if there is no uniqueness within our field, does it then raise existential questions for the field? And, does any of it matter? If so, are there any takers? If not, does it lead to a more fragmented field of study?

Reference:


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Ria Roy has a PhD, MBA in Management Information Systems, M.S. in Human Factors in Information Design, and M.S. in Training and Development. Her research interests lie in development of the field of performance technology and performance improvement, organization design, innovation, and the study of customer centricity as a performance enabler. She is also the creator and monthly contributor of the Performance Xpress column on rethinking, revisiting, and reimagining performance improvement.

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Micro-Learning has been getting rave reviews as the next “big thing” in eLearning and development. Up to this point, few people have articulated effective practice for Micro-Learning, so I derived a few guidelines of my own to follow. In this article, I’ll discuss my “First Rule of Micro-Learning—Thou shalt enable performance, not just teach facts.”

Let’s do an experiment. Before we get started, get a pencil and a blank sheet of paper, or a large post-it note. Next, set the pencil and paper down on your desk or table, and do the following:

1. Click the link titled “Playing with Cognitive Load (No Load)” shown on the next page, look at the numbers, wait for them to disappear, and then write them down from memory. (Note: The numbers will disappear after a few seconds).
Playing with Cognitive Load (No Load)

2. Reload the page as needed to check how many numbers you listed correctly.

3. Put the paper and pen down again, and then click the button/link titled “Playing with Cognitive Load” shown below, look at the numbers, wait for them to disappear, and then write them down from memory.

Playing with Cognitive Load

4. Reload the page as needed to check how many numbers you listed correctly. Information is NOT instruction!

You probably found it easy to remember the numbers listed in the first example, but a little more challenging to recall the numbers listed in the second example. Why? Recalling the first set of numbers is easy because our brain naturally recognizes patterns which in turn helps to retain information in short-term memory. Recalling the second set of numbers is more challenging because the numbers were randomized; this is a good illustration of what can happen when we exceed cognitive load (7+/-2) – “The seven plus or minus two principle,” and it’s also a good illustration of why ID’s should avoid presenting facts as standalone instruction.

Our job as designers and performance consultants is to “help” people recall/remember “facts” when needed to accomplish an immediate task, and/or to learn other types of knowledge (concepts, procedures, processes, or principles) -- (I call these “CP3”). Job-aids, or other performance support tools, assist in solving immediate tasks, and are also useful for helping people remember infrequently used facts, procedures, and processes. (Note: Job-aids are NOT Micro-Learning! Information is NOT instruction!).

It’s important to note that facts are only “learned” at the recall level and can only be encoded in long-term memory after repeated practice or rote memorization; or if associated with other types of knowledge (CP3). Let’s see how this works by doing one more experiment. Watch the video (Making Banana Bread Ice Cream Cake) one time, and then continue reading the article.
Micro-Learning or Drill & Kill?

Did you learn enough from the video to make the cake, or like me, did you just end up craving a scoop of ice cream? Most of us need to watch and pause the video numerous times before encoding enough information to make the cake—that’s not Micro-Learning—it’s “drill & kill.”

An alternative approach is to present the video, and then help the learner recall the recipe using simple index cards or a web page—sort of like mom’s secret recipe cards! Cards are also more appropriate to the context in which a person makes the cake; in a messy kitchen who wants to risk getting flour, egg, sugar, and other sticky stuff on their iPad or computer?

Implications of the “First Rule”

So, what are the implications of the “First Rule” in terms of utilizing Micro-Learning?

1. Use a job-aid or performance support tool to help performers find and use infrequently used facts, procedures, and processes. Consider using a contextually sensitive help system so performers can reference information as needed to accomplish immediate tasks. Old-fashioned print job-aids work too!

2. Use appropriate, and proven, instructional methods and strategies to developing Micro-Learning (i.e., present content, guide learning, provide practice/assessment, and feedback); research tells us that encoding is accelerated through practice—either structured or implied (in the example above, assessment is implied in the performance of making the cake from memory; no criterion-referenced assessments are required!).

Context and Performance are King!

Micro-Learning’s best use is to provide on-demand and granular instruction that can be quickly consumed, applied, and self-assessed. Presenting Micro-Learning at the wrong time, and delivered in the wrong context, can lead to unintended consequences and gaps in performance (I’ll discuss this more in my next article....)
Curtis Pembrook, EdD (ABD) a Graphic Design and Multimedia instructor at Mission College in Santa Clara. He is the Chief Learning Strategist at Performance Instruction LLC and has 17 years of experience as an instructional designer, technical trainer, and e-Learning developer. Curtis can be reached at curtis@performanceinstruction.com
Meet Your Community: Interview with Steven J. Kelly, M.A., CPT

by Judith Hale, Phd, CPT, CACP, CDT & ibstpi Fellow

Let's face it....we are better together, especially in our field. PI practitioners benefit from networking, collaborating and learning from their peers. Getting to know your peers is made easy with this new feature for PX: a new series by Judith Hale designed to help us get to know our fellow members in the HPT/PI community. In this issue, meet Steven J. Kelly, M.A., CPT! Hello Steven!

JH: What attracted you to PI/HPT?

SJK: I had been awarded a four-year scholarship by the US Army to attend university. Upon graduation in 1975, I joined the military intelligence branch. I specialized in cryptology and electronic warfare. However, rather than being placed in a sexy assignment in an exotic field station, I had the dubious opportunity of participating in the rollout of these types of capabilities to the frontline tactical level. In this environment as a front-line supervisor (platoon leader of 75 specialists), my major focus became leading efforts to train infantry units in preventive measures of electronic attacks. Our success was fully based on demonstrated actions by infantry soldiers taken during field tests.
I was very impressed with the military performance-based training design and testing elements. Although there was some knowledge testing, the key was demonstrating the ability to take correct actions under pressure. There were no “happy sheets” for feedback. The issue of whether someone “liked” a program was inconsequential. In fact, some of my best learning was the result of training I severely detested while undergoing. It was a lesson that stuck.

Several years later, having decided not to make a military career, I was promoted to lead an installation-wide Race Relations office. We collaborated with a new experimental office that had been established on the post. Called Organization Effectiveness, it was a tiny unit with what I would currently recognize as performance consultants. They conducted unit assessments and used flowcharting and other tools for diagnosis and recommendations. I worked closely with these experts and at this time was introduced to Gilbert and Forester. During this period, I discovered ISPI and realized that much of the approach I was using was described as Human Performance Technology.

**JH: What is some work you are most proud of?**

**SJ:K:** I would have to say my work supporting reforms in the former Soviet Union. With the fall of the Berlin wall in 1989, my partner and I took a leap and located KNO headquarters to Prague in then Czechoslovakia. Building a local team from scratch, we focused on introducing basic sales and customer service programs. Momentum started with a successful 5-year effort with GM/Opel to introduce auto dealerships, and a partnership with PwC to conduct salary surveys. Throughout the 1990s and into the new century, KNO supported dozens of multinationals entry into Central Europe to include brands such as Kimberly-Clark, Nestle, McDonalds, Citibank, AIG, Hertz, Shell, Dell, KPMG and US Steel. I served 6 years on the Board of the Czech-American Chamber of Commerce. After 2005, I turned the commercial clients over to our strong local management team. Building on our work funded by World Bank and USAID, I took on challenging assessment assignments to support government or nonprofit sector reforms around the world in places such as Rwanda, Vietnam, Kyrgyzstan, Jordan and Nicaragua. During that period, I was also elected to serve two terms on the ISPI Board and supported initiatives to expand the international presence. Having visited over 100 countries in the past four decades has strengthened my cultural appreciation of the value of diversity in methods.

**JH: When people speak/think of you, what do you want them to remember/say?**

**SJ:K:** I rarely have taken a highlighted role in leading performance improvement efforts – I prefer the client to be recognized. In fact, with some of my most effective interventions, I worked behind the scenes. Sometimes staff was even curious why we were involved as they took control of the actions. As a lead practitioner, I put great efforts to apply methods proven to work, adapt as necessary, and push for agreed results. As well, I did have the pleasure over 40 years to coach and mentor many dozens of young professionals as they took initial steps into the performance arena. Many of these are now middle or senior level managers in the corporations we supported after the fall of the wall. I am continuing these efforts now with the nonprofit sector in Ireland. I consider this my most important legacy. Kelly and his partner Mari Novak re-located to the southern coast of Ireland in 2012. Along with his continuing role as Partner of KNO, he is Trustee/Treasurer of hOur Timebank, a nonprofit based in West Cork focused on supporting community development through shared citizen contributions. Kelly is a lifetime fellow of Phi Kappa Phi. To learn more Steven can be reached at steven.kelly.kno@gmail.com

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**About the Author**

Judith Hale, PhD, CPT, CACP, CDT, and ibstpi Fellow, is the CEO of the Center for International Credentials, LLCs. She is the author of nine books on performance improvement. The Performance Consultant’s Fieldbook: How to Improve Organizations and People, 2nd edition, is used as a text by numerous universities. Performance-Based Certification: How to Design a Valid, Defensible, Cost-Effective Program, 2nd edition, received the Outstanding Communication Award from ISPI in 2014. Judy has served as president of ISPI and director of Certification for ISPI. She can be reached at Judy@HaleCenter.org.
It’s gardening season where I live, one of my favorite times of the year. Waiting for perennials to come up, watching for buds and leaves to appear, moving plants to more favorable locations in the yard, deciding what vegetables to plant where, all bring me joy. I’m familiar with my yard, the soil, the sun and shade, and I know what I want to cultivate and how. Friends and neighbors stop by to chat when I’m out in the yard, asking about what’s growing and sometimes looking for advice. I can respond with names of plants and their characteristics. I can offer informed suggestions. I’m surprised sometimes at how much I actually know. When and how did I accumulate this knowledge? I’ve never taken a course on gardening. I have no formal horticultural training. Yet I know quite a bit about what will grow in my own yard and how to make it flourish. Looking back, I’ve learned informally from other people, such as neighbors, friends, family, and nursery garden employees; resources, including books, articles, videos, blogs, apps, and online forums; and, of course, just getting out there and gardening. Have I planted a few things I wish I hadn’t? Yes. And now I know better based on the experience.
It all seems so seamless. How delightful to learn in this way — through exploring and discovering and connecting and doing. In fact, it’s how many of us learn many things. Yet, as a learning professional, I’m often faced with one-and-done formal training requests, and admittedly, often for good reasons, including urgency, budget, and culture. I recognize that a new hire or an employee learning a new software or process will most likely need some type of formal training. (I wisely took a beekeeping course before I started that endeavor.) And I also know that organizations can’t afford to have employees learn their jobs in a meandering way over years, as I’ve done with gardening.

**Learning Experience Components**

I do believe, however, that we can weave simple components into a learning experience that will promote this type of natural learning and make it feel less forced and, for lack of a better word, “training-y.” These components can also provide other benefits like reinforcing learning, improving performance, encouraging accountability, and building a learning community.

Here are a few suggestions:

- **Time:** Spread out learning, if possible, to give learners time to absorb knowledge or practice on their own. Break sessions into smaller chunks with independent activities in between, or ask learners to apply something they’ve learned when they’re back on the job and share the experience with a manager or colleague.

- **Autonomy:** Provide options that allow learners to control some of the learning experience. Give them a bucket of activities to accomplish in a certain timeframe, but let them choose the order. Ask them to do some research on their own and report back. Don’t always tell them; sometimes show them where to search and let them find!

- **Expertise:** Set up “office hours” for an expert in the organization to be available to answer questions or help with issues after training takes place. Provide links to TED Talks, podcasts, blogs, videos, etc., in which experts in the field share ideas, insights, and best practices.

- **Connection:** As part of a learning experience, encourage connection by including partnering or group activities outside of facilitated learning. Set up channels on messaging sites such as Slack, Yammer, or Teams to post questions and have learners share successes and insights. Build touch points between learners and managers before, during, and after learning events.

- **Just enough:** Start by covering just what learners need to know about or do “in their own yard.” For those learners who may want to know or do more, provide optional activities, build optional pop-ups into e-learnings, or provide links to other resources.

- **Drive:** Give learners a reason for learning! When we learn on our own, it’s because we’re driven to find out about something that interests us. Make sure learning is tied to valid and compelling reasons for the target audience to care about the topic. Create mini-marketing pieces, such as a “welcome to the learning experience” letter or video.
Denise Renton (denise.renton@innovativeLG.com) is a performance consultant at Innovative Learning Group, a performance-first learning company located in Troy, Michigan. She has 30 years of experience designing and developing training and performance support solutions for Fortune 1000 companies. Denise finds that one of the most interesting aspects of the instructional design field is learning about what other people do in their jobs and how different companies pursue performance improvement for their employees.

• **Practice:** Let learners try! In facilitated sessions, build in activities designed to have learners flounder in the first round, then get better and better with subsequent rounds as they build on their experience. Have learners commit to applying one thing they learn on-the-job and report back on it.

• **Acknowledgment:** Encourage learners to recognize and appreciate what they’ve learned. Whether through reflection, journaling, or sharing with others, helping learners acknowledge their growth and experience provides a sense of accomplishment and motivation to continue the learning journey.

Putting a little thought into cultivating your learning “garden” by adding some of these components can help your learners flourish!
Problem-Solving Tools:
What they are. When to use them. How to use them.

Fred Nickols

This article presents 24 tools that are useful and valuable at various times in the course of solving a problem. The tools are listed on the right side of this page. Not all tools are relevant all the time or in every instance, but some are quite useful much of the time and a few do have a role to play most of the time. The tools are presented one to a page. On the top part of the page is a visual showing an example of what the tool in question might look like. Visual representations of the tool in question can vary quite a bit so keep in mind that what is shown in this document is merely one example. On the bottom part of the page is a three-part table that describes what the tool is, when to use it, and how to use it; hence, the title of this document. You can jump around from tool to tool if you like simply by clicking on the tool name below. To return to this list, simply click on the name of the tool on the page it is presented. Enjoy your foray through these tools.
List of Problem-Solving Tools

1. Affinity Diagram
2. Benchmarking
3. Brainstorming
4. Check Sheet/Tally Sheet
5. Control Chart/Shewhart Chart
6. Decision Tree
7. Fishbone/Ishikawa Diagram
8. Five Whys
9. Flowchart
10. Force Field Analysis
11. Gantt Chart
12. Goals Grid
13. Histogram
14. Mindmap
15. Nominal Group Technique
16. Paired Comparison
17. Pareto Chart
18. Relationship Diagram
19. Run Chart
20. Scatter Diagram/Scatter Plot
21. Standard Data Displays
22. Stratification
23. Tree Diagram
24. Weighted Comparison

Tool Categories
The tools listed above fit into three basic categories: Visualizing Problem Structures, Displaying Data and Information, and Problem-Solving Techniques. The tools are sorted into these categories at the end of this paper. To access that page, click here. To return to this page, click on the title of the category page.

For Additional Information
There is wealth of information about these tools on the internet, easily accessible and, for the most part, free of charge. Simply Google the name of the tool about which you want more information.
**Affinity Diagram**

<table>
<thead>
<tr>
<th>Education</th>
<th>Communication</th>
<th>Environment</th>
<th>Documentation</th>
<th>Policies &amp; Procedures</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>No orientation for JMOs regarding INR</td>
<td>Inadequate handover to new ward</td>
<td>INR machine was broken</td>
<td>No formal handover</td>
<td>Procedure written but not available to staff</td>
<td>No routine collections for patients on anticoagulants</td>
</tr>
<tr>
<td>No medication reconciliation</td>
<td>No flag from lab re: high INR</td>
<td>All tests were ordered at the end of the ward round</td>
<td>POCT not used</td>
<td>No guideline on intranet</td>
<td>Staff felt POCT not reliable</td>
</tr>
<tr>
<td>No regime for post op patients requiring warfarin</td>
<td>No medication reconciliation</td>
<td>No medication reconciliation documented</td>
<td>No local policy</td>
<td>No clear guideline</td>
<td>POCT not used</td>
</tr>
<tr>
<td>No written handover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
</table>
| A way of organizing, categorizing, and summarizing large amounts of information. | Any time large amounts of information have been generated, but particularly right after a brainstorming session. | - The issue or topic is stated.  
- Ideas and/or issues are generated, usually as a result of brainstorming.  
- These are then recorded on 3x5 or yellow stickies and distributed to the group or to sub-groups.  
- The cards/stickies are then clustered into categories based on common characteristics.  
- The clusters are discussed, and individual items moved from cluster to cluster as necessary.  
- The final clustering is captured in a list of cluster headings and items in each cluster. |
Benchmarks

A technique for identifying best-in-class performance for some aspect of organization (e.g., customer satisfaction, product quality, cycle times, unit costs, and so on).

To set standards or targets for an improvement effort, and to determine comparative performance of one’s own organization.

- Determine what to benchmark and why.
- Form and train a benchmarking team.
- Identify and obtain participation from benchmark partners (exemplars).
- Collect and analyze performance data.
- Produce a benchmark study setting forth conclusions and recommendations.
### Brainstorming

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
</table>
| A technique for generating large amounts of information and ideas, often quite creative, in a relatively short, intense time period. | Whenever the goal is to identify ideas about, issues pertaining to, or insights into a given problem or situation. It is frequently used to generate information about potential problems, causes, solutions, and barriers to implementation. | - The problem or situation is stated or defined.  
- The kinds of information wanted are defined.  
- The ground rules are explained:  
  1. no judgment or discussion of ideas during the generation phase  
  2. build on or add to the ideas of others  
  3. no idea is too wild or wacky  
- Record all ideas and comments (the use of a tape recorder is recommended). |
### Check Sheet/Tally Sheet

<table>
<thead>
<tr>
<th>Category</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open stitch</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Un even top stitch</td>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
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<tr>
<td>Loop slanted</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Un cut thread</td>
<td>III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Over stitch</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Down stitch</td>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Skip stitch</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Uneven lob</td>
<td>III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Broken stitch</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Short stitch</td>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Puckering</td>
<td>III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Label displace</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Raw edge out</td>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Up-Down position</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Rejected</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>102</td>
</tr>
</tbody>
</table>

### What?
A list or a diagram for recording the frequency with which events occur or their location. In essence, a checksheet is a tally sheet.

### When?
When frequency of occurrence or location is not known.

### How?
A simple form or diagram is made up and, as events occur, their frequency and location are marked on the form.
Control charts are used to determine the range of variation in the performance of a process or system. To identify the baseline performance of a system or process, and to monitor that performance over time. It is especially useful in distinguishing between systemic and special causes.

- Performance data are collected on a sampling basis.
- The mean and standard deviations are calculated and used to determine upper and lower control limits.
- Performance within the control limits signifies a process under control.
- Ordinarily, the use of control charts requires a minimum amount of statistical training.
### Decision Tree for *PlayTennis*

- **Outlook**
  - Sunny
  - Overcast
    - Yes
  - Rain

- **Humidity**
  - High
  - Normal
    - Yes
  - No

- **Wind**
  - Strong
    - No
  - Weak
    - Yes

---

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
</table>
| Decision trees are a form of tree diagrams used to analyze complex decisions having quantitative aspects. | Whenever the consequences of complex alternatives need to be examined in the course of making financial or other decisions that are readily quantifiable. | - Work from left to right.  
- Start with the decision that needs to be made at the far left in a square.  
- Draw branching line out from the decision box that represent possible solutions.  
- Use squares to represent additional decisions that must be made, and circles to represent uncertain outcomes of the solutions.  
- Repeat the branching effort for additional decisions identified.  
- Calculate the values of the branches to identify relative cost-benefits of each solution. |
Fishbone/Ishikawa Diagram

Factors Reducing Competitiveness

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
</table>
| A visual display of the elements making up the structure of a problem situation. It consists of diagonal lines off a horizontal center line, making it look somewhat like the skeleton of a fish, hence its name. The effect is shown at the right-hand end of the horizontal line, and the causes are shown on the diagonal lines. | After information about a problem or unwanted effect has been collected and needs to be organized into some kind of cause-and-effect relationship. | - Identify the problem or effect to be examined.  
- Write the effect in a box at the right-hand side of a piece of paper and draw a long horizontal line from it across the paper.  
- Select the major categories of causes (standard categories are people, materials, machinery, methods).  
- Draw diagonal lines away from the horizontal line and place boxes at the end of each diagonal; print the cause categories in the boxes.  
- Brainstorm for possible causes; write these along the diagonal lines.  
- Evaluate and analyze the causes generated. |
The Five Whys offer one way of identifying the root cause of a problem. As the name implies, it’s essentially a matter of asking Why? – five times in succession.

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The technique is used whenever you want to delve deeper into the causes of a problem.</td>
<td>First, state the problem. Then ask, “Why?” (or “Why is this happening?”) Ask the same question four more times.</td>
<td></td>
</tr>
</tbody>
</table>
Flowchart

What? | When? | How?
---|---|---
A visual means of displaying the sequence of activities and decisions that occur in a system or process over time. | Whenever one wishes to understand or document the operation of a process or unit; most often as part of an effort to improve system, process, or unit performance. | • The process may be “walked,” “talked,” or both.
• Walking the process is frequently the best way to identify processes involving the production or manufacture of physical goods.
• Talking the process (i.e., interviewing people) is frequently the only way to identify information-based processes.
• Preliminary diagrams are prepared and then reviewed and revised by knowledgeable people.
• The final diagram constitutes a model that can be used to explain or analyze the system, process, or function.
Force Field Analysis

<table>
<thead>
<tr>
<th>Current State</th>
<th>Desired State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Forces</td>
<td>Restraining Forces</td>
</tr>
</tbody>
</table>

**What?**
Force-field analysis is a means of examining the forces in a situation that keep it as it is. This is often defined as dynamic stability or tension and is the result of driving and restraining forces that are in balance.

**When?**
When one wishes to understand, and usually to change, the balance of forces in a given situation.

**How?**
- Using a regular letter size piece of paper, the current state is listed at the top left.
- The desired state is listed at the top right.
- A vertical line is drawn from the center of the page to the bottom of the page.
- Horizontal lines to the left of, with arrows pointing to the vertical line are used to indicate forces driving toward the desired state.
- Horizontal lines to the right of, with arrows pointing to the vertical line are used to indicate restraining forces.
- Driving and restraining forces are usually generated as the result of a brainstorming session.
- Perceived strength of a force is indicated by the length of the arrow on a four-point scale:
  1 = Negligible
  2 = Weak
  3 = Strong
  4 = Very Strong
- Strategies are then developed to increase the driving forces and undercut the restraining forces.
Gantt Chart

A Gantt chart or bar chart is essentially a bar chart. It was invented in the early 1900s by Henry Gantt and is named for him. It is used to illustrate project schedules and to show task dependencies (e.g., tasks that can’t be started until other tasks are complete).

With respect to problem-solving efforts, a Gantt chart is most useful when planning and scheduling the implementation of large-scale or complex solutions, typically involving several people and tasks. That said, a Gantt chart can also be useful for much smaller, less complex undertakings.

Most people use spreadsheet software such as Excel and the software being used will determine how it is used.
- Identify essential tasks
- Identify task relationships
- Input activities into software or template
- Monitor progress and update chart as necessary

<table>
<thead>
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<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td><strong>What?</strong></td>
<td><strong>When?</strong></td>
<td><strong>How?</strong></td>
</tr>
</tbody>
</table>
A Goals Grid is a tool for making sure you have attended to all your goals and objectives, especially when defining the solved state or “what should be.” Its four cells are the result of arraying Yes and No answers to two questions:
1. Do we have it?
2. Do we want it?

Whenever you are contemplating the ends you seek, whether as part of a problem-solving effort or some other effort aimed at realizing certain results.

- Ask yourself the questions in the Goals Grid:
  1. What do I want to achieve?
  2. What do I want to preserve?
  3. What do I want to avoid?
  4. What do I want to eliminate?
- Fill out the Grid as you answer the questions.
- Review it to ensure you have all your goals in mind.

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Goals Grid is a tool for</td>
<td>Whenever you are contemplating the ends you seek, whether as part of</td>
<td>- Ask yourself the questions in the Goals Grid:</td>
</tr>
<tr>
<td>making sure you have</td>
<td>a problem-solving effort or some other effort aimed at realizing</td>
<td>1. What do I want to achieve?</td>
</tr>
<tr>
<td>attended to all your goals</td>
<td>certain results.</td>
<td>2. What do I want to preserve?</td>
</tr>
<tr>
<td>and objectives, especially</td>
<td></td>
<td>3. What do I want to avoid?</td>
</tr>
<tr>
<td>when defining the solved</td>
<td></td>
<td>4. What do I want to eliminate?</td>
</tr>
<tr>
<td>state or “what should be.”</td>
<td></td>
<td>- Fill out the Grid as you answer the questions.</td>
</tr>
<tr>
<td>Its four cells are the result</td>
<td></td>
<td>- Review it to ensure you have all your goals in mind.</td>
</tr>
<tr>
<td>of arraying Yes and No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>answers to two questions:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Do we have it?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Do we want it?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Histograms are a form of bar chart. The shape of a histogram says a lot about the performance of a process or system.

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
</table>
| Histograms are ordinarily used to display statistical data regarding a process or aspects of it (e.g., mean, median, mode, standard deviation, etc.). Their basic use is as a baseline to be used as a gauge against which to measure improvement. | Histograms are ordinarily used to display statistical data regarding a process or aspects of it (e.g., mean, median, mode, standard deviation, etc.). Their basic use is as a baseline to be used as a gauge against which to measure improvement. | The general process for constructing a histogram is as follows:  
  - Determine the range of the data.  
  - Record the measurement unit used.  
  - Determine the number of classes (6 to 15).  
  - Determine class width (divide range by number of classes).  
  - Establish class midpoints and limits.  
  - Determine the X-Y axes for the diagram (frequency on Y axis and measurement scale on X axis).  
  - Draw the graph.  
  - Title the histogram. |
# Mindmap

## What?
A Mindmap is a visual means of depicting a central idea and its many branches.

## When?
Mindmaps are used to organize thoughts about a central issue and can be used to capture the ideas generated in a brainstorming session.

Other uses include:
- organizing and planning tasks
- developing concepts and ideas
- preparing for presentations
- note taking for later write-up

## How?
- The central idea is recorded in a box or circle at the center of a sheet of paper.
- Related thoughts are then reflected on lines branching out from the center.
- These initial branches are themselves the basis for further branching.
- Thoughts and ideas are recorded via key words on the lines used to lay out the branches.
- Color is used to distinguish various categories or clusters of ideas.
- Use images wherever possible.
Nominal Group Technique

**Step 1**
Individual recording without group interaction

**Step 2**
Round-robin recording of ideas without discussion

**Step 3**
Group discussion of each idea narrowing the list

**Step 4**
Ranking and voting on alternatives

If necessary, return to Step 1 with new issues developed in Step 4

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<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
</table>
| Nominal Group Technique (NGT) is a structured group activity similar to brainstorming. | NGT is used to generate and evaluate or rank a series of actions or solutions. It is often used after a brainstorming session to organize and evaluate the products of the brainstorming session. | • The problem or decision is stated by the facilitator.  
• Ideas are generated or imported from a previous brainstorming session.  
• The group then discusses the ideas and clusters them into related groupings.  
• Evaluation criteria are developed.  
• Each team member selects and rank orders five to eight of the ideas generated.  
• The facilitator consolidates the individual rankings.  
• The highest-ranking items are discussed, and consensus developed.  
• The end product is a consensual decision or chosen course of action (i.e., a solution). |
Paired Comparisons

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paired comparisons is a forced-choice method of determining the preferences for or priorities among several competing options (e.g., proposed solutions).</td>
<td>This method is used to make choices among options having similar or equal merit.</td>
<td>Create a matrix with the same number of rows and columns as there are options to be considered.</td>
</tr>
<tr>
<td>B: Achievement</td>
<td>B: Achievement</td>
<td>List and number the competing options in some order along one side of the matrix and in the reverse sequence along the other side.</td>
</tr>
<tr>
<td>C: Work conditions</td>
<td>G: Financial benefits</td>
<td>Make certain each option has the same number on both sides of the matrix.</td>
</tr>
<tr>
<td>D: Power/Influence</td>
<td></td>
<td>Blank out the cells where the options are compared against themselves (these will represent a diagonal line).</td>
</tr>
<tr>
<td>E: Creativity</td>
<td>F: Interest</td>
<td>Blank out all the cells on one side of the diagonal line just blanked out.</td>
</tr>
<tr>
<td>F: Interest</td>
<td>G: Financial benefits</td>
<td>Using the remaining cells compare each option against each of the others.</td>
</tr>
<tr>
<td>G: Financial benefits</td>
<td></td>
<td>Note the number of the preferred option in the cell where the comparison is performed.</td>
</tr>
<tr>
<td>H: Relationships</td>
<td></td>
<td>When finished the option with the greatest number of entries in the matrix is the preferred choice.</td>
</tr>
<tr>
<td>I: Self Development</td>
<td></td>
<td>If two options have the same number of entries in the matrix, the preferred choice is the choice made when the two were compared with one another.</td>
</tr>
<tr>
<td>What?</td>
<td>When?</td>
<td>How?</td>
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<tr>
<td>-------</td>
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</tr>
</tbody>
</table>
| Paired comparison is a forced-choice method of determining the preferences for or priorities among several competing options (e.g., proposed solutions). | This method is used to make choices among options having similar or equal merit. | - Create a matrix with the same number of rows and columns as there are options to be considered.  
- List and number the competing options in some order along one side of the matrix and in the reverse sequence along the other side.  
- Make certain each option has the same number on both sides of the matrix.  
- Blank out the cells where the options are compared against themselves (these will represent a diagonal line).  
- Blank out all the cells on one side of the diagonal line just blanked out.  
- Using the remaining cells compare each option against each of the others.  
- Note the number of the preferred option in the cell where the comparison is performed.  
- When finished the option with the greatest number of entries in the matrix is the preferred choice.  
- If two options have the same number of entries in the matrix, the preferred choice is the choice made when the two were compared with one another. |
Relation diagrams consist of labeled boxes (or circles) with lines drawn between and among them to reflect causal relationships.

Relationship diagrams are typically used when the cause-and-effect relationships in a situation are complex and unclear. They are often used in the course of:

- responding to market/customer complaints
- promoting quality in purchased/ordered items
- improving process controls
- reforming administrative/business units

The problem or situation is stated by the team leader or facilitator.

Issues and ideas regarding their resolution are generated and recorded on 3x5 cards or yellow stickies.

The 3x5 cards or yellow stickies are then taped to a whiteboard/easel sheet in a circle.

Each item is then examined in relation to every other item.

If a connection exists, a line is drawn connecting the two; a line into an item means it is the effect; a line out of an item means it is the cause.

Items with the most arrows pointing in are the primary effects of interest.

Items with the most lines going out of them are the main or chief drivers of the problem.

The relationships are then examined with an eye toward identifying possible solutions.
Run Chart

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run charts are a form of line graph.</td>
<td>Run charts are used to graph data over time. You could, for example, use a run chart to record and graph the time it takes you to get to work during a given time period or using a certain route. The main purpose for using run charts is to detect patterns and trends.</td>
<td>• Gather data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Organize data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Chart data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Interpret data.</td>
</tr>
</tbody>
</table>
Scatter diagrams or plots depict the relationship between two variables.

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scatter diagrams or plots depict the relationship between two variables.</td>
<td>Scatter plots and diagrams are used primarily to determine what, if any, relationship exists between two variables. The most common patterns revealed by way of scatter plot analysis are: 1. definite positive correlation 2. possible positive correlation 3. no correlation 4. possible negative correlation 5. definite negative correlation</td>
<td>• Collect paired data regarding variables thought to be related. • Construct a three-column data sheet listing each item, its data for variable 1, and its data for variable 2. • Construct the axes of the data plot. • Place the dependent variable on the X axis. • Place the independent variable on the Y axis. • Plot the data. • Interpret the data plot.</td>
</tr>
</tbody>
</table>
Standard Data Displays

<table>
<thead>
<tr>
<th><strong>What?</strong></th>
<th><strong>When?</strong></th>
<th><strong>How?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>These consist of bar and line graphs, and pie charts.</td>
<td>Generally speaking, standard data displays are used to show distributions, proportions, and so forth. Their basic use is to convert numerical data to visual form.</td>
<td>All spreadsheet software programs such as Lotus or Excel, and most word processing software programs such as Word and WordPerfect, contain standard data display provisions. They are hardly ever drawn by hand anymore.</td>
</tr>
</tbody>
</table>
Stratification

This is a method of dividing and displaying data. It often takes the form of a stacked bar chart.

One could, for example, depict the absentee hours for various divisions within an organization in a bar chart with one bar for each division. Each bar could then be stratified to indicate the reason for absenteeism (e.g., sick, vacation, traveling, etc.).

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is a method of dividing and displaying data. It often takes the form of a stacked bar chart.</td>
<td>Stratification is used to get at finer-grained causal variables that can be hidden in high-level data displays. Hence, the need to divide the data.</td>
<td>• Collect high level data. • Analyze for lower-level data. • Construct data display. • Analyze data display for patterns. • Identify possible problems, causes, and solutions.</td>
</tr>
</tbody>
</table>
Tree diagrams are most recognizable in one of their vertical forms — the organization chart. Tree diagrams can also be structured to be read from left to right or right to left.

Tree diagrams are used to depict the structure of the variables in the situation. One common use is to depict a hierarchy of goals and objectives. A second common use is to indicate many layers of cause-and-effect relationships. Tree diagrams are also useful in decomposing many financial and operational measures of performance (e.g., ROI can be depicted in tree chart form).

<table>
<thead>
<tr>
<th>What?</th>
<th>When?</th>
<th>How?</th>
</tr>
</thead>
</table>
| Tree diagrams are most recognizable in one of their vertical forms — the organization chart. Tree diagrams can also be structured to be read from left to right or right to left. | Tree diagrams are used to depict the structure of the variables in the situation. One common use is to depict a hierarchy of goals and objectives. A second common use is to indicate many layers of cause-and-effect relationships. Tree diagrams are also useful in decomposing many financial and operational measures of performance (e.g., ROI can be depicted in tree chart form). | 1. State the problem, issue, or goal.  
2. Place it at the left, right, or top of the page.  
3. Identify the factors that affect or contribute to the main issue.  
4. Place these below or to the right or left of the main issue or goal.  
5. Repeat steps 3 and 4 until the tree-like structure of the situation has been fully elaborated. |
### Weighted Comparison

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>SPEM</th>
<th>OPF / OML</th>
<th>SOCCA</th>
<th>BPDM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Use</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Industry Support</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Tailoring</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Mapping</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Improvement Over Current Practice</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Measurement Data</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CMMI Support</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Related Elements</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Tool support</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Weighted Total</strong></td>
<td><strong>149</strong></td>
<td><strong>121</strong></td>
<td><strong>59</strong></td>
<td><strong>98</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### What?

Weighted comparison is a method for comparing different options against a given set of criteria that have been weighted.

#### When?

Weighted comparisons are ordinarily performed as a way of examining the relative merits of a set of options.

#### How?

- List the options to be considered.
- List the criteria to be used in evaluating the options.
- Assign weights to the criteria.
- Construct a matrix with the options across the top and the criteria down the left side, along with a totals row running across the bottom of the matrix; indicate the weighting factor next to each criterion.
- Draw a diagonal line in each cell of the matrix.
- Develop a rating scale (1 to 5, or 1 to 10) for rating the options.
- Rate each option for each criterion, writing the rating in the cell for that option.
- Sum the weighted products for each option and enter in the weighted total column at the bottom of the matrix.
- The option with the highest total weighted score is the preferred option.
Fred Nickols is an organizational generalist, a writer, consultant and former executive who spent 20 years in the U.S. Navy, retiring as a decorated Chief Petty Officer. In the private sector, he worked as a consultant and then held executive positions with two former clients. Currently, Fred is the Managing Partner at Distance Consulting LLC. His web site is home to the award-winning Knowledge Workers’ Tool Room and more than 200 free articles, book chapters and papers. Fred writes the “Knowledge Workers” column on a monthly basis. A complete listing of all columns is available here.
When I saw the theme for the Summer Edition of PerformanceXpress as the “Age of Disruption,” I immediately thought of “culture clash.” How much disruption might that bring with two (or more) organizations merging or one organization acquiring other organizations? Of course, that may not hold a candle to the disruption we all endured in 2020 with COVID and all its implications. Vector Group Principals began their work in 1983 at British Airways (BA) for its transformation from “Bloody Awful” to “The World’s Favourite Airline.” Bob Carleton always told me the story that he was “one of twelve prima donna consultants hired by the airline including Bob, Claude “Butch” Lineberry, several of Vector Group’s earlier principals along with W. Warner Burke, George Litwin and others of notoriety in the field of performance. In 1985 several of these independent consultants met at an English pub to discuss the possibility of forming a new company and working together. They formed Vanguard Consulting Group, Inc. with Bob, Butch, Stephanie Jackson, Donald Tosti, Bob Powers, et al, as partners.
This was the beginning of our work with organizational culture and formed the foundation for renewing culture, merging cultures and onto Cultural Due Diligence (CDD) and post-merger or post-acquisition cultural integration. Bob and Butch published “Culture Change” (1992) and “Analyzing Corporate Culture” (1999) in ISPI’s Handbook of Human Performance Technology. Bob was credited for the creation of the concept when he published the first article, “Cultural Due Diligence” in Training Magazine in 1997. That got us noticed leading to our work with the cultural integration of Hewlett/Compaq following their merger in 2001. After that massive project, they went on to author their book Achieving Post-Merger Success: A Stakeholders Guide to Cultural Due Diligence, Assessment, and Integration (2004).

Over the last few years, a great deal of our consulting work was with companies facing challenges following a merger or acquisition. Bob and I also found another organization that we thought might help us leverage our talents in finding new projects. I joined the Alliance for Mergers & Acquisitions Advisers or AM&AA. Bob and I presented several times at their winter and summer conferences. We got to know their membership that was comprised of mostly “dealmakers” or the ones who make deals between companies that wish to merge with or acquire another company.

At the Miami AM&AA Winter Conference, we presented the topic, Dealmakers: Heads in the Sand or Dealing Effectively with Culture Clash and other Human Capital Challenges? We shared some insights, experiences, and best practices on how to prevent critical deal value from being destroyed by cultural and organizational issues.

Cultural Due Diligence or CDD should be made part of every deal to help ensure its long-term success. The numbers remain staggeringly high as upwards of 90% of deals fail due to cultural issues.

Our efforts continued to create dialogue surrounding Dealmakers but also anyone in the organization who will be part of successfully integrating (HR, OD, and performance improvement practitioners) and their needs (both stated and unstated). We see Dealmakers as wanting to make successful deals that last but the M&A failure rate and other impediments to success get in the way of that. Our point about “heads in the sand” is just that; many Dealmakers deny the challenges of culture and human capital issues or hope the problems just go away.

We see this as normal but certainly fixable. There is still a great deal of misunderstanding and misconceptions about organizational culture and human capital issues in general. Usually, this is not part of a Dealmaker’s or other practitioners’ repertoire. Dealmakers focus almost entirely on financial aspects and leave the “people issues” to someone else like Human Resources, Organization Development, or performance improvement practitioners. We need to make everyone more aware of the criticality of conducting an effective Cultural Due Diligence (CDD) process to help enable their clients to avoid the biggest cause of failure.

We continued to promote discussion among the membership of the Alliance of Mergers & Acquisitions Advisors (AM&AA) regarding the issues and challenges surrounding potential culture clash and its impact on longevity of mergers or acquisitions. Our contention remains that in our 30+ years of dealing globally with M&A’s, we have yet to see two organizational cultures that cannot successfully align and integrate in a relatively short period of time.

Dealmakers and most organizational members have many misconceptions about CDD and other human capital issues. The belief that any sort of change in the culture “is too expensive and would take years” is one of those misconceptions. Another fallacy is that culture clash only applies to the largest organizations. Not true. Culture clash occurs within medium to very small companies including family-owned businesses.
Our contention is that M&A failure due to “culture clash” is just a way of describing management negligence, arrogance, ignorance, or some mix of the three. Dysfunctional culture clash need never occur.

The question for Dealmakers specifically must be: “Do you care (strategically or personally) how the deal goes after it closes?” We found out at AM&AA that many Dealmakers simply care about closing the deal and moving on to the next deal. We also know that some Dealmakers care about ensuring successful deals that build their credibility, enhancing their reputation for being “serially successful” in putting deals together and develop more advantageous relationships with clients for repeat business. We found a small but growing group of members who did want to learn about CDD and culture clash.

In Deloitte’s seventh M&A Trends report, they “gleaned insight from 1,000 executives at corporations and private equity investor (PEI) firms about current deal activity and expectations for the next 12 months. Survey results reveal some moderation in transaction activity expectations, with 63 percent of respondents saying transaction activity will increase somewhat or significantly, down from 79 percent a year earlier.” (Deloitte, The state of the deal M&A trends 2020)

In researching current trends in Mergers and Acquisitions, Deloitte’s The State of the Deal M&A Trends, 2020 reveals top reasons why M&A transactions have not generated expected value:

- 26% said it was due to not having a well-defined M&A strategy
- 28% said it was due to gaps in execution or integration
- 24% said it was Inadequate or faulty due diligence (Deloitte, The state of the deal M&A trends 2020)

Considering those critical trends, it is easy to make the case that everyone knows the risks and knows what needs to happen to ensure deal success. Whether they choose to take those next steps remains the question. Part of the reluctance may be a misunderstanding of the nature of culture clash, a lack of knowledge about the CDD process and perhaps, some lack of clarity on how to plan and design an effective integration strategy.

What is culture clash anyway? Culture clash is no more than differences in opinions and assumptions as to the “proper” manner and behaviors involved in pursuing the business plan. Culture clash occurs when two (or more) groups have different beliefs about:

- Observable differences between the companies involved in a merger about: What is believed; what is important; what is valued; what should be measured; how people should be treated; how people treat one another; how decisions are made; how to manage and supervise; and how to communicate.
- The disruption that occurs when the way one company conducts its business and treats its people is folded in with another company’s way of doing business.
- Differences of opinion, disagreements, arguments, and different assumptions regarding the internal process of implementing the new business plan and strategy.
- Perceived differences in organizational beliefs, values, and practices.
- Perceived differences between the two companies in degree of formality in style of dress, language, workspace, communication and so forth.
- “Winner-Loser” language used by either organization’s people. (Carleton & Lineberry, 2004)
Carleton and Lineberry went on to raise the central question. “Since speed in implementing the integration and achieving post-merger effectiveness is absolutely critical, and culture clash is the biggest obstacle to achieving the clarity and focus necessary for rapid implementation, then what is generally being done to anticipate and manage culture and management style integration issues?”

The answer is very little or nothing at all. (Carleton & Lineberry, 2004)

**Ten things Dealmakers and organizational members should know include the following:**

| 1. | Culture clash is the most common cause of eventual M&A failure including failure to achieve financial targets or prolonged inefficiency. |
| 2. | There are no two or more corporate cultures that cannot effectively align and integrate. |
| 3. | People behave differently when in groups than they do when acting individually. Corporate culture is a group behavioral norm that is not based upon individual beliefs but on organizational group norms. |
| 4. | Managing change for individuals is fundamentally different from managing change for groups. Cultural Due Diligence (CDD) is a process for gathering necessary data to design a focused group change effort in achieving overall strategic alignment. |
| 5. | Strategic Alignment assures that people (and functions) in an organization are generally approaching customers and the business in a strategically consistent and cross-functionally supportive manner. |
| 6. | CDD and strategic alignment can be successfully undertaken at any point after making the acquisition decision. Even if full-blown culture clash happens post-acquisition, the organization can still achieve successful alignment and integration. |
| 7. | The number of people and locations involved in implementing an alignment effort drive the costs for a CDD. Effectively, the costs for a CDD and achieving alignment are irrelevant in the overall cost of an M&A. In our experience the combined costs have never exceeded 1% of the overall M&A costs and are often considerably less. |
| 8. | Off-the-shelf (prepackaged) culture surveys will not generate data useful for developing and implementing strategic alignment. Because every organizational situation has unique elements and ways of talking about the business, consultants must meet face-to-face with people in interviews and focus groups to capture those unique and nuanced bits of information. |
| 9. | CDD’s should take no more than 30 days to complete. Change efforts should begin delivering observable/measurable results within 90 days of starting the change effort. |
| 10. | Go or no-go decisions regarding target acquisition should be based upon traditional issues of revenue generation, technology acquisition, competition, market, products, or services offered and potential synergies. Don’t worry about the people. Get the rest right and the people can always be successfully aligned. |
Final Thoughts

CDD is simply a diagnostic process to ascertain the degree of alignment between two or more different groups of people and the business plan. CDD provides the base data to develop an alignment and integration plan. It is a mandatory step if anything involving the people and their behavior in the organization needs to change to achieve success.

In short, CDD provides an actionable report that would enable a Dealmaker’s client to align and integrate successfully. It would also allow the Dealmaker to focus on the rest of the business and not worry about the “people issues.” Human resources, organization development and performance improvement practitioners can certainly contribute to the success of the merger or acquisition because they do focus on the human capital issues.

Considering its relatively low cost and minimal time commitment, shouldn’t Cultural Due Diligence (CDD) become a routine component of deal making? Think about it. (Craig & Carleton, 2018)

A few years ago, Bob and I were contacted by a Canadian-based (Montreal) global construction and engineering company to help their senior human resources executives create a “Blueprint for Acquisition Success.” This company was increasing its size and its success all around the world mostly through acquisitions. We helped them develop that “blueprint” which was a nine-phase process going from target identification to cultural integration for the first year. We developed the customizable version of The M&A Roadmap for Success.

Next issue: Planning for a Successful Integration: The M&A Roadmap for Success

References

Craig, Gary W., & Carleton, J.R. What A Dealmaker Really Oughta Wanna Know About Cultural Due Diligence (CDD), Mid-Market Alliance, Newsletter of the Alliance of Mergers & Acquisitions Advisors, November 2017


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Gary W. Craig is Managing Partner and COO for Vector Group, Inc. He is a 30-year member of ISPI. You may reach him at gcraig@vectorgroupinc.com.

Mr. Gary Craig’s career represents almost 30 years of experience in organizational change management, human resources development and organizational development and effectiveness. Recognized for his ability in efficiently and accurately assessing organizations and recommending and implementing changes aligning organizational culture (human behavior) with infrastructure and strategic business objectives, he is highly skilled in driving for optimal performance within organizations. He contributed significantly to several large-scale strategic initiatives in the US, Canada, UK, Europe, Mexico, South America and the Middle East (Yemen). He has worked in 16 countries on four continents. He holds a Master of Arts degree in Management/Human Relations and Organizational Behavior.
It’s no surprise that innovation and change are accelerating. For context, it took 4.4 million years for humans to exit the Hominid Era but only 68 years to go from the first flight at Kitty Hawk to landing on Mars in 1971 and that was 50 years ago. There is no indication the rate of innovation and change will slow any time soon. Therefore, as performance improvement professionals we must all prepare for the day when all jobs, tasks, processes, and learning are temporary and periods of relevance shorten to unimaginably brief lengths. We must prepare for a future when long held learnability assumptions will be proven untrue or at least severely tested. Will it still be true that anything and everything can be trained and learned when things change too rapidly to be memorized? Will test scores still be viable predictors of future performance? Will it still be true that you cannot perform without training? In other words, we must prepare for the day when innovation and change outpace every human’s ability to learn/memorize the standard operating procedures (SOPs) required of their jobs.
By now it’s becoming clear that the training and learning portions of performance improvement plans are one of the greatest hindrances to business innovation and continuous improvement initiatives. It’s also becoming clear that business managers and leaders are increasingly dissatisfied with training and learning data being presented as evidence of performance improvement success when they ask for proof of a return on their investment. The training/learning/performance improvement disciplines must step up to the challenges presented by the Age of Disruption. New technologies are needed to support people who perform jobs with too many tasks to memorize, who perform SOPs with too many steps to memorize, who perform SOPs that change too fast to memorize, who cannot access computers or other devices as they work, and who perform tasks that should never be left to memory. New data sets are needed, including data that enables more coaching workers on just the steps they need help with, data that reveals more than training and learning needs, and data that can prove the return on performance improvement investments. Something must change but what and how? What will work be like when memorizing SOPs is impossible? Will there be training, learning, and/or performance improvement organizations? How will people prepare themselves to perform work assignments?

These are questions that will surely perplex the training and learning professionals who rely on snappy presentations and Kirkpatrick Level 11 evaluations and knowledge tests delivered well before Ebbinghaus’s 60 minute forgetting period has expired. They are, however, questions a Certified Performance Technologist (CPT) is well-prepared to answer. In fact, these are questions perfectly suited for a CPT. So, how would a performance technologist (PT) respond to performance needs when innovation and change outpace every worker’s ability to memorize SOPs? Let’s see.

Define the Problem:

A PT would begin by defining the problem, followed by analysis, solution design, solution development, implementation, then evaluation and iteration. So, let’s follow that path starting with the problem definition. It might be something like this:

Innovation and change has outpaced our ability to memorize standard operating procedures (SOPs). The inability to memorize SOPs has rendered training and learning SOPs obsolete and largely ineffective.

This is clearly coming to us all. The days of going to a library, reading & highlighting passages from books, then hoping the information remains constant throughout our careers have passed. Younger people are already skipping training and performing new tasks by following step-by-step instructions from YouTube channels. We will need to resolve this sooner rather than later and it isn’t as simple as putting all training content on YouTube.
Define the Needs:

After defining the problem, a PT would define the needs. They might say something like this:

Businesses need multilingual workers to perfectly perform SOPs, safely, efficiently, sanitarly, every time, globally, without advance training, while automatically capturing valid and reliable performance-related data to be used for continuous performance improvement purposes.

The days of ignoring multilingual workers are gone. In a former job, we found a minimum of 5 languages being spoken by workers in every midwest hotel location of a small, regional hotel chain. The days of ignoring the performance support needs of manual workers are gone. Those are the very workers who have the greatest impact on a business's performance, there are more of them than any other worker in the world, and they produce the products and deliver the services that pay everyone else's salary. The days of providing training and learning data when performance data was requested are over. we've reached a point where any training/learning/performance improvement initiative that does not capture real performance data is considered malpractice. The days of sending a poor performer back through a training program they've already attended in an effort to “make it stick the second time”, are over.

With the problem and need defined, a PT would proceed to solution design.

Define the Design:

As with the problem and need, it’s good to begin the performance improvement design phase with a solution description that addresses every need noted in the needs description. It’s important not to constrain options at this point; just aim for the best design imaginable. The design description for this case could state:

This solution will enable workers with basic skills to securely and perfectly perform any SOP without memorization by following verbal, step-by-step work instructions, delivered on demand, hands-free, globally, in any language, to request help when needed, to indicate when a step has been missed or underperformed, automatically captures the amount of time users spent on each step for ongoing needs identification purposes, and captures optional continuous improvement feedback from users.

The solution description makes it easier to envision how to complete the solution design, then develop the solution. At this point, the solution looks very complicated and it might be something that has never been done before; it could very well be innovative. Because at the core of every complex thing is a set of simple processes, let’s break this solution description down.

At this point, you may already know of a technology that can deliver your solution. If not, you’ll begin to see the tasks and sub-tasks arise that could form a new project; you could decide to build it yourself or partner with a service provider to build it for you.

This particular solution would involve using a conversational interface integrated with Bluetooth earphones and phone app, a cloud database, and a cellular or WiFi network, to enable workers to request an SOP they want to perform, capture performance interval data, then meaningfully report the performance interval data to reveal individual coaching opportunities at process step detail, reveal best practices, identify process improvement opportunities, and more.

Conclusion

The solution outlined here has already been developed. It was developed using the high level steps described here. We now have a performance improvement technology that solves the problem of innovation and change outpacing everyone’s ability to memorize SOPs and is available to all PTs and businesses worldwide. But we need more and we need more faster. The only way to get more faster is to have the performance improvement community instigate, drive, support, and accept innovation and creativity from within our ranks. We need to be open to new solutions, develop them ourselves when necessary, and always demand valid, reliable, performance data from proposed solutions before letting them out of the gate. We need every solution we develop to prove a return on its investment and we need to be forward looking. For nearly 60 years, ISPI has been the professional home of performance technicians and source of data-driven, science and research-based performance solutions.

References


Bill is the CEO of Adyton, a performance improvement technology company and has an MS in instructional design from Western Michigan University. He holds 2 patents for performance improvement systems and 1 pending. Bill has several decades of experience in the performance improvement field and was most recently the global learning technology manager at InterContinental Hotels Group and learning technology strategist for UnitedHealthcare. Prior similar roles were held at DTE Energy, Kmart, and First of America Bank (now PNC). Bill is from Detroit metro.