Igniting Innovation: Re-skilling the Workforce
Bridging the Gap to Digital Transformation

Digital transformation, by its very name, infers an anticipated disruption within the workforce and that agencies will transform to a significantly different future state. It is not reasonable to expect a training approach that focuses only on technical training will support organizations in their path to realizing this transformation.

Digital Enablers

Advanced data analytics, and the ability to gather ever larger volumes of data, supports greater digital interaction by organizations and their customers. Expanding technical capabilities -- including cloud-delivered applications, artificial intelligence, and the internet of things (IoT) -- are creating cultures of changed expectations based on enhanced digital experiences.

Organizations are poised to undergo a variety of disruptive transformations to respond to market demands, including improved internal processes and providing personalized and better customer support. But how will these transformations be accomplished? SAIC offers this example approach to supporting agencies on their path to becoming a data-driven organization.

- ***Data Visualization.*** Data does not sit naturally within the human mind. When presented with rows and columns of numbers, for example, we instinctively look for patterns or values that stand out from others by systematically scanning horizontally and vertically. Data visualization and business intelligence tools provide powerful vehicles to tell stories and suggest areas that should be examined further to identify areas of concern. However, organizations must create business-centered training approaches to realize the full benefit of implemented data visualization techniques, and especially avoid those that are fixated solely on the visualization tools.

    - **Where traditional training fails:** the technical skills necessary to program and implement various business intelligence data visualization software are not insignificant. However, organizations that do not provide their workforce with a clear understanding of the purpose of these tools, and examples of *what to do with the results* from their use, will never fully realize the benefits of digital enablers such as data visualization.

        Members of organizations who are experiencing digital transformation have expressed a strong desire to understand the business case which led the organization to choose the particular data represented via dashboards and other visualizations. These individuals also repeatedly express concerns regarding the data governance structures in place, which can affect their confidence in the data's validity. Unfortunately, a tool-centric training approach immediately immerses the learners in data lakes, which will be viewed as a swamp of numbers and technology because there is no foundational understanding of the "why" we are doing what we are doing.

    - **Where ingenuity should disrupt training:** integrated training approaches provided by SAIC begin by presenting learners with the agency's business need, then naturally progressing to conversations about the data requirement. Rather than grabbing any data available and attempting to make sense of it, our training engages learners in questions about business processes. We then identify all examples of data that can answer questions about processes that appear to be outdated or are otherwise causing issues for the organization. Although the difference is subtle, our approach follows best practices from research to ensure we ask the right questions and determine the best data to answer those questions, rather than attempting to make something out of data that happens to be available. This approach also provides a catalyst for ensuring members of the organization are participants in the

appropriate data governance structures, ensuring that the consumers of the data realize the benefits of the governance rather than feeling victimized by it.

A (poor alternative) tool-focused training approach requires learners to take a cognitive leap of faith to trust that the skill they are learning in isolation from their job activities will somehow have a positive impact after the training activity completes. This is something that must be avoided. By taking an outcomes-focused approach, we establish training relevance for our learners because they are able to see the impact of the training on transforming and improving their work.

- **A *transformational training event*.** To prepare tomorrow's workforce for the disruptions associated with digital transformation, we must create learning events that encompass the lifecycle of visual analysis. Working in collaborative teams, today's learners can receive re-skilling opportunity by participating in the justification and development of new business processes with the organization.

- **Our approach**: Visual analysis is more than just taking the right actions to select the best chart, or using colors and icons appropriately – it is an iterative and engaging lifecycle that begins by identifying and collecting your data, as well as establishing the structure of that data, well before you choose the best way to visualize it. Instead of a typical technical training event, SAIC engages its learners in the iterative process, requiring learners to draw conclusions or insight from those visualizations which impact their business and its operations.

By allowing our learners the chance engage in the iterative visualization process driven by an intended improved business outcomes, we give learners leverage to generate buy-in around any conclusions supported by that data, allowing organizations to tell a compelling story which supports business transformation. Instead of devising a training program which consists of discrete or isolated training events, we help entire teams of learners engage with the whole cycle of visual analysis. And, instead of the training outcome being limited to an increase in technical skill, SAIC-training recipients are able reap the full intended benefits associated with the implementation of visual analysis: transforming their business processes and taking on the characteristics of high-performing organizations.

Ingenuity Pushes Us to Look Deeper