

# CASE STUDY

## State of Tennessee Develops Critical Thinking and Creative Problem Solving Skills in Its IT Workforce



### CHALLENGE

According to CIO.com, many organizations struggle to find potential employees with the right professional competencies for a large majority of their open positions, and a significant majority of employers said the lack of professional competencies among candidates was “limiting their company’s productivity”.<sup>1</sup> The State of Tennessee’s IT community is no different — “We don’t want to just train our nerds to be nerdier,” says the State’s Executive Director of Organizational Quality and Performance Management. Two of the most in-demand non-technical competencies are critical thinking and creative problem solving in an IT environment. The State deems these skills as vital in supporting their customers in a quickly evolving and high-paced technical world.

### SOLUTION

IT Academy has created a significant portion of their course library to address professional competencies known as “IT Success Skills.” These Success Skills are the non-technical competencies that supplement the technical skills of a well-rounded 21<sup>st</sup> century IT employee. The Success Skills library includes leadership, communication, and writing courses that focus on how to leverage these specific skills to support IT customers and work in an IT environment.

#### Optimizing IT Solutions with Critical Thinking and Creative Problem Solving Techniques

One of IT Academy’s most popular and effective Success Skills courses is *Optimizing IT Solutions with Critical Thinking and Creative Problem Solving Techniques*. In this course, State of Tennessee IT employees develop their skills as critical thinkers and problem solvers so they can leverage their own personal thinking preferences — as well as those of their team — to find different solutions to everyday IT problems. The course includes a unique tool that helps tailor the experience for each attendee.

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Prior to the course, each employee completes the Herrmann Brain Dominance Instrument® (HBDI®) profile online assessment.

***The HBDI assessment defines and describes the way you think and process information. It gives the individual insight into why they value certain types of information over others. With that valuable knowledge about themselves, they can learn how to “flex” into other ways of thinking to adapt to others — how they think, what they value, how they communicate — so they can bridge the communication gap, quickly.***<sup>2</sup>

This assessment profile is shared with the employee in class and is used as a basis for employees to learn more about their own unique critical thinking and problem solving style.

## DELIVERABLES

As part of their statewide IT workforce development program, IT Academy delivered *Optimizing IT Solutions and Creative Problem Solving Techniques* — their two-day, customized instructor-led training course — to over 290 IT employees. This diverse group of IT employees was drawn from 16 State Agencies and included employees from almost all IT job classifications.

### ON A 4.0 SCALE...



Average score  
of **COURSE CONTENT**



Average score  
of **COURSE INSTRUCTORS**

Scores exceeded IT Academy's goal of 3.65 in these two categories.

## RESULT

State employees now have the skills and abilities to think critically and solve problems while leveraging their own unique thinking style, as well as the thinking styles of those around them. These non-technical skills help to develop well-rounded IT employees who are prepared to serve residents and business partners of the State of Tennessee.



# 34%

**AVERAGE PERFORMANCE IMPROVEMENT FROM SKILLS LEARNED IN THE CLASSROOM**

Results are an average of reported performance by attendees

## POST-COURSE FEEDBACK FROM ATTENDEES

*“ I am now able to understand the different learning styles and how to apply them. Recently during a meeting with a business unit and a software company I could analyze the situation (type A), ask additional questions about processing (type B-sequential), listen to the business unit's needs (type C-humanistic) and showed the business unit other options pertaining to their needs (type-D-visual).”*

— G. Curtis, Business Analyst  
Department of Environment and Conservation

*“ The course has helped me manage thinking styles, situation assessment, and decision analysis. It has helped me in presenting ideas based upon the recipient's preferred thinking style, i.e., moving between analytical and creative thought processes and presentations, establishing objectives, and weighting those objectives to create decision statements as part of decision analysis.”*

— R. Raines, Database Administrator  
Department of Human Services

*“ While creating meeting media material I can come with a better approach than just thinking of my audience. I can now specifically reach all thinking types and respect their wants and needs during the meeting. The outcome of the meeting will be reached and attendees will leave the meetings having a better understanding about the subject matter or project.”*

— K. Staten, ERP Consultant  
Department of Finance and Administration

## RESULTS (CONTINUED)

One agency within the State, the Office of the Comptroller, ran two sessions of *Optimizing IT Solutions with Critical Thinking and Creative Problem Solving Techniques*, to provide their employees with these critical business skills as a team-building exercise.

IT Academy collaborated with agency leadership on their requirements for a team-building exercise and recommended this course based on the interactivity of the exercises focused on gaining a better understanding on how to work within your own strengths and the personalities of those around you.

### Managers of employees who attended this class report these additional practical applications of the skills learned in class:



**Re-writing applications** that have been used for years and dealing with stakeholders that want everything to be more reliable. We have used these new skills to make them understand how 21st century technology can improve and streamline their business process.



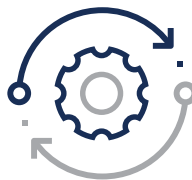
Team members are applying critical thinking and problem solving skills **daily in meetings and on projects**. The recommendations made and solutions implemented are clear throughout.



Team members have been able to **use various methodologies and tools** taught to address limited staff, conflicting priorities, and issues with parallel projects.



Team members **learned more about each other, which made it** much easier to apply the concepts learned in class.



SCRUM teams are working on complex applications and have used the concepts **to resolve issues with the product owner and business**.