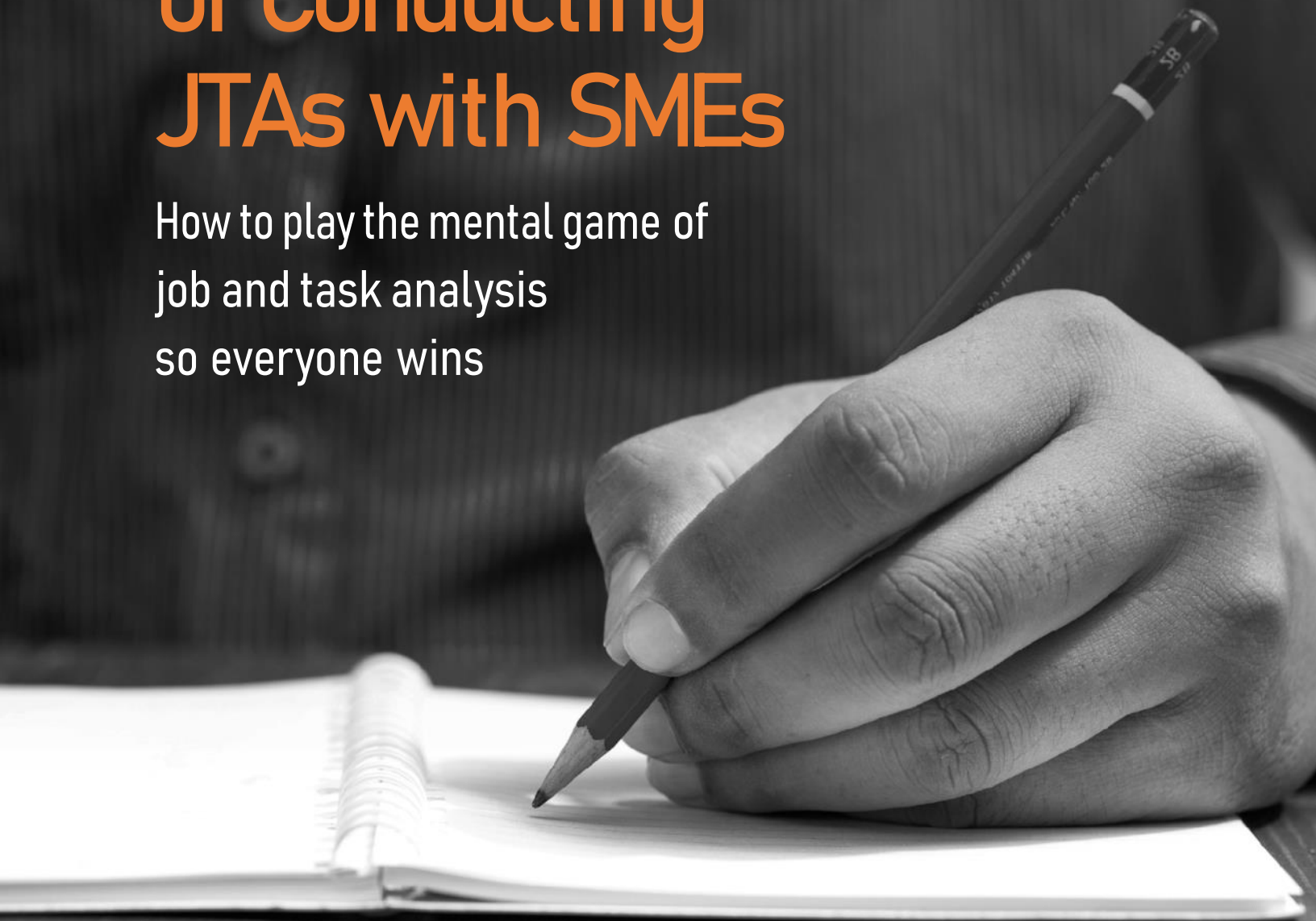


June 2020

The Psychology of Conducting JTAs with SMEs

How to play the mental game of
job and task analysis
so everyone wins



OVERVIEW

As a trainer, conducting a job task analysis (JTA) is one of the most important events you can lead, and delivering a strong performance in this area is critical to winning the larger learning game.

While there are a multitude of textbooks that address the art of conducting a job task analysis (JTA), very little is said about the people aspect of the process. There is a significant hidden human dynamic at play when conducting a JTA with subject matter experts (SMEs), and it is overlooked to trainers' peril.

This inner dimension or "mental game" can have a significant impact on your JTA project. To win at the mental game of conducting a JTA, trainers need to skillfully wear multiple hats and play like it's a team sport, to lead their SMEs, and the project, across the finish line. In this whitepaper, we will share three rules we have learned the hard way by doing hundreds of JTAs over the past two decades.

It's a mental game.

More than 90% of what affects the outcome of a JTA is in your, and your SMEs', heads.

In competitive sports or in any high-performance situation, knowledge, skills, and abilities all combine to help make an individual successful. However, there's a significant aspect of performance that remains hidden beneath the surface, and it can make all the difference between delivering winning results or missing your goal completely. This inner dimension is sometimes referred to as "the mental game."

Science has shown that while the dynamics of the mental game aren't always visible, it has a very real impact on outcomes. At QTS, we've found this to be the case during the JTA process.

As a trainer, conducting a job task analysis is one of the most important events you can lead – it forms the

very foundation for your training program – and delivering a strong performance is critical to winning the larger learning game. However, you can't win this event all on your own; you need the assistance of experts in the subject matter at hand, or SMEs (subject matter experts), in order to build relevant training. In this way, completing a JTA is a team sport, which requires that you wear a number of hats: you're a coach who has to teach your SMEs to play a new kind of game, a captain who leads the way on the field, and even a cheerleader who motivates the team when the going gets tough. It's important to understand the game, lead the team through the correct plays, and encourage them to keep pushing until you all reach the finish line. Let's look at each of these aspects of the JTA process.

Rule 1: Coach your SMEs to play an entirely different kind of game.

When we initially learn a job, we take tasks and steps which might at first seem jumbled or unconnected and our brain creates a model to neatly link them together. This “mental model” helps us efficiently understand and decide what steps need to be executed to complete complex job tasks¹. Your subject matter experts have likely spent years building up a library of mental models they use to excel at their jobs. These thinking shortcuts become “muscle memory” for the SMEs, and they utilize them without a second thought. This phenomenon is what allows anyone to master a job or a skill and is a normal part of how our brains try to economize the use of energy throughout the day.

The process of conducting a JTA requires SMEs to stop their normal thought processes which run in the “background” of their minds and scrutinize them. When the JTA process requires they explain the tasks and steps they perform on the job, SMEs are forced to examine these mental models, pull them apart, and reduce them to their component elements. This can be uncomfortable and exhausting for some individuals. It’s typically an unfamiliar activity for your SMEs – it might even be “a whole new ballgame” for them.

The challenges SMEs have in breaking things down for beginners is a phenomenon which has been a documented in scientific studies for some time. In the late 1990’s, Pamela Hind of Stanford University conducted a study assessing experts’ abilities to explain things to beginners. She found that experts suffer from a cognitive handicap, where they underestimate the difficulties beginners face when learning new subject matter².

The expertise of SMEs tends to blind them to the

challenges newer employees face when learning new things. This is one of the reasons why QTS advocates for teams of SMEs with differing experience levels. It is preferable to have a seasoned veteran as well as a recently trained incumbent so the JTA discussion is more balanced and doesn’t miss out on the new trainee’s perspective.

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beginner and breaking complex jobs down into tasks and steps is compounded by what is known as the “availability heuristic.” The availability heuristic means that SMEs have more difficulty recalling what it was like to not know something, because their more recent memories (where they know and thoroughly understand the subject), are crowding out their more distant “beginner” memories and experiences. Because the memories of being a trainee are less “available” to them, SMEs may struggle with breaking a complex job duty area into elementary components. One tactic for dealing with this challenge is to walk the SMEs through the thought exercise of being a beginner. Have the SMEs take on the perspective of a beginner and think about how they would experience the training program. Ask the hypothetical question “how would a new person, who didn’t know this work, learn how to do this task?” The simple act of consciously stepping outside of one’s worldview, even for only a moment, can help SMEs mentally access the distant memories of being a novice.

Rule 2: Lead your SMEs through the JTA process, play-by-play.

Creating a quality job and task analysis is a lot of work and generates a tremendous amount of information. It's important to lead your SMEs through the process and prevent the psychological overwhelm that can swamp the team and stall the project. There are several things that can be done to prevent the SMEs from getting lost in the process, ranging from surveying the entire playing field to breaking the action down, like providing a play-by-play commentary.

At QTS, we've found that giving the team members an overview of how all the pieces of the JTA fit together and highlighting which piece we'll be focusing on in any given "huddle," helps orient SMEs to where they need to place their attention. Having a literal diagram, like a playbook, which can be referred to while the SMEs are mentally calibrating themselves, is highly effective.

Breaking things down from the overall playing field level and into the parts and pieces of the JTA – providing play-by-play examples– is also extremely helpful for SMEs. Being able to physically hold and read a sample of a similar task list does wonders for removing the mental barrier to getting SMEs started. When your SMEs can mentally "see the goalposts", they'll feel more free to start running with the ball. Interestingly, our experience has shown that it's not

important that the sample shown is exactly like the job the SMEs perform – a "close enough" approximation gives them a mental finish line to run toward, and is much less intimidating than starting with a blank page.

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Finally, as in sports, it's all about continuous improvement. Long-term success is defined over multiple games played over an entire season. Similarly, let your team know you do not expect to get the JTA 100% accurate on the first pass through. It's important to let your SMEs know this is an iterative process, and that you will make multiple passes on the material, whether you are developing job tasks or collecting condition or criteria specifications. This message can remove a lot of the pressure the team will be feeling to state something "perfectly" the first time and encourages them to stay in motion and maintain momentum. Knowing that there's time for refining things later can get people "un-stuck" and ensure you don't get bogged down.



Rule 3: Cheer on and motivate your SMEs.

Grinding through the process of completing a JTA can be discouraging at times. To keep your team engaged, you must motivate them and even cheerlead. At QTS, we've found there are several techniques that can build a team's commitment to the process. Let's discuss a few ways you can increase your SMEs' drive to power across the finish line.

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Start off strong with a formal project kickoff meeting and presentation to rally the team and provide them with the big picture. A good kickoff presentation or conversation should cover not only the purpose of a JTA (to build world-class training!), but also to explain how the JTA forms the foundation for the entire training program. A solid JTA allows helpful on-the-job training, relevant instructor-led classes, and assessments that accurately test trainee understanding of critical need-to-know information. Explaining how you as a trainer will take the JTA product and move into the design and development phases of the ADDIE model helps build SME understanding of how important this work effort is to the overall goal. Finally, ensure they understand that they are a key part of this, which brings us to the next motivational tactic...

Make it personal for them. Being told you're an essential part of a larger important effort is motivating for anyone, and your SMEs are no exception. The goal

here is to ensure none of your SMEs are left wondering "why am I here?" They should understand that their expertise and unique perspectives are prized, and they were selected for this effort based on the valuable feedback and insights they are able to provide. In this way, you're moving from the big-picture, macro-level of the overall goal and training development process, down to the micro-level of them, personally. Ensuring employees understand they're critical to the success of the task at hand has been shown to build their engagement (i.e. personal connection) with the work³. Further, try to get SMEs to verbally commit to the success of the project. This forms a social compact, which can be something to help them pull through difficult periods during the work.

Lastly, get to know your SMEs as more than just sources of knowledge, but as people. While this might seem elementary or even unnecessary, sharing personal information (e.g. interests, hobbies, family details, etc.) not only humanizes you as the trainer, but helps you better understand the SMEs motivations and what's important to them. This information could serve you well, in the event you must make a connection between the effort and something that's more personally meaningful for the SMEs. It's also helpful to have something to talk about during breaks, to give your mind a rest from capturing job tasks or procedures. Don't forget that we're all human beings and we all bring all of ourselves to the workplace every day. This acknowledges and embraces the human side of the work and makes the JTA process more enjoyable for the whole team.

The Wrap-up

Although it's not visible to the casual observer, the mental game is very much a factor in JTA work, and how you play it can make the difference between achieving a victory or going down in defeat. Given the importance of getting the job and task analysis right, we encourage trainers to become skilled at wearing

the many hats that are required of great athletes – coach, captain, and cheerleader. Once you become skilled at the team sport that is job and task analysis, you'll find you are able to enter the arena with the confidence of a champion, prepared to do battle with any learning challenge. QTS will be rooting for your success!



At QTS, we believe that training makes a difference.
We make training happen.



Sources

1. Johnson-Laird, P.N. Mental Models. Cambridge, MA: Harvard University Press, 1983.
2. Hind, Pamela. The Curse of Expertise: The Effects of Expertise and Debiasing Methods on Predictions of Novice Performance. Journal of Experimental Psychology: Applied. 5(2):205–221, June 1999
3. Rich B., LePine J. A., Crawford E. R. (2010). Job engagement: antecedents and effects on job performance. Acad. Manag. J. 53