

**Becoming a Learning Organization: Characteristics of Readiness to
Inform Learning Design Strategy**

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Executive Summary

Background and Organizational Information

The U.S. Army War College coined the term VUCA in the late 1980²s to describe the progressively volatile, uncertain, complex, and ambiguous conditions of the modern world and global economy. Constantly evolving and emerging technology has driven change across industries, and with this rapid evolution comes inevitable technical skills gaps. Thus, organizations must intentionally and continuously develop employees' skills to remain effective and competitive in a technology-driven world.

The Workforce Transformation Working Group of the Advanced Technology Academic Research Center (ATARC) aims to provide meaningful professional learning opportunities focused on the changing world of work to benefit and upskill government employees and ATARC organizational partners, which include private, public, and nonprofit organizations that work directly with the Federal Government in some regard

Problem of Practice

Like many organizations, ATARC lacks adequate data on employee and team needs of the organizations it hopes to serve, ATARC also needs to understand the organizational readiness of its partner organizations to make quick and strategic decisions about which learning opportunities to provide, urgent areas of primary focus, and best delivery model or learning design. Therefore, we sought to ascertain the extent to which ATARC partners could be considered learning organizations—an indicator of their capacity to bring in and exploit learning-through qualitative and quantitative data collection and analysis. Identifying partner organization readiness to learn and apply that learning is critical to informing ATARC's strategy in customizing its offerings and support.

Research Questions & Findings

We used Garvin, Edmonson, and Gino's (2008) conceptual framework of a learning organization (a framework based on decades of research on organizational learning) to answer the following questions:

1. How do ATARC partner organizations gather and disseminate information to make learning and training decisions?
 - a. Are there learning communities that exist, either formally or informally, to share information?
 - b. How do managers disseminate information internally and externally?
 - c. Are risk taking and open communication about new ideas encouraged?
 - d. Is there active listening, mutual respect, and opportunities to ask questions?
2. How do ATARC partner organizations share knowledge and skills with employees?
 - a. What learning opportunities are afforded to employees?
 - b. How are employees selected for learning opportunities?
 - c. How are learning opportunities related to organizations' strategic plans?

Our research indicated the following findings:

Finding 1: Generally speaking, professionals surveyed do not believe there are formal learning community systems that are in place to share information.

Finding 2: Most professionals believe their managers encourage people to get answers across the organization when solving problems. However, many do not feel leaders share up-to-date information with employees about competitors, industry trends, or organizational direction.

Finding 3: Although most professionals believe that their organizations openly discuss mistakes to learn from them, many do not think those organizations support employees who take

calculated risks. Those most concerned about this lack of support for calculated risks are those with primary responsibilities in technical research and development and general management.

These research findings prompted the following recommendations to ATARC:

Recommendation 1: ATARC should facilitate communities of practice that connect senior and middle managers to technical professionals with similar interests, linking business strategy to common problems these teams face.

Recommendation 2: ATARC should consider framing its offerings to partner organizations as an opportunity to create an organizational culture of learning enablement, developing a leadership mindset towards learning, and how employee development adds value to a growing organization.

Recommendation 3: ATARC should consider prioritizing instruction and resources about how partner organizations can create a formal process to support knowledge sharing. Embedding the knowledge sharing process in policies and onboarding materials can help ensure that it becomes a vital and valuable aspect of company culture.

Introduction

To practice a discipline is to be a lifelong learner. You never “arrive.” The more you learn, the more acutely aware you become of your ignorance.

– Peter Senge

In the 21st century, clinging to the status quo and using outdated business models will likely result in a company being bought, sold, split, or simply ceasing to exist. However, research and industry financial results demonstrate that companies who commit to being high-performing learning organizations will have a much better chance of continual growth through managed risk-taking, collaboration, and creative thinking.

In the United States, the public sector struggles to adapt and change in a volatile, uncertain, complex, and ambiguous (VUCA) environment as much or more as the private sector. The size and scope of the bureaucracy, coupled with the inherent scarcity of financial resources due to tedious budget planning cycles and competing demands, creates an environment where continuous learning is imperative to relevance and effectiveness.

About the Organization: ATARC

The Advanced Technology Academic Research Center (ATARC) is a 501(c)(3) non-profit organization that provides a collaborative forum for the United States government, academia, and industry to resolve emerging technology challenges. The contemporary ATARC organization represents a 2018 merger of two non-profits with similar goals that provided professional development and forums for the Federal government to directly address and resolve the challenges inherent with emerging technology. One was The Government Information Technology Executive Council (GITEC), which was established in response to a June 28, 1966, White House memorandum to provide a forum through which Senior Level Government and Industry Executives could share and collaborate in an open forum on information technology

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(IT) ideas, challenges, and successes. ATARC was created in September 2012 in response to the Digital Government Strategy, which was released earlier that year. During the past decade, ATARC has expanded its portfolio to include Cybersecurity, Development Operations (DevOps), Data & Analytics, and Health IT events.

Although a small organization of thirteen, mostly part-time employees with a minimal operational budget, ATARC has significant reach and influence through myriad government and industry collaborators, contributors, and beneficiaries of its content. The talented board and advisory board volunteers are actively engaged in creating, curating, and distributing relevant resources and networking across sectors to ensure that access to information is available to all. ATARC has organized these volunteers into various working groups which focus on a broad range of technological challenges.

ATARC publicizes and distributes information to all interested organizations and individuals through platforms such as Apple and Spotify podcasts, social media sites such as LinkedIn, its own website, and public forums that are open to any registrant. However, ATARC's priority in developing content remains its mission to develop an ever-ready workforce availed of contemporary technology that specifically advances the Federal Government entities and those who contract directly with them. ATARC has established myriad partnerships with organizations across the private, public, and nonprofit sectors who either subscribe to ATARC content, help contribute to content creation and resources, or both. These include branches of the United States military, the Department of the Interior, and industry partners of influence and significance such as Microsoft and Amazon Web Services (AWS).

Because we are specifically interested in how the learning needs of ATARC partners are understood, we have partnered with the ATARC Workforce Transformation Working Group,

which exists specifically to provide professional learning opportunities focused on the changing world of work. The work of this group is rapidly growing in significance and visibility; in September 2022, the ATARC Federal IT Newscast was listed as one of “30 Federal IT Influencers Worth a Follow in 2022” by FedTech Magazine.

Problem of Practice

The ATARC Workforce Transformation Working Group did not have the data required to create a strategic plan for assisting partners to further develop into learning organizations, which is essential to remaining competitive in today’s dynamic, technological landscape. While the needs of such a broad array of organizations are always diverse, gathering data on where these partner organizations were on the learning path was a critical starting point for designing programs, learning resources, or services ATARC could provide.

We understood that the specific training required for each organization might be different but anticipated that overarching themes and trends might emerge from data collection. From this information, ATARC could then begin a more intentional and strategic planning process for meeting the needs identified through research, and ultimately better fulfill its espoused mission “to enable current and prospective employees to navigate the changing world of work.”

Literature Review

Because this ATARC working group is primarily concerned with creating and distributing professional development and learning opportunities, understanding whether partner organizations are prepared to both avail themselves of and leverage these resources is essential to designing appropriate strategy. This led us to explore the literature on learning organizations and the conditions that prepare organizations to learn and to adapt to that learning.

Our review of literature first established a series of criteria to determine the characteristics of a learning organization. We specifically were interested in how to assess these areas that were deemed most relevant to ATARC's strategic needs:

1. **Use of data and intelligence:** Is the generation, collection, interpretation, and dissemination of information a strong organizational priority? Do organizations gather intelligence around competitive, customer, and technological trends?
2. **Access to learning opportunities:** Are education and development offerings afforded to both new and established employees? How are these decisions made?
3. **Knowledge management:** Is knowledge shared in systematic and clearly defined ways? Does knowledge move laterally or vertically within the organization, or both? Do learning communities facilitate the sharing of knowledge and information?

We sought to understand how best to analyze the extent to which an organization positions learning as an organization priority; the extent to which learning and development opportunities are available to employees; and how to ascertain which processes must be in place to ensure that knowledge and learning is shared throughout the organization.

What is a Learning Organization?

Our project seeks to support ATARC in providing appropriate organizational learning opportunities so that organizations can advance on the path to becoming fully realized learning organizations, and so we must first define what constitutes a learning organization. The concept of the learning organization was introduced in 1990 by Peter Senge, a lecturer at MIT's Sloan School of Management and the founding chairperson of the Society of Organizational Learning (Yadav & Agarwal, 2016). Senge described a learning organization as "an organization that

encourages and facilitates learning in order to continually transform itself to survive and excel in a rapidly changing business environment” (Senge, 1990, p. 3).

Learning organizations feature an integration of learning and work in an ongoing and systematic manner to benefit and support individuals, work groups, and the entire organization (Senge, 1990; Marquardt, 2011). They understand learning to be a continuous process and that learning can be an aspect of most, if not all, organizational activities. Their research indicates that to become a learning organization, uncooperative behaviors that do not lend themselves to a learning culture should be replaced with new practices which endorse and promote learning culture, continuous experimentation, network intimacy, information systems, reward systems, human resource practices, and leaders’ mandate.

Kontoghiorghes et al. (2005) also found that an organization’s structure, culture, and communication impact performance levels in an organization, and assert that an organic structure with a learning culture should be a priority of any learning organization. “Organic” in this context refers to a flexible workplace with a primarily horizontal mode of communication rather than top-down or vertical communication. Antonacopoulou (2006) has also highlighted the paramount importance of a culture of learning as it relates to motivating individual employees. Her research suggests that the context in which learning takes place deeply influences how individuals learn and what learning opportunities they seek. Thus, the learning processes in place within the organization structure dramatically impact whether an organization is truly a learning organization.

In their summary of the peer-reviewed literature, Garvin, Edmondson, and Gino (2008) assert that there are three building blocks required to create learning organization: a supportive environment, concrete learning processes, and leadership that reinforces learning. Their research

indicates that each of these blocks alone would be inadequate to create the desired learning culture, and that an environment that fosters learning and psychological safety is equally critical as specific, codified, functioning processes to learn – and both must be enthusiastically promoted and endorsed by leadership. Building on these ideas, we explore each of these building block in the following sections we focus on key issues in the literature with regard to an organization’s commitment to learning; its commitment development of its employees; and its processes for supporting ongoing learning and knowledge management.

Concrete Learning Processes

Garvin et al (2008) describe concrete learning processes as specific steps we take and activities we routinely engage in, similar to other business processes and standard operating procedures. They reference the U.S, Army’s “After Action Review” process as an example of such a process. Through this systematic debriefing after every mission or critical activity, participants can quickly identify design flaws, learning and training gaps, and other vulnerabilities that contribute to undesired outcomes. Further, what is working well becomes apparent. Once articulated, these lessons can move vertically and horizontally throughout the organization.

Other researchers have also found that learning organizations are characterized by the continuous collection, interpretation, and dissemination of information. Mayo (2008) studied the methods, mechanics, and processes used by organizations to achieve learning, concluding that gathering information to create knowledge management systems and statistical databases is as vital to success as is using that knowledge to improve the organization. Grigio et al (2008) explain that learning organizations require information systems that improve and support practice and that move beyond those used in traditional organizations where information is

generally used for control purposes. Proper gathering of data drives growth and increases the effectiveness of the decision-making process; synthesizing data can translate into knowledge that not only informs decisions, but promotes thinking (Mohrman, 2012).

Ongoing Knowledge Management

Individuals hold knowledge and expertise, which begs the question of how knowledge is and should be shared, embedded, and spread throughout the organization (de Holan & Phillips, 2004). Knowledge management is closely tied to both data collection and learning access as described above, but it also concerns the planning, leading, organizing, and controlling of information that is gathered, shared, and used for the good of an organization. Simply put, how do people store, retrieve, and distribute information? Garvin (2000) suggests this process produces learning organizations by making learning routine. Incorporating learnings for data collection processes described above, strong knowledge management structures enable organizations to codify and store learnings for later use. Skyrme (2017) similarly summarizes knowledge management as the intentional management and distribution of information vital to business operations and success, and Mohrman (2012) described it as the process of knowledge construction, gaining, integration, distribution, and putting into use to advance organizational goals. The literature consistently indicates agreement that creating, gathering, organizing, diffusing, using, and exploiting information for the good of the company should be a top organizational priority. There are several important aspects to knowledge management that are critical to the learning organization, and we describe these in the following sections.

Flow of Information and Knowledge

The way information moves through and is encouraged to flow between individuals in an organization is of vital importance. Strong knowledge management can harness the collective

expertise of employees, and then distribute it in strategic ways (Jackson, Hitt, & DeNisi, 2003). Nonaka's (1994) spiral of knowledge framework depicts learning acquisition and transfer amongst individuals as a process of internalizing and externalizing knowledge. Internalization processes enable the learner to absorb knowledge so that it becomes part of one's tacit knowledge base. Whereas "soft" tacit knowledge is acquired from others through socialization processes such as joint practice opportunities, mentorship, dialogue sessions, job shadowing and trial and error experimentation, explicit knowledge can be acquired via lectures, reports or data bases and absorbed to become tacit knowledge. Externalization processes, on the other hand, enable the codification and articulation of tacit knowledge and involve techniques that enable ideas and skills to be expressed or modeled through images, stories, metaphors, prototype development and practice. Once codified and expressed, explicit knowledge can be combined and built on to produce more complex knowledge. Thus, through a process whereby tacit knowledge is externalized, and explicit knowledge is absorbed, individuals acquire new insights and abilities and share their learnings with others. (Becerra, Fernandez, & Sabherwal, 2008). It then moves into use and can, in turn, become tacit knowledge used in everyday shared routines processes.

Commitment Employee Learning and Development

Academics today generally agree that organizational learning can be conceptualized as the collection of individuals' learning (Argyris and Schon, 1978; Senge, 1990). Viewing organizational learning through this lens, the responsibility for management to distribute opportunities to learn and acquire new skills to employees at all levels of the organization becomes apparent. It is imperative that leaders developing employees to assure a successful learning organization and employee learning and professional development should be an

imperative (Senge, 1990; Marquardt, 2011). Ideally, leaders should work with individual employees to plan learning strategies. All should be afforded reasonable time to take advantage of learning opportunities (Marquardt, 2011).

It should be noted, however, that learning also occurs at the group/team level and organization level. (Senge, 1990; Marquardt, 2011; Watkins & Marsick, 1992a). Individual learning “refers to changes in skills, insights, knowledge, attitudes, and values” of the individual employee; team learning refers to the “increase in knowledge, skills, and competencies accomplished by and within groups”; and organizational learning “represents the enhanced intellectual and productive capability gained through commitment to and opportunities for continuous improvement across the organization” (Marquardt, 2011, p. 22) Antonacopoulou (2006) suggests that locating learning at a community group level allows leaders to take into account organizational subcultures and existing relationships that promote and support learning.

Organizations should go beyond meeting the minimum professional development criteria to remain competitive, cultivating an environment where employees at every level can perform well and learn and develop (Senge, 1990). Garvin, Edmonson, and Gino (2008) stress that both newly hired and experienced employees should receive periodic training, including additional training when moving into a new role and when a new initiative is launched.

Relationships and Learning Communities

While information and hard data can be captured and stored via databases, archives, and file cabinets, it is often the unspoken and internal tacit knowledge stored in peoples’ minds and in everyday processes that is most useful. However, tacit knowledge acquired by people and groups is difficult to see, touch, and codify, posing significant challenge and complexity to the capture and storage of it (Huber, 1991). A multifaceted approach to knowledge transfer features

joint learning activities, intentional organization of learning communities, formal peer assistance and mentoring programs, and job rotation assignments between units who can benefit from collaboration. Kellogg, Orlikowski, and Yates (2006) point to the importance of shared space for gathering online and a set of processes and norms for enabling the requisite interaction. Adult learning theory intersects with these approaches to learning. According to Jones and Hendry (1994), the principles of adult learning theory acknowledge that adults learn best when there is meaning and interconnection between what they are learning and the utility of how they would use it. Further, acquiring and using new knowledge in authentic environments reinforces learning; both self-directed learning and active participation are favorable learning processes for adult learners.

Pedler (1995) explains that when meaningful learning relationships are formed, individual learning then transcends to organizational learning. Kumpikaite (2008) summarizes some practical steps organizations can take to forge these learning relationships such as creating team learning activities and strengthening relationships between employees, one type of learning community is a community of practice (CoP). Individuals form a learning collective comprised of those with similar interests and/or objectives who regularly collaborate and share knowledge. Communities of practice that are supported by the organization make learning more democratic and available to all (Wenger, 2004).

Wenger (2004) explains that communities of practice improve collaboration, distribution of information and learning, and the integration of this learning into practice (Wenger, 2004). Brown and Duguid (2000) explain these types of group learning approaches are needed because small teams can develop a significant amount of knowledge but do not necessarily spread it effectively. This lack of sharing leads to other small teams facing problems that have already

been resolved elsewhere in the company. In addition to better sharing internally generated knowledge, Wenger (2004) believes that some communities of practice may also take a strategic position and development knowledge by inspecting scanning the external environment and scouting for new practices and learnings outside the organization. These mechanisms of knowledge management can also make organizations more adaptive to change, according to a study by Kontoghiorghes et al. (2005). They discovered that open communication and information sharing were the strongest predictors of success with risk-taking and idea promotion also having an influence on adaptation. If organizations emphasize participative and open organizational systems, they improve information sharing through constant and open communication across various departments, which allows for collaborative solutions to problems (Kontoghiorghes et al., 2005).

However, to achieve open communication, there are challenges to consider. For example, sharing information becomes more difficult if organizations do not recognize and resolve defensive routines. Defensive routines are when employees become defensive because they are concerned about embarrassment or exposure (Senge, 1990). Further, open communication, free-flowing information, and a culture of risk-taking do not happen if the organization considers information a sacred commodity or views going outside the norm as a violation (Kontoghiorghes et al., 2005). Kofman & Senge (1993) explain that trust should be the foundation of relationship building to support information sharing further, and to distribute information, everyone gives up their certainty and understands that they are a part of an interdependent community of practitioners. Senge et al. (2007) believe that successful collaboration results from quality relationships based on trust, cooperation, mutuality, and joint learning. Promoting an environment where professionals actively listen, respect, and balance inquiry with advocacy is

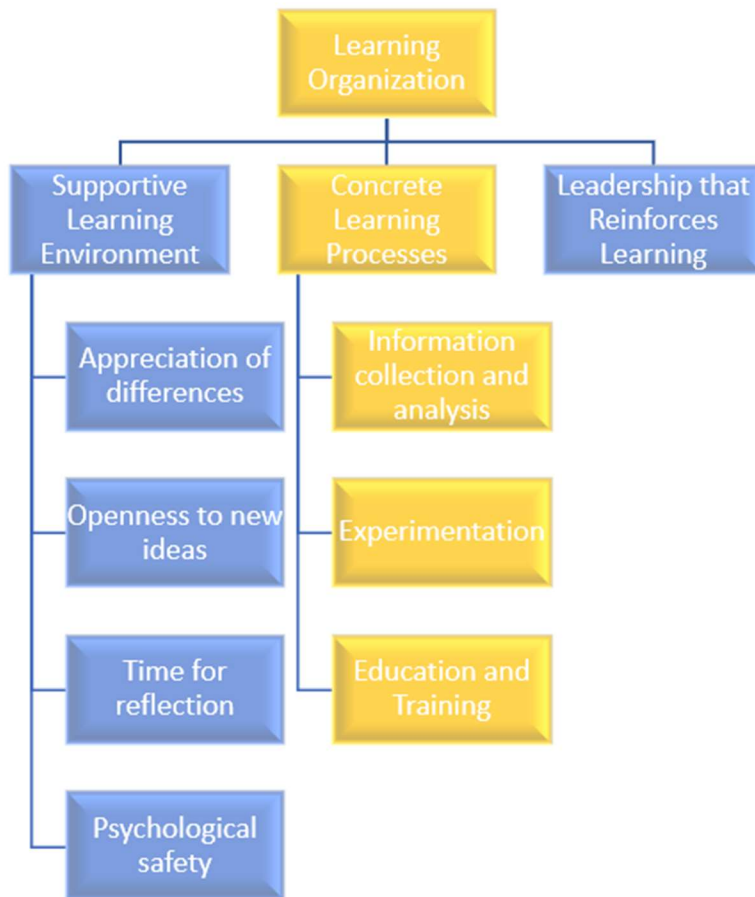
one way to improve communication, relationships, and cooperation with implementing new practices (Senge et al., 2007; Senge et al., 2006).

Conceptual Framework

Informed by the mounting learning organization research since Senge first published *The Fifth Discipline* (1990), Garvin, Edmonson, and Gino (2008) collaborated to conceptualize a modern framework of a learning organization that gained considerable popularity. Itself developed from nearly 20 years of peer-reviewed research; they offered practitioners a simplified model. They identified three key building blocks from the prior research on learning organizations: a supportive learning environment, concrete learning processes, and leadership that reinforces learning. For the purpose of this study, concrete learning processes (in yellow) was selected as the research focus because this area would indicate most closely address the problem of practice for ATARC--what learning offerings would be best received, functionally promoted, distributed, and leveraged by partner organizations. Narrowing our research focus would also support making more focused and practical recommendations to the ATARC Workforce Transformation Working Group.

Figure 1

Conceptual Framework Derived from Garvin et al. (2008)



Research Questions

The research questions centered around how ATARC can support partner organizations by providing relevant professional learning opportunities. We asked two primary questions with multiple sub-questions. The research questions are:

1. How do ATARC partner organizations gather and disseminate information to make learning/training decisions?
 - a. Are there learning communities that exist formally or informally to share information?

- b. How do managers disseminate information internally and externally?
 - c. Are risk-taking, experimentation, and open communication on new ideas encouraged?
 - d. Is there active listening, mutual respect, and opportunities to ask questions?
2. How do ATARC partner organizations share knowledge and skills with employees?
- a. What are learning opportunities afforded to employees?
 - b. How are employees selected for learning opportunities?
 - c. How are learning opportunities related to organizations' strategic plans?

Data Collection

This study used quantitative and qualitative data-gathering methods, including a survey, document analysis, and interviews. Professionals completed the survey, with the majority holding a leadership position. Before selecting participants for an interview, we conducted a document analysis to inform better who should participate in the interview process. The document analysis evaluated 16 organizations' websites. Finally, eight with leadership experience and who participated in the survey took part in follow-up interviews. Although this paper provides more detailed sections for each data collection method, Table 1 below provides a brief overview.

Table 1

Data Collection Methods and Descriptions

Data Collection Method	Type	Brief Description
Survey	Quantitative	We sent a survey to partner organizations of ATARC with the intent to discover if these have the characteristics of learning organizations. 73.6% of participants reported holding a leadership position.
Document Analysis	Qualitative	The document analysis involved the evaluation of 16 organizations’ websites. The intent was to add further data to the two primary questions asked during the interview sessions relating to gathering and disseminating information and sharing knowledge and skills with employees.
Interviews	Qualitative	We conducted follow-up interviews with leaders who completed the survey. The intent was to gather more specific and unique information on their organizational learning practices. We asked numerous questions, but the two primary questions related to disseminating information and sharing knowledge and skills with employees.

We created the 32-question survey with an emphasis on learning organizations. For example, “In my organization, people give open and honest feedback to each other” is a question that should help us answer the research questions related to active listening, mutual respect, opportunities to ask questions, and open communication. Another survey question states, “In my organization, leaders share up-to-date information with employees about competitors, industry trends, and organizational directions,” which should help us answer the research questions on how managers disseminate information.

Besides the survey, we conducted semi-structured interviews that helped us discover richer information about learning practices. During the interviews with the senior leaders, we asked open-ended questions on topics related to how they, or other leaders in their organization, disseminate information. We also covered how employees interact with one another, if there are communities of practice or other types of learning groups, what types of learning opportunities there are, and how they choose employees for those opportunities. The open-ended questions sometimes allowed conversations to naturally cover topics within the survey, which allowed further data to understand survey responses. Through document analysis of 16 organizations' websites, we gathered information about how organizations manage knowledge and training afforded to employees and any information about knowledge management strategies.

Quantitative Survey – Learning Organization Questionnaire

ATARC has 17 working groups that the organization put together to address complex government challenges. Some examples of what those working groups focus on include quantum, IT modernization, supply chain risk management, artificial intelligence, and workforce transformation. Although we primarily collaborated with the workforce transformation working group, the ATARC CEO and board members believed that we could apply the identified problem of practice across all working groups. The problem of practice centered around comprehending employee needs and the organizational readiness of its partner organizations so that ATARC can make informed decisions on which learning opportunities to offer, urgent focus areas, and an effective delivery model. Thus, we focused our research on learning organizations. The literature led us to a study by Marsick and Watkins (2003) that provided a synopsis of the Dimensions of the Learning Organization Questionnaire (DLOQ).

We based our survey on the DLOQ to further understand the extent to which ATARC's partner organizations display characteristics of a learning organization.

The DLOQ has nine dimensions. These dimensions are continuous learning, inquiry and dialogue, collaboration and team learning, creating systems, empowering people, connecting the organization, strategic leadership, financial performance, and knowledge performance (Marsick & Watkins, 2003). Due to our collaboration with ATARC and its Workforce Transformation Working Group, we opted to remove the financial performance and knowledge performance dimensions. The reason for removing those two is that ATARC's working groups are not currently attempting to resolve financial challenges or questions that fall under knowledge performance. At first glance, knowledge performance can appear relevant here, but some examples of questions asked in this category relate to new products, implementing suggestions, and total spending. Table 2 reflects the dimensions and their definitions given by Marsick and Watkins (2003) in their study on DLOQ but truncated to include the seven dimensions we chose.

Table 2

Dimensions and Their Definitions

Dimension	Definition
Continuous Learning	Learning is designed into work so that people can learn on the job; opportunities are provided for ongoing education and growth.
Inquiry and Dialogue	People gain productive reasoning skills to express their views and the capacity to listen and inquire into the views of others; the culture is changed to support questioning, feedback, and experimentation.
Collaboration and Team Learning	Work is designed to use groups to access different modes of thinking; groups are expected to learn together and work together; collaboration is valued by the culture and rewarded.
Create Systems	Both high- and low-technology systems to share learning are created and integrated with work; access is provided; systems are maintained.
Empower People	People are involved in setting, owning, and implementing a joint vision; responsibility is distributed close to decision making so that people are motivated to learn toward what they are held accountable to do.
Connect the Organization	People are helped to see the effect of their work on the entire enterprise; people scan the environment and use information to adjust work practices; the organization is linked to its communities.
Strategic Leadership	Leaders model, champion, and support learning; leadership uses learning strategically for business results.

Two sections of our anonymous survey are represented by these dimensions. These two sections asked questions about individual and organizational levels of learning, and responses were on the Likert Scale. The survey respondents selected numbers between one and six, with one being “Almost Never” and six being “Almost Always.” The third section had questions that let us know more about the participants, including their organization’s size and the respondent’s

primary responsibility. We created the anonymous survey labeled “Learning Organization Questionnaire” in Google Forms and included an explanation of how to complete each section correctly. To access the survey, the respondents accessed a link we generated and sent out through email. The email and the link to the survey are in the appendix as Appendix A.

Outside the formal meetings and discussions we had with ATARC and the Workforce Transformation Working Group, we had many informal conversations with senior leader professionals that allowed us to learn more about what was important to them and their goals within ATARC. What we learned from these interactions gave us confidence that the questions from the DLOQ aligned with what we were hearing. Fortunately, our active involvement and commitment to learning from these professionals established solid relationships and trust, improving participation in the survey and subsequent interviews.

Initially, we started with a goal of 43 participants completing the anonymous survey within two weeks. We chose this number because we observed those who participated more than others in ATARC meetings and collaboration opportunities. Of those whom we noted to be more active participants, we counted 43. The participants include professionals that are within organizations that interact with ATARC. As a reminder, ATARC provides a collaborative forum for professionals from government, academia, and the private sector to resolve emerging technology challenges. The participants work together to solve the government’s problems via the ATARC platform. To improve the success of hitting our goal, we asked the ATARC CEO if he could send out our survey. Thankfully, he promptly supported us by sending the survey to all ATARC board members, which added 61 potential participants. The ATARC board members include volunteer professionals who work for the government, academia, or industry organizations whom the ATARC CEO and ATARC senior employees selected. Of the 104 who

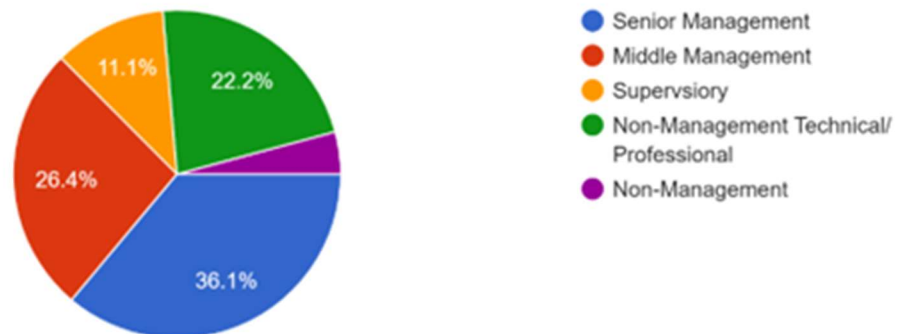
received an invitation to finish the survey, 72 completed it, resulting in 69.23% completion from our sample.

Figure 2 represents the make-up of our respondents from a leadership perspective. As seen in Figure 2, 73.6% of respondents manage others in some way, giving us feedback from leaders who make decisions on learning opportunities for their teams. Additionally, the remaining participants who do not identify as management or first-line supervisors provide a different perspective. These non-managers can give feedback based on working in an environment where management’s decisions impact their learning.

Figure 2

Management Level in the Organization

What is your role?
72 responses



Qualitative Document Analysis – Government Websites

We conducted a content analysis of 16 websites of organizations that currently partner with ATARC to determine if there was information around knowledge management and learning

strategies employed by the organization and available to employees. Specifically, we were seeking evidence that would guide us to answer the following questions:

1. How do ATARC partner organizations gather and disseminate information to make learning and training decisions?
2. How do ATARC partner organizations share knowledge and skills with employees?

Observations made were recorded on a data table for each of the 16 websites. If there was no evidence to support an answer to a question, a lack of evidence was recorded in the data table. In some cases, there was a tremendous amount of evidence available. In those cases, a summary of the evidence was recorded in the data table accompanied by a direct link to the exact web page for future reference.

Qualitative Interviews – Senior Leaders

As we worked to put together the survey and anticipated who we hoped would respond, we knew that we wanted additional data to help us make connections back to survey responses and get richer information than the numeric data alone. Based on what we had learned was valuable to ATARC, the responses to the surveys, and our observations in the document analysis of the websites, we knew that we wanted to get the perspective of leaders who made decisions on creating, acquiring, and distributing knowledge. ATARC professionals felt that leaders are most likely to have an impact on the employee experience and make decisions about it. They felt that leaders make decisions that directly impact the culture of their teams and that organizational structure could also improve or degrade organizational climate. Some leaders, including the ones we interviewed, make decisions impacting organizations as large as 400,000 employees with complex systems and structures. The ATARC perception aligns with the study by Marsick and

Watkins (2003) as they explain the importance of climate, culture, systems, and structure on individual and workplace learning. Leaders should fix learning into continuous systems, structures, and practices to be shared and frequently used (Marsick & Watkins, 2003). We acknowledge that those in leadership have a limited view of the entire organization. The purpose of the interviews was to glean structural organization towards learning that may impact organizational readiness to be a learning organization. We created our interview questions with ATARC's view and the research in mind, but also with the intent of answering our research questions.

The second phase of data collection comprised 30-minute semi-structured interviews designed to inform and extend data collected through the survey process. Potential interview candidates were selected by evaluating who participated in the survey; we evaluated levels of leadership and sought a diverse sample of participants who would reflect experience at organizations of varied sizes and structures. Because we had hoped to receive feedback from leaders who have an impact on learning decisions, we reached out to 12 professionals who were considered senior leaders or had been senior leaders at some point in their careers. Of those 12, we interviewed eight professionals. Thus, we garnered participation from 66.67% of our sample. Participants included CEOs of start-up companies, senior leaders in human resources within federal organizations, and a government contractor. These leaders exhibited many differences in priorities but also demonstrated common themes. We reached out with a personalized email that explained our intent and purpose.

Challenges During Data Collection

We started by creating the survey and working with ATARC to distribute it to potential participants' emails. Our initial challenge was that many participants could not access the survey

due to security IT provisions in their networks. Thus, we had to send an additional message explaining that they would have to forward the survey link to their personal emails to complete it, causing concern that the survey was illegitimate or a “phishing” attempt. Multiple participants called or emailed us directly to ensure this was not a scam or hacking attempt. Three individuals had problems accessing the link from their personal email, but we resolved those issues quickly. We could reach 104 total potential participants due to support from the ATARC CEO, but many were out of the office. They did not receive the invitation until after our two-week timeframe.

During the document analysis of the websites of 16 different government organizations, the challenges included navigating varying website structures. Each website had a unique design preventing a consistent and reliable approach to gathering information. Four websites had no information pertinent to organizational learning for their employees. Some websites had so much information that we could not record direct quotations for evidence. Instead, we recorded summaries of that information. Because the websites are a collection of webpages accessed through multiple embedded tabs or links, we recorded specific links to reference later in the analysis process. The recordings will allow us to easily access appropriate evidence to support conclusions and recommendations.

Our goal for the 30-minute semi-structured interviews was to engage ten senior leader participants who had also completed the survey. We completed eight interviews; one potential participant declined, and three did not respond.

With the consent of interview participants, all interviews were via Zoom for transcription. However, because of a poor internet connection, one interview was conducted via telephone, with careful notes captured by the interviewer. As a result, this interview transcript lacked the

level of detail found in the other transcripts. A technical challenge led to the shortening of one interview, resulting in less analysis content.

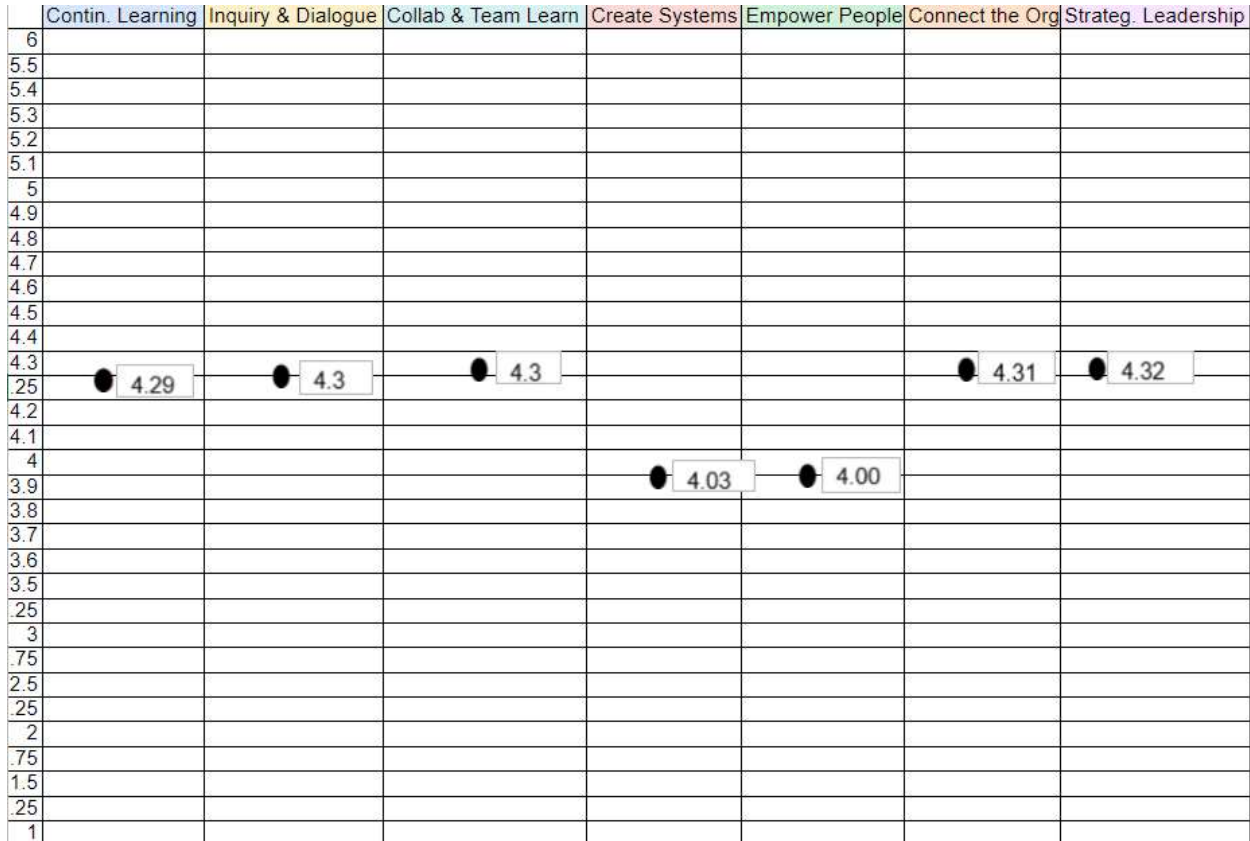
After the interview process, we carefully audited the transcripts generated by Zoom for grammatical mistakes and inaccuracies before being submitted to our data analysis software.

Data Analysis

We gathered the survey data and downloaded it to a .csv format so that we could manipulate the data. First, we ensured that our questions aligned with the dimensions Marsick & Watkins (2003) outlined in their study on organizational learning cultures. We connected our questions to the dimensions of continuous learning, inquiry and dialogue, collaboration, and team learning, creating systems, empowering people, connecting the organization, and strategic leadership. For example, “In my organization, people help each other learn” falls under the continuous learning dimension. We calculated the average score per dimension of each individual. For example, if an individual scored 5, 4, 4, and 5 on four questions that fell under the continuous learning dimension, their average for that dimension would be 4.5. We averaged all 72 responses across the dimensions. Figure 3 represents the result.

Figure 3

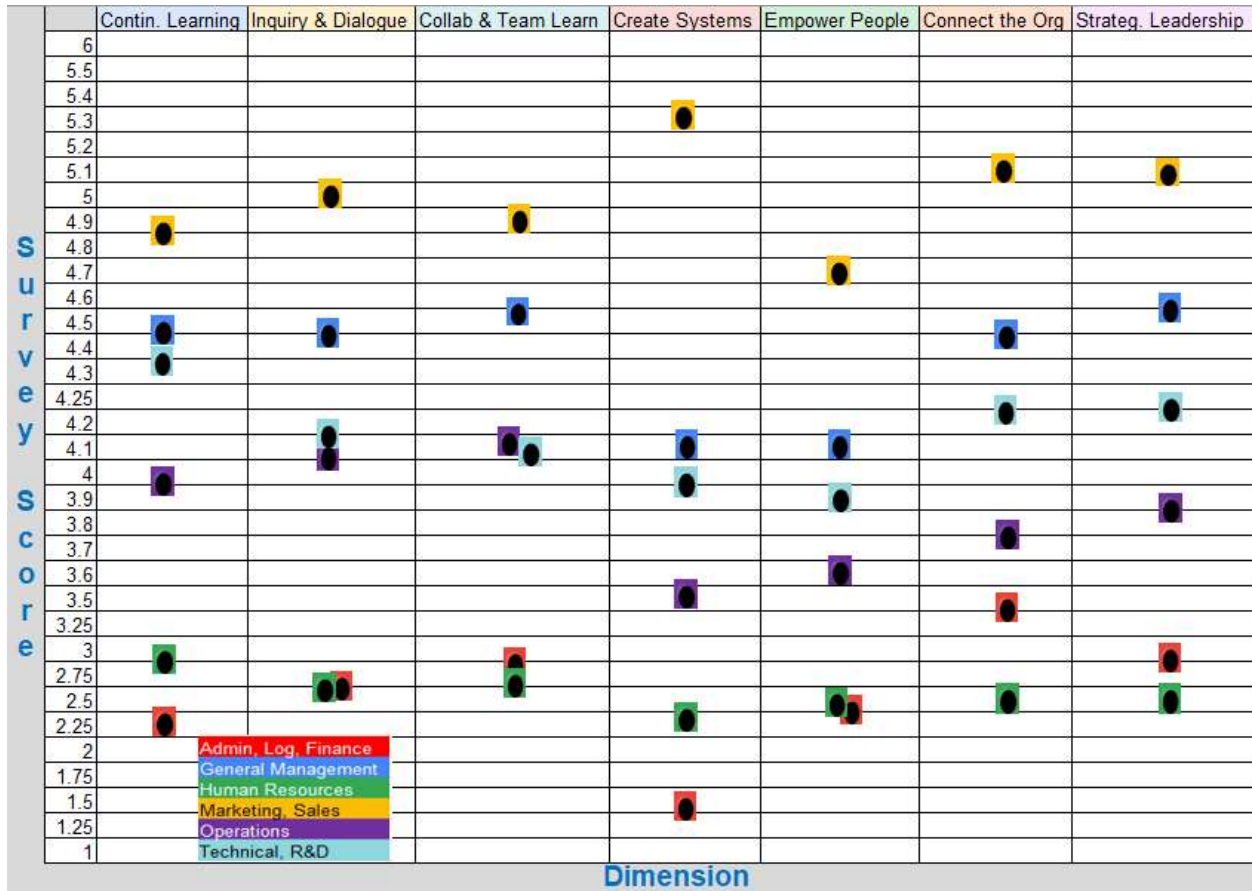
Profile Results - Overall



We wanted to investigate this further, so our next step was to determine what the data looked like based on the primary job role of the participants. The primary job roles included administration, logistics, finance, general management, human resources, marketing/sales, operations, and technical/R&D. We adjusted the data to categorize each participant by these roles and took their average responses to the seven dimensions. We then created a graph resembling Figure 3 but displaying all roles. Figure 4 shows the scores of each role by dimension. The color-coded key demonstrates the different roles.

Figure 4

Profile – Results by Role



We continued to pursue other variables after seeing the trends from the data gathered around primary job roles. Following the same analysis method, we took with primary job roles; we found the average dimension score based on organizational size. We also found the average dimension score based on the management level of the participants. We consolidated the organizational size and management level of participant information and displayed them in graphs. Figure 5 represents the results of the average dimension scores based on organizational size. The color-coded key demonstrates the different organizational proportions. Like Figure 5, Figure 6 displays the average results of dimension scores based on the management level of

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participants. A color-coded key shows what color correlates to the participant’s management position.

Figure 5

Profile – Organizational

Sizes

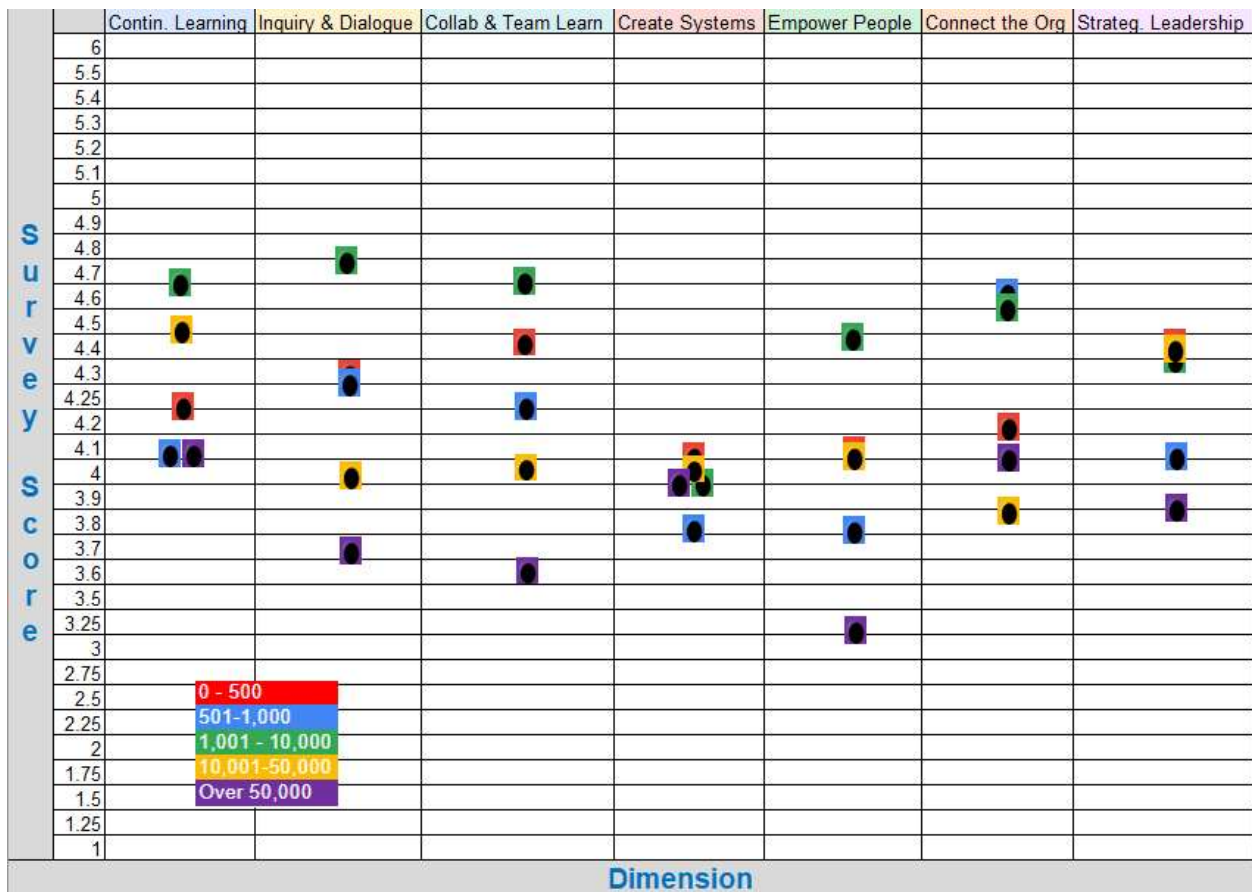
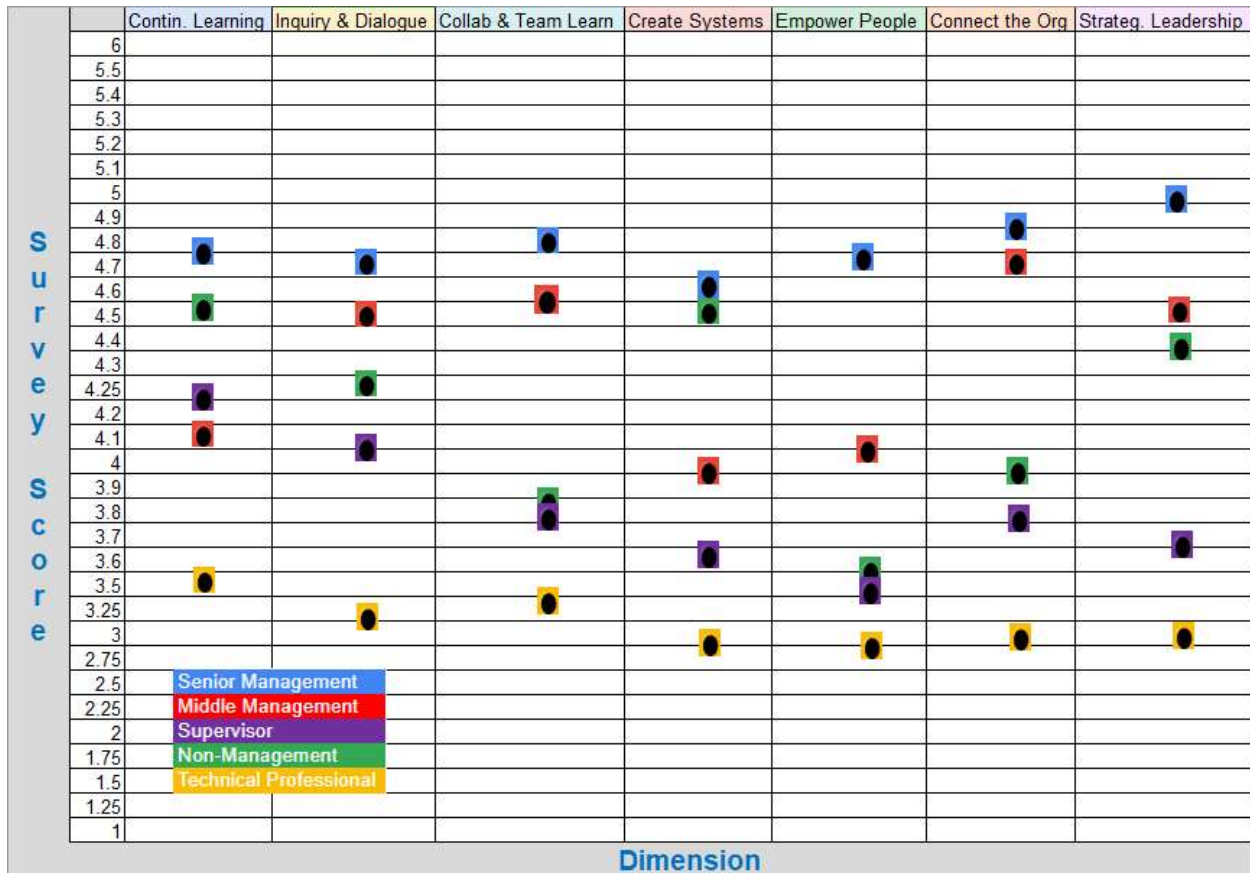


Figure 6

Profile – Management

Level



Beyond the survey data, we conducted data analysis on the interviews with the eight different senior leader participants. Using the Zoom platform as our transcription tool, we took the transcripts from the recordings and adjusted any grammatical errors. It is important to note that we could not record the eighth interview because the interviewee had technological errors and could speak only on the phone. The interviewer took notes of the discussion using the same semi-structured questions used in the recorded interviews. Immediately after the interview, the interviewer reviewed the notes, revised them for clarity, and replaced abbreviations made during the notetaking process.

For the transcripts, we removed the portions that included our questions and any additional statements we may have made from the transcripts. Doing this allowed us only to have the interviewee’s comments. The transcriptions and notes from the eight interviews were uploaded to Quirkos, a software program that aids coding. Because the semi-structured interview questions focused on information collection, experimentation with learning structures, and strategies for learning and skill development, we used open codes of Information Collection and Analysis, Experimentation, and Education and Training. Definitions and example statements for each code are outlined in Table 1.

Table 3

Open Codes from Interviews

Open Codes		
Category	Definition of Category	Qualitative Quote Examples
Information Collection and Analysis – Start Up	Knowledge gathering and meaning-making activities that guide decision-making for organizational growth in start-up organizations	“Once we get a contract in place, typically, we start with a needs analysis, so that we have time and runway to get to know them, and to spell out their needs and get confirmation on this is specifically where you move the needle. So we’ll involve our team, the instructional design part of our team in that upfront, and then we do a project kick off meeting internally.”
Information Collection and Analysis – Military	Knowledge gathering and meaning-making activities that guide decision-making for organizational growth in military organizations	“So once the taskings came down from higher headquarters, we need 12 of this 12 of that, then we could clearly see what we had. But yeah, with that strategic planning, and I mean, it’s just a continuous process. We just want to keep our Manning levels, our readiness levels, at a certain percentage, and even when we’re not in the bucket.”

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<p>Information Collection and Analysis – Government Organizations</p>	<p>Knowledge gathering and meaning-making activities that guide decision-making for organizational growth in government organizations</p>	<p>“Actually, when I joined, like I’m big into communities that I know from my federal experience. There's a lot of opportunity to share government, for instance, so as government as a big organization or any of its subordinate entities, right on down into the tiny program offices that they don't tend to talk to one another. I got to experience that as I, you pivoted around the different government entities.”</p>
<p>Experimentation – Start Up</p>	<p>Activities that encouraged risk-taking in start-up organizations</p>	<p>“So we have a meeting on Fridays. I just call the Friday Firehose where it's here's everything, and I’m letting you know inside baseball. You know this is what's going on from financial performance to upcoming assignments, wins and losses, so that everyone kind of knows what we're heading, and as we're transforming from our marking of a learning and design company to employee engagement and everything that means I'm involving everyone.”</p>
<p>Experimentation - Military</p>	<p>Activities that encouraged risk-taking in military organizations</p>	<p>“I mean a lot of that would depend directly with who you asked within the organization. A lot of the like program managers that I knew some, you could definitely do that. Other ones, absolutely not. And you really didn't know what you were getting into until you got there,”</p>
<p>Experimentation – Government Organizations</p>	<p>Activities that encouraged or discouraged risk-taking in government organizations</p>	<p>“Risk aversion can be a big thing in any organization. It's definitely present in the government. I had the wonderful opportunity to lead a change effort at USGS about ten years ago for about six years. It started about ten years ago, and so I got to deal with all that kind of head on, and communities of practice helped.”</p>
<p>Education and Training – Start Up</p>	<p>Activities that organized learning and training opportunities in start-up organizations</p>	<p>“Hire well. That's my superpower, because I really try very hard to identify someone who's a good fit. So we have a very eclectic mix of</p>

		creative people. But one thing they do all have in common is they use their brain, and they're not afraid to be asked to help, problem solve and guide us through some things that frankly, I don't want to be involved in. I don't have the capacity or time to be.”
Education and Training - Military	Activities that organized learning and training opportunities in military organizations	“And I can see everybody's information, I can see overdue readiness requirements. If there's something unique that this person needs for this particular deployment, I can go in and I can actually assign that training to that member.”
Education and Training – Government Organizations	Activities that organized learning and training opportunities in government organizations	“By focusing more on individualized coaching. Because yeah, I generally have a track record like folks I coach get promotions are usually in my profile or influential role.”

After initial coding, we recognized repetitive themes of organizational flatness, hierarchy, entrepreneurship, psychological safety, accountability, organizational goals, personalized learning plans, and the methods used for knowledge and skill development. These themes became our axial codes. Through final coding, we organized these themes into the selective codes of Organizational Structure, Culture, and Knowledge and Skill Transfer (Figure 7). Using Quirkos, we have a report of quotations from the interviews that align with each selective code. Table 2 shows definitions and examples of the selective codes.

Figure 7

Open, Axial, and Selective Coding Trends



Table 4

Selective Codes from Interviews

Selective Codes		
Category	Definition of Category	Qualitative Quote Examples
Organizational Structure	Activities or decisions related to or impacted by the organizational structure	“So we have kind of four areas of operations for us now. Procurement side. So compliance QA, market research in the government sector. That's kind of a team. They are doing market research. Then we have a production team that creates our creative assets via the web-based assets the videos. So that production team is all together, and they have to learn different tools based on client needs. And then the design team, who actually, like, developed the scripts, the learning objectives, the assessment questions that kind of thing. So there's

		<p>procurement, instructional design and production. And then we just started kind of an overall project management or program management role that has taken a while to figure out how to plug in because our projects are so unique.”</p> <p>“And it's, technically I'm a solution principal, my role is designed to be top, like in the top leadership layer of the company, branching across sales into implementation and also operations, but mostly customer facing, so help I get to consult with tons of customers help advise them on their approach to either starting scaling or improve improving an employee and customer experience, practice.”</p> <p>“But now you have all these people attending this meeting. There is all this top layer of fifteen senior executives and this again, not necessarily my agency, although it is where I'm at. But this is every agency I've been at. And so much information because all these people are in these meetings and all the workers, the knowledge workers with the skills are not in the meeting, addressing the problems. Now all of a sudden, information just comes down by email, email, email, meeting, meeting, meeting, it's so dysfunctional, and they just pack it down into these lower levels, rather than where it should be where a few people are at the top.”</p>
Culture	Activities or decisions driven by mission, vision, or strategic goals; leadership moves that support employees to achieve organizational goals	“By gathering people, as a contractor we are hiring folks for new opportunities that we gain. So, as we get a contract, we need all of a sudden there's twenty empty seats, or whatever. And so, through the recruiting and hiring process, new talent comes in. And so through that

		<p>interview process, just making sure we're bringing in the folks that are the best fit from an experience and skills standpoint, and that has kind of set us apart that way as far as bringing in the best and brightest.”</p> <p>“So the skills are like we don't have a formal competency model in these specific skills you have to be working on yet. So it's really just on a almost tribal level. It's like we have our like tribal council to say, Hey, here's the battles we're fighting, and we kind of group think it and brainstorm how we're going to approach it to make sure that nothing falls through the crack.”</p> <p>“So, with 460,000 employees, you might imagine we have communities of practice everywhere, right? Yeah. And so, I think that sometimes they work, sometimes they don't work. I truly believe that the tone is set by leadership, right? Yeah, its leadership is not one that values knowledge and values, expertise and values, connectivity, and people collaborating and solving problems together. What you're going to end up is really just a hierarchical, and in control, like, like, really not necessarily a learning organization, but really just a managerial type of activity. task oriented. Right. Yeah. So, I think that the tone is definitely set by leadership.”</p>
<p>Knowledge and Skill Transfer</p>	<p>Activities related to disseminating knowledge and upskilling organization members</p>	<p>“. So we have another gentleman who had a lot of passion. We would talk to the Smithsonian two years ago. And just have stayed in constant communication, and I put him on projects between now and then. That got him ready. We got the contract, and now he's leading it with the</p>

		<p>Smithsonian, because he's ready for it.”</p> <p>“So that practice area that dev-sec-ops practice area is a way for with a channel so folks to chit chat, talk. It's a monthly show and tell and I did something when I was at USGS like that, where it was a develop or a developer sink. That's what I called, and I think it was biweekly. Just to get the developers sharing out on what they're doing. So everyone could stay abreast of it. Folks could talk about things they were trying, and what was failing and succeeding, and all that. Just sharing that learning curve, doing more of that.”</p> <p>“You can have also little podcasts, right? That you know, you're going to your kids' football game, or soccer game or your gymnastics game. And you can have a five-minute podcast as to, you know, what is organization next Wednesday, do okay, well, or just a little mini video to three-minute video, like Welcome to this organization or to this. And then you can just say, Today's today we're going to or this week, we're going to be focusing on blank, and your entire team. Other things that we do our forums, you know, so if you're doing technology, so we do brown bags, we do forums, and so we share some of that information.”</p>
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Findings

The data collected via surveys, document analysis, and interviews illuminated several trends and themes that may be useful to ATARC as they create and operationalize strategy to benefit their partners. We examined the data through the lens of our two primary aforementioned research questions:

- How do ATARC partner organizations gather and disseminate information to make learning/training decisions?
- How do ATARC partner organizations share knowledge and skills with employees?

We found that ATARC partner organizations make organizational learning decisions based on impending needs. The type of organization determines the motivations for learning and development within the organization. Military entities prepare members for upcoming missions. One military leader explains how training and skill development is organized and monitored. “We have what we call the expeditionary readiness checklist. And that in itself provides a lot of trainings. And it specifies how often those trainings need to be completed.” Federal government organizations focus on development and innovation. One leader in a large federal organization shared how they reward and encourage experimentation. “You give a big high five and pat on the back when somebody describes failure. So I did this. It was brave. It utterly failed. Here's what we learned like. Wow! That was cool. Thanks for sharing. Let's make sure we're doing that. Never flagellating folks for admitting failure, sharing failure.” Start-up organizations focus on the specific needs of clients and customers and spend little resources on learning and developing. Instead, they rely on hiring well to meet current needs. A CEO of a start-up upon being asked how they develop their employees replied, “Hire well. That's my superpower, because I really try very hard to identify someone who's a good fit. So we have a very eclectic mix of creative people.” While motivations and

strategies for learning and develop vary between the types of organization, each type of organization did have a plan and express value in organizational learning.

When looking at survey findings, a recurring theme is related to differences between senior and middle managers and non-management technical professionals. Non-management technical professionals believed that learning communities did not exist to any effective level in their organizations. These same professionals believe that managers do not share information well, create safe environments for questions, nor build continuous learning environments. However, senior and middle managers believe the opposite of the non-management technical professionals. Senior and middle managers believe that they create effective learning communities, pass information well, create environments for questions and active learning, and ensure that continuous learning was efficient. The survey results show a disconnect between the perceptions of senior and middle managers and those who accomplish daily technical tasks.

The seven sub-questions provided more specificity, and so we tied our findings to the seven sub-questions.

Question 1a: Are there learning communities that exist formally or informally to share information?

Finding 1: Generally speaking, professionals do not believe there are formal learning community systems that are in place to share information. This appears to be especially prevalent with administration, logistics, financial, and human resource professionals. Further, those who identified themselves as technical professionals from a management role perspective felt that this category was the

worst. However, like other categories, senior managers felt better about learning community systems than any other level of management. Lastly, managers felt that the use of communities of practice was a local decision dependent on leadership.

Question 1a primarily had connections to the survey questions spanning one dimension. Below are the survey questions and their corresponding dimension.

- Creating Systems Dimension
 - My organization uses two-way communication on a regular basis, such as suggestion systems, electronic bulletin boards, or town hall/open meetings
 - My organization enables people to get needed information at any time quickly and easily
 - My organization makes its lessons learned available to all employees

We noticed a primarily positive trend when we evaluated the general responses for the dimensions of continuous learning, inquiry and dialogue, collaboration and team learning, connecting the organization, and strategic leadership. However, the dimensions creating systems and empowering people are scored lower than the others. When we broke the data down to the roles of the survey respondents, we found that administration, logistics, and finance professionals had a rating of 1.56 out of 6. Human resource professionals were the next lowest at 2.44. Although most rated creating systems at a low level, an interesting difference was among marketing and sales professionals, who ranked this category the highest. The organizational size did not affect this dimension significantly, but the management level of the employee did. For example, technical professionals rated their organizations the lowest compared to any other category with this dimension.

Some interview participants spoke of learning groups within their organization. With that, those participants explained that the use of communities of practice to share knowledge was dependent on leadership. “Just communities of practice are a way to spread best practices, but also the one is actually emotional. And it’s around the courage to change.” An example of one leader creating a community of practice for his own department demonstrates how communities of practice can develop within small pockets of an organization. “I noticed we’ve got a lot of wonderful staff on a lot of wonderful projects, but then nobody knows what else is going on in the organization, even as a contractor. So, I started up a dev-sec-ops practice area. It’s a bunch of show and tell. Basically, folks get on stage and just talk about their project and their efforts and what they’re doing.” Without formal structure for communities of practice, leaders who use them may find themselves in a situation where the community lacks structure and organization. “We’re having a technical collaboration meeting, that was like a very focused little group where it’s going to be just like 20 of us, no more. Somebody heard about what we were going to be talking about and who was going to be coming. Now we’re up to 107 requests for people to join our little meeting. There are also situations where employee and organization relationships are structurally and culturally not set up for communities of practice. This was evident with employees who serve in a contractual role. “No, as a contractor, you’re expected to handle that entirely on your own.”

Question 1b: How do managers disseminate information internally and externally?

- *Finding 2: Most professionals believe their managers encourage people to get answers across the organization when solving problems. However, many do not feel leaders share up-to-date information with employees about competitors,*

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industry trends, or organizational direction. As is seen throughout this study, those who identified as technical non-management professionals rated information dissemination lower than any other management level.

Question 1b spans two dimensions. The questions, and their dimensions, are below.

- Connecting the Organization Dimension
 - o My organization works together with the outside community to meet mutual needs
 - o My organization encourages people to get answers from across the organization when solving problems
- Strategic Leadership Dimension
 - o In my organization, leaders share up-to-date information with employees about competitors, industry trends, and organizational directions

The survey results do not show *how* managers disseminate information internally and externally. However, they provide an opportunity to see the general prevalence or absence of information dissemination. The overall score for connecting the organization dimension was 4.31, the third highest rating of the dimensions. The question, “My organization encourages people to get answers from across the organization when solving problems,” was rated the fourth highest of all survey questions at a score of 4.51. However, the average score of “In my organization, leaders share up-to-date information with employees about competitors, industry trends, and organizational directions” was 4.04. 4.04 is the fifth lowest score across all survey questions. No significant trends stood out when evaluating organizational size or primary responsibility as it applies to disseminating information. However, those who identified as technical non-management rated this area lower than any other management-

level professional. To note, technical non-management professionals rated all dimensions lower than any other management level.

Organizational structure impacts how knowledge is shared within an organization. With flat organizations, knowledge is shared freely and easily across the organization. Sometimes, too much access to information can be a distraction. “The organization is so flat that senior leaders are often getting involved with sometimes mundane details.” On the other end of the spectrum, hierarchical organizations follow a top-down dissemination of information. “We have quarterly company meetings. There’s also a rough hierarchy, but it doesn’t encapsulate everyone.” This shows how hierarchy limits information for some people in the organization. “There is all this top layer of fifteen senior executives and all the workers, the knowledge workers with the skills are not in the meeting addressing the problems. Now all of a sudden, information comes down by email, email, email, meeting, meeting, meeting. It’s so dysfunctional and they just pack it down into these lower levels, rather than where it should be where a few people are at the top.” Where flat organizations tend to allow too much information sharing, hierarchical organizations can exclude those at the bottom who are doing the technical work.

Question 1c: Are risk-taking and open communication on new ideas encouraged?

- *Finding 3: Although most professionals believe that their organizations openly discuss mistakes to learn from them, many do not think those organizations support employees who take calculated risks. Those most concerned are those with primary responsibilities in technical research and development and general management.*

Question 1c had connections to the survey questions spanning two dimensions.

Below are those survey questions and their corresponding dimensions.

- Continuous Learning Dimension
 - In my organization, people openly discuss mistakes in order to learn from them
- Empower People Dimension
 - My organization supports employees who take calculated risks

Although the overall rating was above average for the two dimensions listed, those who identified their primary role as being in general management or technical/R&D rated these areas low. Further, of the low ratings, there were more technical non-management professionals than any other self-identified management level.

According to the interviews, there is evidence that risk-taking is viewed as part of the learning process within certain contexts. Some leaders do not view risks and failure positively. “But when it comes to your culture, I guess, is risk-taking and open communication on new ideas encouraged? There’s some people that are completely and totally risk averse.” However, some organizations view risk-taking as part of the culture. “I use the term at [a science organization] and as a science agency that really helped the needle because we talk about change. Ooh, scary? Well, what if we do an experiment because it’s about the hypothesis. And did you prove it or not? And so, it’s just like culturally resonated.” Some leaders cite context in the level of risk to return. “It’s an odd combination of like go chase the thing. But then there is not always a perfect psychological safety umbrella. Because the organization is so flat that senior leaders are often getting involved with sometimes inconsequential details. And they don’t always respond well to what’s going on.”

Other leaders see risk-taking as the key to learning so much that they require it. “If you want an excellent rating this coming year, you better have had, so many developers getting on the stage.” They also celebrate failure. “That’s neat what they’re playing with. Yeah, it didn’t end up well, but that was neat, and they tried it or whatever... What was also so critically important in a show and tell setting from a senior leader standpoint was giving fantastic kudos to people sharing failure.” The experiences interviewees shared with experimentation and risk-taking in their organization showed that individual leaders are the ones that set the culture of its acceptability. The power individual leadership has in developing a culture of innovation and psychological safety was a resonating take-away from the interviews.

Question 1d: Is there active listening, mutual respect, and opportunities to ask questions?

- *Finding 4: Professionals who have roles in human resources, administration, logistics, and finance generally do not believe that their organizations have active listening, mutual respect, and opportunities to ask questions. Further, if an organization has over 10,000 employees, they see this category suffer. Finally, technical professionals who do not supervise or manage others generally do not feel this is taking place in their organizations. However, there are bright spots. All other categories of job roles felt that their organizations were achieving the intent of question 1d, with marketing and sales professionals scoring the highest. Employees in an organization that range in size from 1,001 – 10,000 feel that their organizations are meeting this category well. Finally, senior and middle management believe that their organizations are succeeding in this area also.*

Question 1d had many connections to the survey questions spanning three dimensions. Below are those survey questions and their corresponding dimensions.

- Continuous Learning Dimension
 - In my organization, people help each other learn
- Inquiry and Dialogue Dimension
 - In my organization, people give open and honest feedback to each other
 - In my organization, people listen to others' views before speaking
 - In my organization, people are encouraged to ask “why” regardless of rank
 - In my organization, whenever people state their views, they also ask what others think
 - In my organization, people treat each other with respect
 - In my organization, people spend time building trust with each other
- Collaboration and Team Learning Dimension
 - In my organization, teams/groups treat members as equals, regardless of rank
 - In my organization, teams/groups revise their thinking as a result of group discussions or information collected

We noticed favorable results when we evaluated the general responses to these survey questions. However, when we broke the information down by role, we found that administrative, logistics, finance, and human resources professionals scored noticeably lower than the overall average. Further, we noticed a similar trend with organizational size. As organizations approached a size of 10,001 – 50,000 and beyond 50,000, their responses to

the survey questions in this section dropped significantly. Figure 5 depicts the general reactions given by organizational size and dimensions and demonstrates what we noticed when we looked at the survey questions mentioned in this section. Finally, when we looked at responses by the management level of the survey participant, we noticed that technical professionals rated much lower than all other identified levels of management. Senior and middle managers rated higher in this category.

Question 2a: What learning opportunities are afforded to employees?

- *Finding 5: Most professionals believe that employees help each other learn.*

However, there are opportunities for organizations to reward their employees for learning, as many felt that their organizations did not. Administrative, logistics, and financial professionals do not believe continuous learning is effective, rating it the second lowest of all dimensions. Technical non-management professionals felt continuous learning was more ineffective than any other management role. Senior managers felt that continuous learning was effective and rated this area higher than any other level of management.

Question 2a related closely to all four questions that fell under the continuous learning dimension. Although the survey information does not state *what* learning opportunities organizations offer employees, it provides an idea of whether organizations provide learning opportunities in general or if the employees help each other learn. Below are the survey questions.

- Continuous Learning Dimension
 - In my organization, people are given time to support learning
 - In my organization, people are rewarded for learning

- In my organization, people help each other learn
- In my organization, people openly discuss mistakes in order to learn from them

Figure 3 represents the overall profile results, demonstrating that the continuous learning dimension was 4.29. All four survey questions under the continuous learning dimension appeared relevant to understanding opportunities to learn within an organization. With a score of 2.33 in this dimension, administrative, logistics, and financial professionals rated the continuous learning dimension the second lowest of all. Further, those who defined their management roles as technical non-management rated this area lower than any other level of management. However, this is the trend across all dimensions.

Multiple means of learning are utilized across organizations. As evidenced through the document analysis, organizations ranged from asynchronous to active learning opportunities. A trend appeared along the lines of organization type. Large corporations and federal organizations offer asynchronous learning libraries for their employees. Amazon Web Services provides the Amazon Builders' Library for its employees. This library is comprised of videos, articles, and mixed media that employees can use at their convenience to self-learn. Similarly, Docu-sign provides a catalog of self-paced learning. The Directorate of Acquisition provides its employee membership with access to more than 8,000 LinkedIn Learning resources of guides, courses, books, and videos. Similar activities were evidenced in the interviews. "You could also have little podcasts, right?" "Other things that we do are forums." Like the asynchronous learning opportunities available on the organization website, podcasts and forums represent a passive one-directional learning opportunity for participants. Military entities rely on simulations geared towards preparing servicemen and women for

missions. A news release on the Air Mobility Command website shared one such instance, “The U.S. Air Force C-5M Super Galaxy arrived on July 11, 2022 with assigned personnel from the 60th Air Mobility Wing, Travis Air Force Base, California, in order for members assigned at Andersen AFB to conduct the training. Since there are no C-5 aircraft permanently assigned to the installation, this training provides a chance for Air Mobility Command Airmen assigned to the 734th AMS to train and earn certifications for essential skills needed to execute C-5 missions.” In this training, personnel were involved in hands-on learning that is recorded and qualifies participants for higher level missions. Start-up companies like Bubo Learning Design offered no evidence on their website of learning opportunities for employees.

The interviews and the website document analysis also highlighted some more active participatory learning activities available in military and federal organizations. According to the website of Air Mobility Command, a military organization, the use of VR simulation is used to train Airmen in controlled environments. The interviews provided examples of mentorship and apprenticeship learning opportunities available in federal organizations. Employees and teams sharing their project successes and failures were used by multiple organizations that we spoke with. “It’s a monthly show and tell... It was bi-weekly... Folks could talk about things they were trying, and what was failing and succeeding.” The celebration of failure was capitalized by one organization. “Let’s get that guy on stage. That’s neat what they’re playing with. Yeah, it didn’t end up well, but that was neat that they tried it, or whatever. And what was critically important in a show and tell setting from a senior leader standpoint was giving fantastic levels of kudos to people sharing failure.” One interviewee spoke of their apprenticeship learning model, “I know how to do something very

well. Well, let's train somebody else." Parallel learning between a retiring employee (mentor) and training employee (mentee) was used as an example by one interviewee of the success of not only training a new employee but saving organizational knowledge. "The gentleman about to retire was a GS-12 product manager, so I created another one [GS-12 product manager] right next to him like extreme programming or paired programming... I went through the hiring process, that kid was selected. He comes in so he's working alongside as they plan and start implementing... All this, like doing new things in new ways, and excuse the phrasing, but with the old guy, knowing where all the bodies are buried, with all the technical details, all the history, and many things that need to be considered from a final product." The organization valued this type of learning so much, that they had two employees, the mentor and the mentee, both working in the position of one employee for six to twelve months.

Question 2b: How are employees selected for learning opportunities?

- *Finding 6: Employees in organizations are selected for learning opportunities based primarily on organizational needs. Organizations who identify as start-up or are building lack structured learning opportunities and rely heavily on hiring qualified employees that do not need to be developed. Organizations also allow employees to self-select to participate in professional development.*

Organizations structure personnel development around the needs of the organization. According to the Office of Personnel Management website (n.d.), "Career development planning benefits the individual employee as well as the organization by aligning employee training and development efforts with the organization's mission,

goals, and objectives.” Organizational leaders make training and development decisions based on strengths they see with individual employees. “So, these individuals, we might factor them to be a subject matter expert that all the other people can go to when they have a question. And sometimes we need to identify these individuals who have leadership and people skills. And maybe there’s another role who is really good at teaching.” Similar to previous stated trends, organization type impacted availability of learning within the organization. In cases of organizations that identify as start-up or still building, they rely on hiring employees that do not require development to accomplish the mission the organization is tasked to accomplish. “By gathering people, [we] are hiring folks for new opportunities that we gain. So, as we get a contract, we need all of a sudden need to fill twenty empty seats. And so, through the recruiting and hiring process, new talent comes in... Just making sure we’re bringing in the folks that are the best fit from an experience and skills standpoint.”

Organizations allow employees to self-select and advocate for learning opportunities. In the interviews, organizational leaders referenced training available to all employees. Some organizations have learning management systems open for employees to complete training of their choice. However, training expenses are limited. “All offices have a training budget. Each individual can ask, but this is limited through needs.” So, while employees may ask to attend training opportunities, those that meet the needs of the organization will be approved over those that do not. One organizational leader spoke of a time an employee requested a participatory learning assignment. “Two years ago, he said he wanted to be with the Smithsonian if we got it [as a client]. But you’ve got to get

good at it. You're on this project. It's not super sexy. It's a cleaning company. But show me what you can do, or you're not getting the Smithsonian. I need somebody I can trust.”

Question 2c: How are learning opportunities related to organizations' strategic plans?

- *Finding 7: The mission drives many learning opportunities in these organizations. With a long-term strategic plan of creating a culture of learning enablement, some organizations consider learning a key component to the development of the organization and having an ever-ready workforce.*

Motivation for learning and professional development is not rooted in isolation of the needs of the organization or the needs of the individual. It is an intersection of the two. Organizations weigh the needs of employees to stay interested and grow with the long-term needs of the organization to continue to develop and grow. One senior leader stated, “It’s like helping the organization helping the employee and aligning their two interests and creating a great organization.” On the website for the National Museum of African American History and Culture (n.d.) it states, “Through mutually beneficial collaborations, OSP advances inclusion, job creation, professional development, and leadership in the museum and related cultural heritage fields. Our partnerships strengthen and increase organizational sustainability.” Organizations view these partnerships with employees as essential to the strength of the entire organization. “We’re investing in their training, and we’re investing in their career with us. And that’s how we reduce turnover. And that’s how we put people on the right career path.”

Recommendations

ATARC, considering the merger with GITEC in 2018, has a long history of building coalitions of professionals from government, academia, and industry. These professionals

represent ATARC's partner organizations. ATARC's platform has allowed it and its participants to create, acquire, and transfer knowledge, which are vital contributors to becoming a learning organization. However, are ATARC's partner organizations themselves ready to receive that knowledge? If professionals within ATARC's partner organizations do not believe that their organizations reflect the characteristics of a learning organization, then ATARC may be limited in how far that information goes. For example, new information may stop with the volunteer participant of ATARC because that participant's organization is not ready to take in new knowledge. Thus, we are basing our recommendations not on how ATARC can alter its capability to learn but on how ATARC can support the learning habits of its partner organizations.

Recommendation 1: ATARC should facilitate communities of practice that connect senior and middle managers to technical professionals on similar interest, linking business strategy to common problems that these teams face.

Across multiple findings, there is a consistent trend that non-management technical professionals do not perceive the level of support that middle and senior managers see in all seven dimensions. Although many different roles felt that learning communities did not exist to share information, non-management technical professionals felt the most frustrated about this topic. Non-management technical professionals did not think that learning communities existed to any great extent in their organizations. These professionals believe that managers do not disseminate information effectively, do not create environments for active listening or opportunities to ask questions, and do not do well with building a continuous learning environment. However, senior and middle managers think they are doing an adequate job, believing that learning communities were effective, that managers disseminated information

well, that there were environments for active listening and asking questions, and that continuous learning was efficient. There appears to be a disconnect between senior and middle managers and those who accomplish the day-to-day tasks.

ATARC can facilitate senior and middle managers to connect to technical professionals via communities of practice (CoP). A CoP goes beyond providing a way to communicate via online video and audio streaming. CoPs consist of members with similar interests who regularly collaborate, share knowledge, and make learning more democratic and available (Wenger, 2004). According to the study by Wenger (2004), CoPs consist of three primary characteristics: domain, community, and practice. His study explains that a domain is the area of knowledge that connects the participants to a common problem to solve. He describes the community as including the participants who view relevance in the key issues the CoP intends to address. Finally, he clarifies that the practice consists of the methods, documents, stories, or experiences the participants share and create together. Due to senior and middle managers collaborating with non-management technical professionals, there is an opportunity to link the business strategy to common problems that these teams face. A CoP accomplishes this strategy alignment to performance tasks by focusing on knowledge sharing (Wenger, 2004).

Fortunately, ATARC has working groups dedicated to specific organizing principles, including artificial intelligence policy, software factories, multi-cloud, and identity management. ATARC can use these already-established working groups to incorporate the three primary characteristics of CoPs mentioned while connecting senior and middle management professionals to non-management technical professionals with similar interests. For example, with the multi-cloud CoP, members can bring forward real-world problems they face with implementing multi-cloud environments (domain). The members (community) would consist of

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senior and middle managers in positions like Chief Technology Officer, Chief Cloud Engineer, or Directors, and then non-management technical professionals like cloud architects, DevSecOps engineers, or cybersecurity professionals. The members would share their experiences, stories, or methods with their attempts to solve multi-cloud environment problems (practice).

The CoP can ensure that the senior and middle managers of the multi-cloud CoP share strategic lessons. These lessons can include where potential adversaries are with their cloud journey, how other external federal or industry experts are accomplishing the cloud tasks, and any budgetary concerns with implementing new multi-cloud methodologies. Also, non-management technical professionals can discuss challenges with the hands-on technical implementation of cloud methods. They can express limitations with the tools they have, knowledge, skillsets, or influence. The senior and middle managers can garner a perspective from someone closer to the product, and the non-management professionals can understand the manager's strategic outlook. This mutual understanding can support closing the gap between perceived learning from senior and middle managers and non-management technical professionals.

Recommendation 2: ATARC should consider framing their offerings to partner organizations as an opportunity to create an organizational culture of learning enablement, developing leadership mindset towards learning, and how employee development adds value to a growing organization.

The findings underscore the impact organizational culture and leadership has on how learning is viewed by employees. ATARC is already providing meaningful, cutting-edge, and relevant learning opportunities to its partner organizations. By increasing reach and folks representing multiple types of organizations and different levels of leadership to increase

utilization of these opportunities, ATARC should consider framing these opportunities to partner organizations as growth opportunities at the organizational, management, and individual level.

Senge (2005) states that leaders in learning organizations create building organizations when they use the creative tension principle to motivate learning. An accurate picture of current reality compared to where the organization wants to be creates tension that calls individuals to action. In the case of ATARC partner organizations, using future vision as a compelling reason to participate in ATARC learning opportunities will increase the audience member range and quantity. By increasing the number and diversity of folks at the table, ATARC partner organizations can collectively continue to move towards being learning organizations.

By participating in ATARC opportunities like forums or the possibility of Communities of Practice mentioned above, opportunities for deep reflection will allow participants to realize aspirations that transcend their organizations' interests which in turn, will advance common understanding of the organizational vision (Senge et al., 2006). Leadership participation is essential in creating a learning organization. By soliciting leadership of partner organizations in areas that show the value of encouraging experimentation and risk-taking, the potential of a learning culture exists (Marquardt, 1995; Griego et al., 2000). An interviewee referenced show-and-tell activities in his organization. Technical professionals are encouraged and celebrated for sharing current work and what has failed. The freedom to experiment and try new things and be risk takers provides a psychologically safe opportunity for employees to learn. Then by being encouraged to share those experiences, learning spreads throughout the organization. To be able to do this, organizations need to operate as open and trusting systems (Kontoghiorghes et al., 2005). If ATARC can market its learning opportunities as experiences to take risks and share-out

separate of the actual partner organization, that learning can still occur and be brought back to the partner organizations. This learning is low risk but offers high reward for the organization.

Recommendation 3: Focus Content on Knowledge Management

Knowledge management is a core function of organizations, irrespective of whether they have a formal knowledge management function or not. It is about capturing, distributing, and preserving information and learning in a way that encourages sharing and collaboration throughout an organization, and this organizational readiness is imperative to ATARC's ability to provide content that can actually influence business growth and advancement. Better knowledge management is crucial, and our research reflected a decided lack of confidence in systematic and intentional knowledge management processes.

ATARC should consider prioritizing instruction and resources about how partner organizations can create a formal process to support knowledge sharing. Embedding the knowledge sharing process in policies and onboarding materials can help ensure that it becomes a vital and useful aspect of company culture. As ATARC partner organizations prioritize developing and codifying knowledge sharing strategy and operations, they will in turn be better poised to take advantage of ATARC content and resources.

ATARC might consider focusing on the following knowledge management topics:

- Knowledge management is primarily about people, not just about systems: For it to flourish, the business must value data, information, business intelligence, research, and other forms of knowledge as a strategic corporate asset. Furthermore, it should be recognized as one of the core elements of company culture. Encourage and reward collaboration, the public sharing of knowledge, and education processes to create and scale knowledge.

- Teach the development of a basic knowledge management ontology with taxonomies that develop standard rules, processes, protocols, nomenclature, and standards that create alignment of philosophy and practice. Encourage partner organizations to utilize the same platforms and tools, and a sense of community and stronger culture will be developed. ATARC could highlight process and platform solutions that are both affordable and user-friendly.
- Focus on the utility of learning opportunities and platforms. ATARC might provide training tools to assess awareness and utilization of different platforms such as a company intranet, regular symposiums or webinars, or informal opportunities to learn. Conducting such assessments can reveal what is working, not working, or could work with some adjustment.

Limitations

There are several limitations to this project that ought to be considered. First, the sample size of this research project is limited. While the survey return rate was high, almost 91% of those invited to participate in the survey did so, the interview participation of several more leaders would have been preferred to validate what the survey data indicated. Future research might include focus groups comprised of professionals with various kinds of learning needs, as well as trainers and human resource professionals.

Conclusion

Organizations strive to be leaders in their field. To accomplish this, they must be learning organizations. As a collaborative and supportive partner to organizations, especially government entities focused on technological advancement, the efforts of ATARC would be more effective if

they were received by learning organizations. By blindly producing professional development opportunities without knowing where partner organizations fell on the spectrum of being learning organizations, these professional development opportunities may not be being utilized to the highest extent possible.

Through this improvement study, data was gathered to inform where ATARC partner organizations were regarding being learning organizations. Determining how knowledge was gathered and how organization stakeholders were involved in new knowledge and skill development were telling in where organizations stood as learning organizations. By gathering multiple stakeholder perspectives, variances of experiences were observed. These differences became trends worth noting as areas of interest for ATARC as they approach professional development opportunities.

It is worth noting that surveys and interviews represent only a small portion of ATARC partner organizations. Our findings and recommendations take these limited viewpoints into consideration. In addition, what is recommended for ATARC at this time may not be generalizable to all the partner organizations.

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Appendix

Appendix A: Email Survey Request

Hi!

ATARC invites you to support an effort by Christopher Crist, Chief, Cyber Operations and Development Command, Control, Communications and Cyber Systems, U.S. Transportation Command, U.S. Department of Defense.

The purpose of this effort is to further understand how ATARC, and its working groups, can potentially better interact/connect with government entities based on responses to the survey below, interviews, and document analysis.

Link to survey - https://docs.google.com/forms/d/e/1FAIpQLSd9d-jE6iu_wUH4b4Yx6IKwiSif0j8ojgxZ5-IC72y2J0eNcg/viewform?vc=0&c=0&w=1&flr=0&usp=mail_form_link

This survey will help determine if government organizations, and those organizations that work with government, are “learning organizations.” There is a robust amount of peer-reviewed research that discusses what learning organizations are, but one simple definition is that they create, acquire, and distribute knowledge. However, how they do this is based on climate, culture, systems, and structure. Gathering this information will help us better understand what success looks like, allowing us to determine how this can be applied across the government.

Thank you for your support!

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Thanks,
Madeline Keller
Digital Marketing Manager
Advanced Technology Academic Research Center (ATARC)
C: 941.468.1768

Appendix B: Interview Protocol

Interview Protocol

Introduce yourself. Build rapport. Explain project. As a capstone project to our doctoral studies at Vanderbilt, we have partnered with ATARC (Advanced Technology Academic Research Center). We're exploring how ATARC's current and potential partner organizations' structure learning within the organization. By understanding this, we hope to learn more about how ATARC can support these organizations.

Ask to record meeting.

Tell me about your organization.

How does your organization gather and disseminate information to make learning/training decisions?

- a. Are there communities of practice that allow groups to easily share information?
- b. How do managers disseminate information internally and externally?
- c. Is risk taking and open communication on new ideas encouraged?
- d. Is there active listening, mutual respect, and opportunities to ask questions?

How does your organization share knowledge and skills with employees?

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- a. What learning opportunities are afforded to employees?
- b. How are employees selected for learning opportunities?
- c. How are learning opportunities related to organizations' strategic plans?

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Appendix C: Document Analysis Table

Organization	How do ATARC partner organizations gather and disseminate information to make learning/training decisions?	How do ATARC partner organizations share knowledge and skills with employees?	Other observations	Website
Air Mobility Command (AMC)	The U.S. Air Force C-5M Super Galaxy arrived on July 11, 2022 with assigned personnel from the 60th Air Mobility Wing, Travis Air Force Base, California, in order for members assigned at Andersen AFB to conduct the training. Since there are no C-5 aircraft permanently assigned to the installation, this training provides a chance for Air Mobility Command Airmen assigned to the 734th AMS to train and earn certifications for essential skills needed to execute C-5 missions.	For other Airmen on Guam, the ground trainer is an opportunity to train on skills outside of their traditional air force specialty code. Training Airmen outside of their original career field serves to support Agile Combat Employment in the Indo-Pacific and embrace the Multi-Capable Airmen concept.	https://www.amc.af.mil/News/Article-Display/Article/3133944/515th-amsow-734th-ams-lead-c-5m-training/	https://www.amc.af.mil/
		LITTLE ROCK AIR FORCE BASE, Ark. – The 19th Maintenance Group along with a project team from the 19th Maintenance Squadron, recently tested new virtual reality corrosion control capabilities to train their Airmen in a more controlled environment. The VR simulation allows Airmen to immerse themselves in a hangar containing an aircraft and use a controller that is modified to look and feel like a paint sprayer to paint the aircraft and various parts. The push for the virtual reality training helps reduce the costs and risks associated with Airmen using real paint and tools.	https://www.amc.af.mil/News/Article-Display/Article/3133933/air-training-paints-new-picture-for-19th-mx/	
		VIDEO: FORT GEORGE G. MEADE, Md. (AFNS) – In this week's look around the Air Force, international senior enlisted leaders from around the world come together to focus on winning the high-end fight, the MQ-9 Reaper makes its debut in the Rim of the Pacific exercise, and F-22s from Alaska are in Poland to conduct Air Shielding missions for NATO. (Hosted by Staff Sgt. Benjamin Cooper)	https://www.amc.af.mil/News/Article-Display/Article/3132865/around-the-air-force-senior-enlisted-summit-reapers-rimpac-f-22s-in-poland/	
Amazon Web Services (AWS)		The Amazon Builders' Library: https://aws.amazon.com/builders-library/?cards=body.sort-by=item.additionalFields.customSort&cards=body.sort-order=asc&sc_jcampaign=aware_builder_s-library&sc_channel=ha&sc_jcontent=aws-sm-6762_aware&sc_jplace=ed&trk=ha_aws-m-6762_aware&awsf.filter-content-category=*all&awsf.filter-content-level=*all	Multiple resources for AWS clients and customers	https://aws.amazon.com/?nc2=h_lg
Bubo Learning Design, LLC			No info on data/sharing or training for their own employees; info re: supporting training efforts with the AF https://www.dycss.af.mil/News/Article-Display/Article/2552100/afpsc-design-thinking-course-leads-to-dyess-afbs-first-sbir-phase-3/	https://www.bubold.com/
Department of the Interior			https://fs.doi.gov/sdfs/fs/?client-request-id=823b5da0-70cc-d000-5e34-30e11c7a4970&username=&w=wsignin1.0&wrealm=urn%3afederation%3aMicrosoftOnline&wctx=estredirect%3d2%26estrequest%3drQQIARAAnVE9aBNRAL7XS88kbTXuUfQpIPykvfuvb7L-JwuR_TiqS058C030XuksMk73p3tSVjXcSpg1Onk4Zna5TuaYVISCidBMciqCLh1NcH4sP4x8c3rtfRORXOF_DWBMY0jDshDP1D9LcuXpwc3dD4k0LjR88j1WQRLMQiwYrnbF4FQe3meZPVabeeMtsPz2j0vDRMRD_NqRwxG5FIB1ktCCNvq59XvSzeQ3ABIAmZzm7qjWVhFRlM1aIiaZzhBKYnqjsqRURnnLuYqj2NYsx4SMmRRRdDsmlzIDmuu4FncYsQIBXNM5s3WUEGk0sIG4YbucceERdpxATq2y69HjuQvvcymvqIEQaj8Jfc6V2x41E2Zm-XGj2aHsn2mFV90Yzom-R6kPmaQBoYPOaEYRKSNEKEKj9kH	https://www.doi.gov/
DocuSign	Knowledge Market - Collection of literature and case studies with an interactive tool that demonstrates ROI with best practices	DocuSign University - catalog of self-paced learning		https://www.docuSign.com/
F-35 Lightning II Joint Program Office		The NAVAIR Rotational Assignment Program is just one of NAVAIR's many training and career development programs. In today's distributed working environment, virtual rotations, such as the one Ralph Williams, an industrial engineering technician, completed in October, help employees focus on their skills and career development in a position outside their normal job duties.	https://www.navair.navy.mil/news/Virtual-job-rotations-enrich-jobs-enhance-skills/1ue-11242020-0939	https://www.navair.navy.mil/organization/F-35-Lightning-II-Joint-Program

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Medallia	<p>Knowledge Sharing to Knowledge Management We are continually generating knowledge and discovering new solutions within the FFRDCs we operate, ongoing public-private partnerships, independent research, and academic engagements, we learn valuable lessons that we then apply to a range of related issues and problems.</p>	<p>We have remarkable people doing incredible work. And we recognize and reward our employees with competitive pay, comprehensive benefits, industry-leading retirement, generous education compensation, conferences, and professional development.</p>	<p>No info on data/sharing or training for their own employees; info re: learning opportunities provided to their own customers https://www.medallia.com/events/ https://www.medallia.com/</p>
MITRE			<p>https://www.mitre.org/about/culture-of-knowledge-sharing https://www.mitre.org/careers/working-at-mitre https://www.mitre.org/</p>
National Aeronautics and Space Administration (NASA)		<p>4. You'll never stop learning At NASA, you'll have the opportunity to expand your expertise through continuous learning opportunities, professional development, leadership training, and a unique culture of mentorship.</p> <p>5. You can shape your own path Our diversity of work naturally lends itself to new opportunities—and our flexible work programs allow you to manage your time for what fits with your life. We encourage you to try new things, follow your passions, and shape your career based on your personal and professional goals.</p>	<p>https://www.nasa.gov/careers/top-5-reasons-to-work-at-nasa-old https://www.nasa.gov/</p>
National Museum of African American History and Culture		<p>Through mutually beneficial collaborations, OSP advances inclusion, job creation, professional development, and leadership in the museum and related cultural heritage fields. Our partnerships strengthen and increase organizational sustainability.</p>	<p>https://nmaahc.si.edu/connect/strategic-partnerships https://nmaahc.si.edu/</p>
Office of Personnel Management (OPM) Omni Federal	<p>the most critical areas to the success of an organization and their workforce to facilitate mission accomplishment. For this reason knowledge management is essential in training to maintain the value and usefulness of the training function. In 2011, OPM created the Training and Development Policy Wiki (Wiki) for Federal government training and development practitioners. The shared goal of Wiki users is to learn, share relevant</p>	<p>Career development planning benefits the individual employee as well as the organization by aligning employee training and development efforts with the organization's mission, goals, and objectives. An individual development plan (IDP) is a tool to assist employees in achieving their personal and professional development goals.</p>	<p>https://www.opm.gov/Wiki/training/index.aspx https://www.opm.gov/policy-data-oversight/training-and-development/career-development/ no evidence found https://www.omnifederal.com/</p>
Program Executive Office, Directorate of Acquisition Space Launch Delta 45 Surface Deployment & Distribution Command (SDDC)	<p>The Communities of Practice consist of externally facing unclassified sites that serve the Defense Acquisition Workforce by publicly hosting accessible communities of practice (CoPs) to assist the Workforce on-the-job (workflow learning). The CoPs provide quick access to information and resources and the opportunity to interact, ask questions, and share experiences with workforce members across the Department of Defense (DoD). This supports job performance, avoids duplication of effort, enables faster and better-informed decisions, and advances the connection of people and ideas.</p>	<p>Starting August 1, members of the Defense Acquisition Workforce will gain free access to more than 8,000 LinkedIn Learning (LIL) assets through the DAU virtual campus.</p> <p>These learning assets include guides, courses, books, and videos and provide a new opportunity to expand skills, take new training and earn Continuous Learning Points (CLPs). Training includes a variety of topics and can be accessed from the "Enroll in Online Training" button on the virtual campus's landing page (must be logged in to view). Users can search the virtual campus either by topic or filter by provider to see LinkedIn Learning courses.</p>	<p>https://www.dau.edu/sites/govmanace-and-training/SitePages/Communities%20of%20Practice%20Description.aspx https://www.opm.gov/Wiki/training/index.aspx https://www.dau.edu/ no evidence found https://www.patrick.spaceforce.mil/Units/Space-Launch-Delta-45/BU917/www.sddc.army.mil/Pages/delta45.aspx no evidence found</p>
Veterans Affairs	<p>Research at VA serves as base of knowledge formation. The Office of Research and Development consists of four research services that together form a cohesive whole to explore all phases of Veterans' health care needs. Each service oversees a number of research centers of excellence.</p>	<p>You may receive Veteran Readiness and Employment (VR&E) (Formerly known as Vocational Rehabilitation and Employment) services to help with job training, education, employment accommodations, resume development, and job seeking skills coaching. Other services may be provided to assist Veterans and Service members in starting their own businesses or independent living services for those who are severely disabled and unable to work in traditional employment.</p>	<p>https://www.research.va.gov/ https://www.va.gov/</p>