Experiences of Learners Regarding Knowledge Retention and Skill Application at a Government Agency in Rhode Island: An Exploratory Case Study

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Abstract

The problem addressed in this study was many learners do not retain the knowledge or apply the skills they have learned after attending mandatory training. The purpose of this qualitative exploratory case study was to explore the state agency learners' experiences regarding their knowledge retention and application of skills after attending mandatory training. Participants included nine agency employees (learners) from diverse divisions who had attended at least two trainings and had a minimum of six months' tenure. Data collection involved qualitative methods, grounded in Malcolm Knowles' Adult Learning Theory. Additionally, participants emphasized that training must be directly relevant to their job and supported by supervisors to be effective. Recommendations include adopting a blended, multimodal training approach, providing take-away resources and reinforcement opportunities, and equipping supervisors with tools to reinforce learning. Malcolm Knowles' theory of andragogy emphasizes that adult learners differ from children. Adults see themselves as self-directed and want greater autonomy in their learning. They bring prior experiences that shape and enrich the learning process. Readiness to learn is tied to real-life roles and responsibilities, making adults more motivated when content is immediately relevant. Their orientation to learning is problem-centered rather than content-centered, with a preference for practical application over abstract theory. Motivation tends to come more from internal drivers, such as personal growth, job satisfaction, or improved self-confidence, than from external pressures. Finally, adults need to understand the purpose and value of what they are learning before fully engaging. Future research is recommended the researcher uses diverse methodologies such as multiple case studies, quantitative correlational designs, and ethnographic approaches to explore the complex dynamics influencing workplace learning and training transfer in public sector environments.

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Section 1: Foundation

A state government agency created a training unit in 2013 to foster lifelong learning, keep employees current with industry innovations, and transform unstructured training into a structured workforce development program. The agency invests over 1.3 million dollars in training annually, and providing the training's return on investment (ROI) is difficult. Schroeder-Strong (2022) stated that estimating and validating the ROI in training is challenging, and examining the training benefits for the state government agency and learners is needed. Training can provide many tangible and intangible benefits for an organization, and tangible benefits are easier to measure than intangible benefits (Schroeder-Strong et al., 2021). The tangible benefits are broad and can include increased productivity and cost savings, career growth opportunities, decreased absenteeism, and employee retention. Intangible benefits include better employee engagement, higher job satisfaction, and a positive work culture and morale.

One key ROI of employee training is enhancing knowledge, skills, and competencies (Blueprint Evolution, 2025). Knowledge retention is remembering new information, skills, or knowledge after training (Shuell & Keppel, 1970). It is vital that mandatory training helps learners to build on what they already know and apply their knowledge to their job. Erdelyi and Kleinbard (1978) stated that as part of the forgetting curve, people forget approximately 50% of newly learned information within an hour and 70% within 24 hours. This concept, developed by Hermann Ebbinghaus, highlights the importance of repetition and active recall in retaining information. Training programs boost performance, confidence, and productivity, fostering a skilled and motivated workforce that drives organizational success (Arulsamy et al., 2023). Workplace learning initiatives often fail to accommodate varied learning styles of learners, and instructors often do not develop training based on differences in learning, which can significantly

hinder the transfer of learning from the training environment to the workplace (Smith, 2019). Training influences learner motivation, improves work performance, enhances opportunities for career development, and equips learners with skills and knowledge needed to do well in their job (Niati et al., 2021). Companies should enhance training programs to improve learner performance and career development; however, it is unclear if learners retain and apply knowledge learned during training (Johnson, 2020). A strong training framework influences long-term knowledge retention, knowledge application, absorbing information, and retaining information over time (Beers & Bowden, 2005).

A significant part of training content is not transferred to the learners, with estimates showing that 38% of training is not transferred immediately, 56% after six months, and 66% after twelve months (Andoh et al., 2024). Andoh et al. (2024) stated that research highlights the challenges of training transfer and applying skills at work. The challenges include applying training to work, integration of training content learned, and motivation to transfer the knowledge obtained (Brown, 2018). The study helped fill this gap by presenting new and updated relevant information on the effectiveness and challenges of learners retaining knowledge or applying the skills learned after attending training.

Statement of the Problem

The problem addressed in this study was many learners do not retain the knowledge or apply the skills they have learned after attending mandatory training (Utunen et al., 2023). Employees (learners) at the state government agency, serving as the research site, attend numerous trainings as part of their employment, yet it was unknown if their training changed learner behaviors, improved learner job performance, or if new skills learned were applied in the workplace. This gap reflects larger concerns in organizations, where training results are often

difficult to measure and relate to performance (Aguinis & Kraiger, 2009). The effectiveness and challenges of retaining knowledge and applying skills in employee learning have been well-documented in adult learning and training literature. Without reinforcement or changes to practice, knowledge decay can start within days of training completion (Burke & Hutchins, 2007). Likewise, the transfer of knowledge and skill application is commonly low, with estimates suggesting that only 10–15% of training content is ever applied in the workplace (Grossman & Salas, 2011).

A deeper investigation into why learners struggle to retain and apply new knowledge was warranted. According to Knowles et al. (2015), effective adult learning requires instruction that recognizes the diverse experiences, motivations, and needs of learners. Adults engage more deeply when learning is relevant, problem-centered, and applicable to their current roles. Instructors differ in their experience and ability to design and implement learning experiences that align with these andragogical principles, which can hinder both knowledge retention and skill application. This dissertation filled the gap in research and analyzed knowledge retention and skill application at the state government agency. Utunen et al. (2023) postulated that various instructional approaches and learning methods are needed to create high-impact learning strategies that encourage engagement, foster retention, and increase performance.

Purpose of the Study

The purpose of this qualitative exploratory case study was to explore a state government agency's employees' (learners) experience regarding knowledge retention, application of skills, and what suggestions learners have for improving mandatory training. The target population of this study was composed of learners from the state government agency who had attended at least two mandatory trainings during their tenure at the state agency. The participants were state

employees (learners) who had worked at the state government agency for at least six months. Participants were willing to share feedback about their learning experiences, knowledge retention, and changes in skill application after attending the training. The sample population included learners from different sections at the state government agency, including project management, construction, materials, planning, highway safety, finance, and maintenance.

Purposeful sampling is a non-probability sampling technique in which participants are deliberately selected based on specific characteristics or criteria relevant to the research purpose (Palinkas et al., 2015). I implemented purposeful sampling to ensure data saturation and sufficiency, allowing for the collection of in-depth, information-rich data that offered detailed insights into the research topic. A recruitment email and flyer were developed and sent out with the specific details of the problem, purpose, and participant inclusion criteria.

Participants consented verbally to participate in the one-on-one interview and focus group. A one-on-one interview and the focus group via Zoom allowed for the recording and transcription of the meeting details. At the end of the Zoom interview, participants received a verbal invitation to join the focus group and enact snowball sampling as an effective recruitment technique. A subset of participants from the interview group comprised the focus group. Selecting a smaller representative group of participants from the larger population to participate in the focus group discussions allowed them to gather detailed insights from a targeted selection (Krueger & Casey, 2015).

Braun and Clarke's thematic analysis was used to analyze the qualitative data to recognize and categorize patterns or themes. I used a thematic analysis to comprehend distinct topics and explanations by obtaining meaning from the data. The thematic analysis approach used a six-step approach. Braun and Clarke (2006) outlined this approach to thematic analysis,

which included creating initial codes and familiarizing oneself with the data, searching for themes, reviewing the themes, and defining themes. Figure 1 illustrates Braun and Clarke's data analysis process, which was used as the coding framework for thematic analysis to identify themes.

Figure 1. *Braun and Clarke's (2006) Six-Step Data Analysis Process*

Note: The researcher used the 6-phase coding framework for thematic analysis to identify themes.

Research Questions

RQ1

What are state government agency learners' experiences regarding knowledge retention and application of skills after attending mandatory training?

RQ2

What improvements do state government agency learners suggest would increase their motivation to apply new knowledge and skills after attending mandatory training?

Theoretical Framework

I used Malcolm Knowles's Adult Learning Theory to frame this study. Knapke et al. (2024) postulated that Malcolm Knowles's Adult Learning Theory outlined how adult learning differs from children. The theory claims that adults learn differently due to their life experiences, self-direction, and practical motivations. Key principles of this andragogy include self-concept, experiences, readiness to learn, orientation to learning, motivation to learn and reason to learn. Knowles's theory distinguishes adult learning from traditional pedagogy for children, and this

dissertation ensured that this theory is part of the research to understand learning at the state government agency. Connecting this framework with the planning and evaluation of instruction and participants' learning based on Knowles's assumptions helped to better understand the state government agency learners' experiences regarding their knowledge retention and application of skills after attending training.

Malcolm Knowles developed the theory of andragogy to provide a framework for understanding how knowledge retention and skill application for adults happen in workplace training. Knowles (1980) highlighted that adults learn best when instruction is relevant, problem-centered, and immediately applicable to learners' personal or professional lives. Real-world application supports knowledge retention by ensuring that new knowledge is deeply linked to past experience and connected to a real-world application (Knowles et al., 2015). Furthermore, the principle of orientation to learning underscores that adults prefer hands-on, experiential methods, which enhance opportunities for active practice and transfer of skills. By designing training that leverages self-directed learning, incorporates prior experience, and prioritizes immediate application, organizations can strengthen both knowledge retention and the consistent application of new skills in the workplace.

Definitions of Key Terms

Application of Skill

Application of skills refer to the capacity to use knowledge or skills in real-world situations. These hands-on skills help solve problems, complete tasks, and accomplish goals to increase levels of expertise (Banks et al., 2024).

Differentiated Instruction

Differentiated instruction is a teaching method that modifies instruction to adjust content, processes, and products to meet learners' diverse needs, interests, and readiness levels (Dack & Tomlinson, 2025).

Instructional Design

Instructional design produces learning or training materials and practices to facilitate learning, leading to the attainment of knowledge and skills (Wolfe et al., 2022).

Knowledge Retention

Knowledge retention refers to the capacity to remember, store, and apply knowledge over time (Naveh-Benjamin, 1990).

Learner

Students or employees who are in the process of learning new skills or knowledge through study, practice, or instruction (Drachsler & Kirschner, 2011). In this study, the term learner indicates state government employees at the particular agency where the study was conducted.

Learning Retention

Learning retention is remembering new information, skills, or knowledge after training (Shuell & Keppel, 1970).

Review of Literature

Training and development can help an organization increase learners' knowledge and skills, and practical training has many tangible and intangible benefits (Schroeder-Strong et al., 2021). The ROI for training includes tangible and intangible benefits and improved knowledge, skills, and competencies. Agencies like the state government agency invest millions of dollars to

train their learners, and it is unknown if the money spent is worth the investment. Bousinakis (2021) claimed that creativity is vital to an organization's development**.** Creativity in an organization produces learners with high satisfaction, new ideas, strong teams, and increased innovation. Job training and employee development help produce learners' skill development, higher job satisfaction, increased wages, and other benefits (Bousinakis et al., 2021). This section comprehensively analyzed the literature review, research on knowledge retention, and the application of learners' skills.

I completed a thorough literature review incorporating scholarly articles, peer-reviewed journals, and books. Google Scholar, EBSCO, NavigatorSearch, Library Guides, ProQuest, SAGE, JSTOR, and databases from the National University Library were used to find and access peer-reviewed journals and scholarly articles. I utilized different online resources, unrestricted access to articles and resources, and searched for peer-reviewed scholarly articles for the research focus. The examination for articles utilized searching for keywords including *knowledge transfer, knowledge retention, skill application, learning strategies, training design and delivery, training assessment, instructional design, and differentiated instruction*. The range of years of the references is between 1885 and 2025, and most of the references were published in the last five years.

The literature review began by exploring the concepts of knowledge retention and skill application to establish a foundational understanding of each concept. The factors influencing knowledge retention and skill application included training design and delivery, differentiated instruction, learner characteristics, and organizational factors. Measuring knowledge retention and skill application involved assessing both knowledge retention and skill application. Challenges in knowledge retention and skill application include the decay of knowledge over

time, issues with the transfer of learning, and the need for reinforcement and follow-up. Strategies to enhance knowledge retention and skill application include active learning techniques, on-the-job training, apprenticeships, mentorship programs, feedback, and support systems. Further considerations, such as training environments, culture, instructional design, student knowledge, and educators' experience, play a key role in knowledge retention and skill application, influencing comprehension, engagement, and overall learning effectiveness.

Knowledge Retention

A vital aspect of successful learning is knowledge retention, which ensures that learned information is remembered over time. Knowledge retention is a critical factor in the effectiveness of training programs, influencing learners' ability to apply learned skills in the workplace (Förster et al., 2022). Li et al. (2024) postulated that using a memory replay-based method conserves formerly attained knowledge throughout the incremental learning process. This method exceeds standard methods by successfully lessening memory loss and preserving knowledge. Similarly, Deng and Chaudhury (2023) claimed that strategic knowledge bases are needed for student retention. Educational institutions must concentrate on student retention efforts and create strategies to assist learners. It is crucial for training to impersonate a real work setting and tasks that learners see in their role to increase knowledge retention (Xie, 2021). Adult learners benefit from taking charge of their learning, and relevant learning shows the best retention of knowledge (Raxmonova, 2025). Additionally, collaborative learning, a sense of community, and learning with social interactions allow learners to heighten engagement for a more profound learning experience (Raxmonova, 2025).

Conversely, Shail (2019) claimed that micro-learning can increase knowledge retention for both short-term and long-term memory. Micro-lessons help refute the Ebbinghaus forgetting

curve (Ebbinghaus, 1885/1913) and can be reestablished to keep learner retention at more significant amounts. Micro-lessons increase learner retention because learners avoid mental fatigue. Complicated curricula broken down into adaptable, smaller lessons help students avoid mental fatigue and cognitive decline in learner performance. Various approaches are evident to combine memory replay, strategic knowledge bases, and micro-learning practices, which can notably improve knowledge retention. Implementing these strategies can lead to more valuable and viable learning outcomes, benefiting students and educators (Shail, 2019).

Skill Application

Successfully applying obtained skills in a real-world setting is essential for personal growth and learning. Kirkpatrick's model offers a planned way to assess how effectively skills are applied in the real world by evaluating students' reactions, learning, behavior, and results (Phumchusri & Suksod, 2023; Asghar, 2023). Alsalamah's and Callinan's (2022) study stated that the Kirkpatrick model is valuable, appropriate, and adaptable to measure skill application and evaluate training. The approach is simple, flexible, adaptable, and valuable for organizations to evaluate training effectiveness and skill application (Alsalamah & Callinan, 2022). Alsalamah and Callinan's (2022) sentiment upheld Chiang et al.'s (2022) sentiment in that training is meant to assist learners in developing knowledge, skills, and competencies, and learning is best when it is practice-oriented to accentuate the acquisition of skills.

Conversely, Rohm et al. (2021) argued that skill application advances over three stages of development: novice, advanced beginner, and competent. Students begin as novices and beginners when applying their learned skills. As they develop higher-order skills, including critical thinking, problem-solving, and emotional intelligence, they can apply skills to become more competitive and thrive in the workplace. It is essential to reflect on how the phases of

advancement from novice to competent affect the overall effectiveness of training and skill application within an organization to build on skill development (Rohm et al., 2021). Dilekci and Karatay (2023) converged with Rohm et al. (2021), agreeing that today's educators must focus on learners' needs, including teaching innovation, career development, and life skills training. This learning and career training includes critical thinking, problem-solving, communications, teamwork, adaptability, initiative and self-direction, social and cross-cultural interaction, productivity, and accountability. Divergent findings of Sulistvanto et al. (2022) postulated that adaptive learning media is important to empower students' critical thinking skills. Adaptive learning media contains tools intended to improve students' critical thinking capabilities. The assessment of this learning application includes three main features: validating the application at each stage of development, measuring the system's viability based on students' needs, and executing the technique by running the learning media on a test sample (Sulistvano et al., 2022).

Training Design and Delivery

The design and delivery of quality and customized training is essential to ensure learners acquire and apply knowledge after completing the training. Leibel et al.'s (2021) findings converged with Davies et al.'s (2024) and Ali and Blair's (2018) findings that educators should consider their students' skill level, interest, content, engagement, and outcomes for designing and delivering training. Designing instruction for adult learners requires additional planning to make the training relevant, appropriate, engaging, and applicable to intended learning objectives and outcomes (Santos-Meneses et al., 2023). Similarly, planning for diversity and learner differences requires more effort due to age range, prior knowledge and experience, skill level, and beliefs. Mai et al.'s (2022) study recommended that learners need more opportunities for collaborative

learning, socialization, and hands-on activities. Furthermore, student engagement increases when the training design and delivery include more feedback and a moderate instructional pace.

Davies et al. (2024) upheld Sabtis-Meneses et al.'s (2023) findings that the role of instructional design for training should use active learning and interactive methods to improve knowledge retention and skill application. Furthermore, Knowles's Adult Learning Theory states that training should be learner-centric, incorporate real-world scenarios, use technology, and facilitate peer learning and collaboration. Implementing facilitated or experiential learning in the design and delivery of training is imperative for adult learners and designing practical and relevant training is most effective (Singh et al., 2021). Instructional designers must design compelling learning experiences and the evaluation of instructional materials to enable knowledge and skill acquisition. Ahmad et al. (2022) stated that the ultimate result of a learning intention is to change or increase students' knowledge, wisdom, opinions, beliefs, or approaches.

Differentiated Instruction

Bernauer et al. (2024) stated that there are numerous pedagogical possibilities existing for educators to attain course goals and objectives, such as lectures, presentations, seminars, demonstrations, group learning, case studies, debates, problem-based learning, teamwork, guest lectures, presenters, journaling, and project-based learning. Educators can use differentiated instruction to maximize learning and implement different modalities to integrate different methods of dynamic learning, including synchronous and asynchronous approaches (Langelaan et al., 2024). Differentiated instruction provides the flexibility adult learners need by using different modalities to incorporate diverse learning strategies to deliver the knowledge, skills, and attitudes needed for learning (Bernauer et al., 2024; Langelaan et al., 2024; Robert & Inman, 2023;).

Similarly, Liou et al. (2023) claimed that differentiated instruction improves students' interests, encourages thinking, and increases academic success. Students' classroom engagement, attitudes, and learning fulfillment were improved, and differentiated instruction offers an encouraging learning environment. Students are the center of the learning process, and this approach helps meet learners' unique needs, styles, and engagement (Liou et al., 2023).

Divergently, Gaitas et al. (2022) claimed some fallacies about differentiated instruction, including ability grouping and differentiated instruction in a heterogeneous class. Bondie et al. (2019) stated that research shows that the principle of differentiated instruction differed policy and educators' views of student differences. The difficulties included differences in administrations and educators' views on differentiated instruction and instructors' outlook on time, resources, and instruction control. Gibbs (2023) claimed that many educators have raised concerns about differentiated instructional practices and face challenges, including internal issues such as self-efficacy and external factors such as support from school leaders. Educators have doubts and hesitation about implementing differentiated instruction in the classroom (Gibbs, 2023). On the contrary, researchers agree that differentiated instruction is recognized as an accommodating method with diverse methods to the content or process according to the student's needs (Bondie et al., 2019; Gaitas et al., 2022; Subban et al., 2024).

Learner Characteristics

According to Nakayama et al. (2021), "learners' characteristics can be defined as learner mental factors which may affect learning activity" (p. 395). Nakayama et al. (2021) stated that online learning is problematic because some characteristics influence online course completion rates and evaluations. Characteristics such as cognitive abilities, learning styles, motivation levels, prior knowledge, and physical and mental health can affect the delivery of

instruction. Abouzeid et al. (2021) upheld Nakayama et al.'s (2021) findings, confirming that learner differences between learners should be contemplated, and recognizing students' different learning styles is key.

Joseph et al. (2022) converged with Kaswan et al. (2024) and suggested that personalized learning allows the flexibility to adapt learning content and helps learners improve their learning experience. Researchers agree that there is a gap between students' learning styles and the conventional teaching styles of educators that results in boredom, distraction, poor testing, and student discouragement (Awla, 2014; Felder & Silverman, 1988; Yotta, 2023). Similarly, Hasibuan et al. (2023) and Urhievwejire (2025) specified that learning styles influence academic achievement, and to ensure learning is effective, instructors need to modify lesson plans and curricula to meet the needs of all learners. In contrast, Bernacki et al. (2021) found that personalized learning characteristics altered students' prior knowledge and preparedness for learning and learning preferences. Learning style learner characteristics are more complex to accommodate in the classroom (Bernacki et al., 2021). Aleve et al. (2017) argued against the presence of learning styles and rejected them as a pertinent concept to adapt by instructional design (Kirschner, 2017; Newton & Miah, 2017; Reiner, 2010)

Organizational Factors

Organizational factors play a significant role in shaping the effectiveness of learning and development within an organization. These factors include organizational culture, leadership support, resources and training design, and alignment with organizational goals (Khan & Shah, 2023). One of the most significant resources in an organization is its talent and training, and a strong learning culture can increase employee engagement, job satisfaction, and morale (Brion, 2021). Blaga et al. (2021) stated that training and development are crucial to increasing an

organization's performance and development. Many researchers converged on their findings that organizational culture influences learning and development (Blaga et al., 2021; Brion, 2021; Khan & Shah, 2023). Similarly, developed training programs produce numerous benefits for organizations because the learners develop their knowledge, skills, and abilities. By making work more thought-provoking, learners feel increased motivation, engagement, and positivity toward their work and daily activities (Blaga et al., 2021).

Contrarily, Kurcharska (2021) found an impact of culture and learning culture on formal and informal knowledge processes such as teaching methods, instructional design, educator practices, and instruction. The research found that learning beliefs influence the climate element of knowledge culture. Divergently, the acceptance of mistakes in learning is encouraged by a knowledge-driven culture in specific industries, like construction (Kurchaska, 2021). As a result, the emphasis on accepting mistakes as part of the learning culture varies across industries, meaning that the potential of mistakes as a source of learning is not consistently utilized, nor is it equally recognized as a valuable source of tacit knowledge (Kurchaska, 2021).

Assessing Knowledge Retention

Knowledge retention examines how learners encode, store, and retrieve information over time (Mayer, 2014). Researchers have studied instructional strategies, cognitive processes, and other factors that influence knowledge retention, and different theories are utilized to assess knowledge retention. Notable theories include Ebbinghaus's Forgetting Curve, Sweller's Cognitive Load Theory, and Roediger & Karpicke's Retrieval Practice Theory (Ebbinghaus, 1885; Roediger & Karpicke, 2006; Sweller, 1988;). Researchers have also examined the long-term retention and application of knowledge to assess real-world applications, improvements in knowledge transfer, factors that affect retention, including motivation and self-regulation, and

how different learning designs improve retention (Gentner et al., 2024; Hultberg et al., 2018; Jung, 2025).

Brown et al. (2014) synthesized research on knowledge retention, stating that popular study traditions such as cramming or rereading materials are ineffective. However, research-based practices enhance retention, including spaced repetition, retrieval practices, interleaving, asking why questions, and problem-solving. Similarly, Mayer (2014) claimed that digital knowledge retention applied through engaging digital courses, video learning, and gamification expands retention. Mestre (2002) stated that knowledge acquired in one context can be applied to new situations, and this determines how well learners can adapt knowledge beyond initial learning conditions. Researchers agree that hands-on learning, real-world application, and applying knowledge to new and relatable situations increase knowledge retention (Sweller, 1988; Mestre, 2002; Roediger & Karpicke, 2006; Brown et al., 2014; Mayer, 2014). Findings on accessing knowledge retention highlight the importance of applied learning strategies in improving knowledge retention and learning experiences.

Assessing Skill Application

Assessing skill application is essential for understanding how students apply learned information to real-world circumstances. The Dreyfus Skill Model advised that to acquire new skills, learners go through five stages: novice, advanced beginner, competence, proficiency, and expertise (Dreyfus & Dreyfus, 1980). The stages are distinct, with the novice following rules without any experience, and each stage progresses to be able to apply learned skills. Gaudagnoli and Lee (2014) introduced the Challenge Point Framework, which proposed that learning improves students’ skill level, task difficulty, and ability to apply knowledge equally. Both theories assess skill application and learners' progress to show skill attainment through

assessments, task complexity, real-life performance, and decision-making (Dreyfus & Dreyfus, 1980; Gaudagnoli & Lee, 2014). Educators can use these concepts to assess and measure the skill application in a real-world setting.

Conversely, Gobet and Chassy (2011) asserted that the Dreyfus Skill Model did not consider how emotions are linked to intuition. Gobet and Chassy (2011) developed a new theory combining concepts from the Challenge Point Framework and the Dreyfus Skill Model. The Template Theory of Intuition, which converged the concepts of chunking, pattern recognition, and cognitive limitations, allows a complete understanding of the Dreyfus Model (Chassy & Gobet, 2011). An example of a cognitive limitation from the Challenge Point Framework is a short attention span, and the Template Theory adds schema to aid in the skill application of more complex memory structures, known as templates. Language is central in this context, as verbal aptitude affects cognitive processing and prompts skill acquisition and application. These convergent findings are used to assess skill application and learning effectiveness across different contexts (Chassy & Gobet, 2011; Dreyfus & Dreyfus, 1980; Guadagnoli & Lee, 2014). The combination of principles stresses the significance of cognitive structures or patterns used to process information to help us make sense of our experiences, providing a broad framework for understanding learning value.

Decay of Knowledge Over Time

Learner knowledge decay, or the diminishing of acquired information over time, is an actual phenomenon that can be reduced with training strategies such as spaced repetition, active recall, and revisiting material (Bao & Lei, 2022; Pavlik et al., 2021; Maier et al., 2023; Walsh, 2018). Contrarily, Bao and Lei (2022) stated it is unknown how a newly acquired motor memory decays over time and whether distinct learning methods produce different outcomes.

Remarkably, Bao and Lei (2022) asserted that learners showed a learning decay at 15 minutes, 6 hours, and 24 hours after obtaining the information. Convergent findings on summer learning loss are unreliable and repeatedly fail to be replicated in numerous studies, with some presenting considerable loss while others showing insignificant loss (Workman et al., 2023).

Similarly, Maier et al. (2023) explained that forgetting information and a fading memory of information happen with time. This concept has been widely studied, and unless it is supported by repetition, learning is forgotten over time. Aspects that prompt learning decay are the lack of use, time after learning, interference, space repetition, relevancy of information, and lack of application of information learned (Walsh et al., 2018). Maier et al. (2023) studied the relearning of forgotten material and the decay of learning over time. Passing the time between learning and studying materials influences knowledge retention on test scores. Spacing is important for long-term retention (Pavlik & Anderson, 2008; Mozer et al., 2009; Walsh et al., 2018; Maier et al., 2023). McCaw et al. (2023) found that skill decay was improved with refresher training and is consistent with other modern studies sustaining refresher training to increase knowledge retention and decrease skill decay. These findings underline the significant function of refresher training and spaced repetition in alleviating learning decay and boosting the significance of lasting engagement with acquired material for long-term retention.

Transfer of Learning Issues

The transfer of learning issues refers to environmental factors, resistance to change, contextual differences, and how the alignment of these factors influences training. Many educational researchers have discussed the importance of *innovative* learning environments emphasizing flexibility, engagement, adaptability, and adoptability (Albert & Routh, 2021; Cheung et al., 2021; El-Sabagh, 2021; Rachmad, 2022). Albert and Routh (2021) found that

passive training, rather than hands-on applied learning, does not yield desirable levels of return. Researchers discovered that hands-on training and active modes of teaching produce better learning results (Albert & Routh, 2021; Cheung et al., 2021; Rachmad, 2022).

Rachmad's Adaptive Learning Theory (2022) is a theory that uses technology to adapt the learning method according to the learner's needs, pace, and preferences. The described challenges in this theory include resistance to change due to the lack of knowledge of adaptive learning and problems with implementing the theory (Rachmad, 2022). Similarly, Zhu et al. (2023) stated that transferable knowledge is exhibited from learned behaviors and physical rules. Transfer of learning approaches uses different frameworks, including reinforced learning, reward shaping, learning from demonstrations, task mapping, and feedback (Zhu et al., 2023). While adaptive learning and learning approach transfer suggest favorable developments, challenges in implementation and knowledge transfer need to be focused on to capitalize on their value.

Reinforcement and Follow-up

Reinforcement and follow-up learning include an approach to set knowledge obtained during training, incorporating actions such as quizzes, repetition, follow-up plans, rewards, job aids, coaching, reflection, or reinforcement to increase knowledge retention and real-world application (Barto, 2021; Ladosz et al., 2022; Martin, 2010; Nielson & Shepard, 2022; Seidel, 1963). Following up with learners after training to provide feedback, encourage new skill application, provide progress updates and ongoing support, and increase employee knowledge retention are examples of reinforcement (Nielson & Shepard, 2022). Spaced repetition strengthens training content to increase retention (McConnery et al., 2021). Reinforcement techniques not only help learners retain information but also facilitate the transfer of knowledge into real-world job performance. Follow-up learning involves intentional post-training

engagement, such as providing feedback on learners' performance, monitoring progress, encouraging the application of newly acquired skills, and offering continued access to learning resources or coaching sessions (Nielson & Shepard, 2022).

Similarly, Gugelmin-Almeida et al. (2022) found skill reinforcement up to 28 minutes after initial learning; 90% of students could attain proficiency, and 86% retained this skill. Divergently, Nielsen and Shepherd (2022) postulated that organizational context influences learners attending and participating in training. Furthermore, the training content and delivery influence the learner's success in obtaining the intended skills and knowledge. Post-training factors prompt knowledge attainment and retention; if participants do not use the information, they may lose it. Organizational factors, including engagement and well-being, lead to changes in learner behaviors as an indicator of successful learning (Nielsen & Shepherd, 2022).

Khetarpal et al.'s (2022) convergent findings show that continual reinforcement learning approaches are broken into three categories: explicit knowledge retention, leveraged shared structure, and learning to learn. Furthermore, Khetarpal et al. (2022) stated that there has been growth in the field of education and approved benchmarks. However, it is unclear if adequate descriptions of preferred settings for continual reinforcement learning exist. Further examination into the best circumstances and environments can improve the efficiency of continual reinforcement learning in education.

Active Learning Strategies

Active learning is an instructional method that uses collaborative group work, classroom conversations, and problem-solving to expand student engagement, reflection, application of skills learned, and knowledge retention (Theobald et al., 2020). Active learning strategies improve student skill attainment in a variety of areas, including critical thinking and written

communication (Deslauriers et al., 2019; Nguyen et al., 2021; Ren et al., 2021; Rieg et al., 2022; Theobald et al., 2020). Active learning strategies include collaborative learning through case studies, role-playing, interviews, capstone projects, problem-based learning, brainstorming, game-based learning, and experiential learning. Each strategy is designed to engage learners cognitively and socially, reinforcing understanding through authentic and meaningful tasks. By integrating active learning into instructional design, instructors can create dynamic environments that promote deeper learning, sustained engagement, and improved long-term retention of knowledge and skills.

Contrarily, instructors struggle with implementing active learning strategies and state that they are concerned about learners' opposition (Nguyen et al., 2021; Ren et al., 2021). Nguyen et al. (2021) stated that implementing active learning has been lengthy because of anticipated fears about students' resistance to active learning. Although active learning is often used in science, technology, engineering, and math (STEM) lessons, further research is needed to understand students' emotional and behavioral reactions. Furthermore, Ren et al. (2021) stated that active learning is beginning to get the warranted consideration. Ünal (2024) postulated that there is a connection between meta-cognitive learning strategies and educational achievement. Education and learning models have been evaluated throughout the years, and students have been employing their strategies for studying and learning. Ünal (2024) claimed that based on gender, there is a significant variance between the meta-cognitive strategies and academic success in favor of females. Furthermore, females are aware of their thinking process, allowing strategic learning and problem-solving (Ünal, 2024). While active learning continues to advance in acknowledgment, understanding the role of meta-cognitive strategies can deliver insights into boosting learning outcomes.

On-the-job Learning, Apprenticeship, and Mentoring

On-the-job learning and mentoring help create opportunities for learners to develop skills and apply what they have learned. Albert et al. (2021) postulated that ample research is available regarding the need for on-the-job training, apprenticeship programs, and mentoring for training reasons. Researchers found that this type of on-the-job training promotes and develops the skills of workers in a realistic environment compared to a classroom setting (Albert et al., 2021; Al-Zoubi et al., 2025; Korpi & Tåhlin, 2021; Na, 2021). Na (2021) claimed that an essential factor of innovation is people. Learning and on-the-job training are commonly studied for training learners, and more education and training equate to more knowledge, innovation, and improved outcomes. Similarly, Al-Zoubi et al. (2025) studied the relationships between structured-on-the-job training and mentoring on knowledge transfer from training. Al-Zoubi et al. showed that on-the-job training and mentoring programs resulted in learning outcomes from training, transferring knowledge to the work, and increased problem-solving skills.

Furthermore, Al-Zoubi et al. (2025) showed the effect of a positive work environment and peer support and mentoring on learning and knowledge retention. In contrast, Korpi and Tåhlin (2021) claimed there is a training gap in formal training, and both formal and informal training, such as on-the-job training, are needed to train learners. Loewenstein and Spletzer (1999) studied formal and informal training and found that it occurs about half the time of informal training. It was argued that *learning on the job* or *learning by doing* is measured by the training necessary to become fully competent. It was concluded that future research is needed in this area. This divergence underscores the continuing debate about the balance between formal and informal training, emphasizing the need for further research to determine the most valuable approaches for employee development.

Feedback

Feedback is needed to provide learners with comments, reactions, and advice to enhance skills' application and retention (Gerwe et al., 2024). Learners need opportunities to review and enhance their knowledge and skills to ensure they have learned what was intended, develop new skills, and apply what they have learned. Feedback is a vital part of the learning process and an important instrument for encouraging learners. Burns et al. (2022) stated that effective feedback and framing assist in developing a continuous learning culture, psychological safety, and trust. Educators can better understand and develop strategies to assist learners through feedback and crucial conversations. Feedback and proactive communication create a comprehensive and inspiring learning environment that encourages learners' growth, strength, and success (Gerwe et al., 2024).

Deeva et al.'s (2021) study diverged from these findings and found varied information about feedback systems. Deeva et al. claimed that obtaining sufficient information in this area is complex, which poses difficulties for researchers. Furthermore, authors do not often share the technical details of how their feedback system was created, and learning theories for feedback are not reported. Researchers agree that feedback is important for students' knowledge retention, but there is a gap in the literature about personalized feedback influencing knowledge retention and skill application (Williams, 2024). Approximately one-third of systems (34.3%) adapt the provided feedback to student characteristics and personalities (Cheniti-Belcadhi, 2015).

Ethical Assurances

Ethical assurances are needed to ensure that participants in this case study are treated ethically and follow safeguards during the research process. According to Newman et al. (2021), qualitative research requires meticulous ethical procedures for research processes, including

participant selection, sampling, recruitment, data collection, researchers' relationships, biases, and knowledge translation. Professionalism, transparency, objectivity, and reflectivity are essential for the researcher during the exploratory case study. The researcher's role is to retrieve participants' opinions, views, and outlooks. The researcher must protect participant data and ensure participants understand how the data is safeguarded before the research begins. Sutton et al. (2025) advised seeking guidance from a skilled qualitative researcher before the research project.

The research study depended on voluntary participation from learners who agreed to actively participate in the one-on-one interview and the focus group. I ensured that each interview allowed enough time and flexibility for scheduling to address the small sample size. I also worked to mitigate my researcher bias as I currently work as the Director of Educational Advancement with approximately seven hundred and fifty state agency employees. I implemented several strategies to mitigate these limitations, including maintaining meticulous records of all the research to be transparent and recognize potential biases. I also employed reflexivity during the research development to ensure my biases did not affect the study or data analysis process. This process allowed me to inspect my role, perspectives, and potential biases and recognize how my background and experiences could influence the research. My practice of reflexivity included keeping a journal to document my views, feelings, and reflections during the research process.

Reflexivity was used to explore how views, attitudes, and principles affect the research process. Different techniques were used to reduce bias, including self-interrogation of background and intellectual biases. Guttormsen (2021) stated that self-interrogation is crucial to understanding one's views, and researchers must be aware of how their personal history could

impact the research process. Training should be used to promote understanding of diversity as a technique to mitigate bias. Bias was reduced by keeping notes during the interview and journaling at night to write reflections and thoughts, proactively recognizing and reviewing biases in data, processes, and procedures. Through this iterative process, diverse viewpoints were sought, and self-reflection was used to increase self-awareness of unconscious biases. Diverse perspectives were considered, emphasizing empathy and mindfulness around biases and differing perspectives.

Confidentiality was achieved by assigning gender-neutral pseudonyms to each participant to protect their privacy. Personally identifiable information was not disclosed without consent to maintain confidentiality effectively. Participation in this study was voluntary, and all participants received a consent form. The data collected through the one-on-one interviews and a focus group were stored in a protected, safe, and secure password-protected database. All documentation for this study will be retained for three years.

Positionality was reflected upon to consider how character, background, and learner experiences affect relations with participants and data interpretation. Comments were recorded with thorough notes to incorporate participants' words, reflections, and interpretations of behaviors, manners, and nonverbal language. Addressing positionality, reflectivity, and research-as-instrument through mindfulness, reflection, and understanding is necessary, including ethical implications and the significance of ensuring transparency with participants about the role of a researcher in addressing potential power dynamics. Subjective analysis and data obtained from participants were scrutinized to remove biases. Addressing these ethical issues ensured that the study was fair, accurate, and non-biased.

Summary

The state government agency has invested over 1.3 million dollars in training annually for the past ten years. However, the ROI is unknown, and whether training affects the organization and learners is unclear. The problem addressed in this study was that many learners do not retain the knowledge or apply the skills they have learned after attending mandatory training (Utunen et al., 2023). The purpose of this qualitative exploratory case study was to explore the state government agency learners' experiences regarding their knowledge retention and application of skills after attending training. Malcolm Knowles' Adult Learning Theory was the chosen theoretical framework to frame this study. Andragogy outlines how adult learning differs from children's due to adult learners' life experiences, self-direction, and practical motivations.

Section 2: Methodology and Design

The problem addressed in this study was many learners do not retain the knowledge or apply the skills they have learned after attending mandatory training (Utunen et al., 2023). It is vital that mandatory training helps learners to build on what they already know and apply their knowledge to their job. Learners at the state government agency attend numerous trainings as part of their employment. It is unknown if training at the state government agency changes behaviors at work, improves learner performance, or if new skills learned are applied at work. The purpose of this qualitative exploratory case study was to explore the state government agency learners' experiences regarding their knowledge retention and application of skills after attending training.

This section includes details of the design and methodology of the research study chosen, population and sample elements, and materials and instruments. The section also incorporated the study's assumptions, limitations, and delimitations. The section summarized the study's assumptions and included the expected setting and expectations of the research process. The study's limitations were outlined, and the constraints that may impact the study's design, data collection, or analysis, such as time constraints, sample size, or variables, were identified. Lastly, the delimitations were addressed, and the boundaries and parameters of the study and the reasons behind these choices were explained.

Design and Method

I chose a qualitative methodology to collect and analyze data to better understand perspectives. Yin stated that qualitative research studies can assist researchers in analyzing the daily lives of different learners and how people act, reason, and reflect on various situations. Yin (2014) is a seminal author in the field of qualitative methodology regarding his planned approach

to case studies. The characteristics of qualitative research offered a semi-structured and flexible approach to elicit a more in-depth discussion and expansive responses (Sullivan et al., 2011). Qualitative research methods explore, define, or create theories, whereas quantitative research tests hypotheses. According to Sullivan et al. (2011), qualitative research is categorized by its exploratory character, semi-structured format, flexibility to foster multi-layered responses, dependence on deductive reasoning, and emphasis on the significance of contextual variables. This flexibility of the study allows researchers a broader view to elicit more answers to understand the relationships (Sullivan et al., 2011).

The design selected was an exploratory case study because this design is best used to examine learning and development at the state government agency in a real-world context. A case study is one of the most significant designs in qualitative research. Case studies have become more popular recently, and their use has grown exponentially (Praya, 2021). A case study design allowed me to obtain new perspectives from the state government agency learners. The case study had a bounded system, which is the state government agency in Rhode Island. An exploratory case study allowed me to study a phenomenon (i.e., training at the state government agency) from the participants' experiences. The participants in this study were the state government agency learners, who gave learner perspectives and helped formulate an organizational perspective. The National University Academic Center (2024) defined the term case study as a comprehensive research design that mainly uses a qualitative methodology to study a problem endorsed through research. The case study examines a person, set, business, or incident while answering *how* and *why* queries. Paul Felix Lazarsfeld was a monumental figure in the sociological field and is often considered the godfather of the qualitative method. Lazarfeld introduced the concept of asking *why* (Goodman, 2016).

A phenomenological design was highly regarded but rejected. This design was rejected for two reasons. The first reason is that the study focused on the state government agency experiences rather than collecting experiences from similar state agencies in North America. The second reason is that training is ongoing, where the phenomenological design allows the researcher to stay focused on the participants' lived experience of a particular event. A case study design is perfect for this study because the study only researched the state government agency rather than all similar state government agencies across the United States.

Population and Sample

The population was all state government agency learners, and the sample was a subset of volunteers. In order for the study to be feasible, the population was reduced to a smaller representative sample. It is impossible to interview all the state government agency personnel for this study. Islam and Aldaihani (2022) stated that there are various sampling strategies, and it is difficult for novice researchers to find and select one sampling strategy. Qualitative researchers cannot include the entire population as the data would be complex to analyze; hence, such researchers try to reach a saturation point, and it is vital to apply an appropriate representative sampling strategy to include the right participants for the qualitative research (Islam & Aldaihani, 2022). A representative sample from the state government agency population was recruited to participate.

This study included nine participants who met the inclusion criteria: (a) the state government agency employee, (b) dissimilar job classifications and different departments within the state government agency, (c) attended at least two trainings, and (d) worked for the state government agency for at least six months. Participants were excluded if they had not attended

any state government agency training or had worked at the state government agency for less than six months.

Data was compiled from the state government agency employees until saturation was attained. Saturation was achieved after the ninth participant was interviewed. Ahmed (2025) stated that data saturation is a foundational theory in qualitative research, safeguarding that data collection ends when no new themes, insights, or patterns surface. This concept is vital for reaching methodological rigor because saturation improves the credibility of the research outcomes. The representative sample I used for the study was suitable, and the inclusion criteria were fitting. These characteristics of inclusivity allowed for the analysis of training in a structured setting.

Instrument and Materials

The term research as an instrument is a concept that acknowledges that the researcher's background, experiences, and biases can influence the research process and outcomes (Bloomberg & Volpe, 2018). The researcher must reflect on their reflexivity to understand their positionality as a researcher. Reflexivity is the method that was used to explore how views, attitudes, and principles affect the research process. I conducted the data collection process via Zoom. Gray et al. (2020) stated that some of the issues to consider when using Zoom include technology issues, such as dropped calls, frozen screens, or audio issues.

Non-verbal cues, including body language and group dynamics, are difficult to reach because you cannot see the entire group while on a web camera, compared to in-person interactions, and taking turns talking is often awkward. Participants could face environmental issues with a lack of privacy on camera, distractions, and interruptions. I ensured that I had a plan to address possible Zoom glitches to be proactive. Strategies used included performing a

test run in Zoom, creating a backup plan to allow phone call-ins if Zoom did not work, developing Zoom user tutorials for participants, and implementing the developed protocols to ensure participants understood how the Zoom sessions worked and details about the transcriptions.

The interview protocol outlined the introductory language to set expectations for the interviews. The protocol used in the interview provided a planned script for the beginning and closing of the interview to ensure the participants got the necessary information about the sessions, confidentiality, how the data was used, and the protocols expected. The protocol helped ensure that interviews were conducted effectively, efficiently, and ethically, leading to more reliable and valid qualitative data. The 18 interview questions were open-ended questions to avoid yes and no answers, and provided a robust discussion for data collection. All the participants were asked the same number of open-ended questions. The semi-structured interview questions allowed the participants to expand.

The focus group protocol with four prompts was used to outline the introductory language to set expectations for the focus group. The focus group protocol provided the needed structure to stimulate a more profound discussion to obtain robust data. The goal was to develop a comfort level to allow a better connection with the participants to generate richer data from the questions (Gabbert et al., 2021). The purpose of the focus group was to explore a topic through guided group discussion and collect experiences from a small group to produce strong data, detect norms and values, and recognize shared viewpoints. De Souza et al. (2024) stated that researchers have different skill sets in facilitating groups, and developing a rapport enables an interactive discussion to allow learners to share their experiences. The four focus group prompts provided an opportunity to obtain more information about the themes that emerged from the

interviews, and the focus group protocol provided the structure to investigate the details of a topic and understand participants' perspectives and diverse viewpoints.

A good rapport helped me handle dominant participants, and the analysis of focus group interaction processes determined how the participants influenced each other and where disparate views were silenced. Like the interview protocol, the material that was used in the focus group protocol was a planned script for the beginning and closing of the interview and focus group to ensure the participants got the necessary information about the sessions, confidentiality, how the data was to be used, and the protocols expected.

Before conducting the interviews, a field test was conducted. I assembled an expert panel of three qualitative interview experts to embark on a field test to examine the research questions and focus group prompts to ensure the effectiveness and relevance of the interview questions and prompts used in this study. The panel consisted of interview experts in my field who are human resources or hiring managers. Each panel member was carefully selected based on their expertise within the field of human resources and hiring practices, ensuring they brought both theoretical and practical insight into the research topic. The purpose of this expert panel was to engage in a practice interview to evaluate and improve the research questions being explored. As part of this process, the panelists were carefully informed about the phenomena, allowing them to create a shared understanding of the research. The expert panel analyzed and provided feedback on the interview and focus group protocol. Specifically, the expert panel confirmed the semi-structured, open-ended interview questions to verify that the questions were well-defined, clear, and worded correctly to draw fruitful and meaningful responses from the participants. The feedback from the panel helped recognize any possible biases, uncertainties, or disparities in the interview protocol, thus amplifying the probability that the interviews will produce constructive insights that are

aligned with the research intentions. The use of the expert panel increased the credibility and trustworthiness of the study's findings.

Data Collection and Analysis

The first step in data collection was to obtain approval from the National University (NU) Institutional Review Board (IRB) to ensure that the research conducted is ethical. The NU IRB approved this study on May 15, 2025 (Appendix A). I sent a letter to the Division Director at the state government agency to ask for permission to conduct research at the agency (Appendix B). The Division Director at the state government agency signed off on a letter of support on April 9, 2025 (Appendix C). Research participants were recruited through an all-staff email which included a flyer that outlined the study's purpose, protocols, procedures, and included my contact information (Appendices D & E). The information was distributed to approximately seven hundred and fifty state government agency employees to ensure a diverse representation across the agency. Interested participants emailed me to volunteer. I called each participant who volunteered to ensure that each participant matched the inclusion criteria, understood the time commitment, and knew the participation responsibility.

I sent the NU IRB approved consent form by email to participants who volunteered to participate in the study (Appendix F). During the brief phone call with the participants, I reviewed the consent form information that was sent by email and asked each participant to state their availability to schedule the one-on-one interview. I developed the interview schedule and conducted one-on-one interviews over a period of four weeks to allow enough time for participants to plan accordingly. The interview participants were assigned a gender-neutral pseudonym for confidentiality. The Zoom interviews lasted between 60 and 90 minutes each to allow ample time to collect information from the participants. The interviews each started with a

review of the interview protocols, and the same interview questions were used for each one-on-one interview (Appendix G). The Zoom calls were held in a private and quiet space to create a comfortable and private environment. The Zoom transcription feature was applied to transcribe the data and document the discussion. The data was stored on a locked and password-protected computer to protect the participant's confidentiality.

At the end of the Zoom interview, participants were asked to join the focus group. I also enacted snowball sampling as an effective recruitment technique. Once the participant verbally expressed interest in being part of the focus group, I sent the four proposed dates to the four volunteers. Participants were scheduled to join the focus group, which lasted for 75 minutes. I read the focus group protocols and prompts at the start of the focus group to ensure participants received the same information (Appendix H). Selecting a smaller representative group of participants from the larger population to participate in the focus group discussions allowed them to gather detailed insights from a targeted selection. The focus group produced a deeper conversation to obtain more information about learning and development experiences at the state government agency. Multiple data sources (the interviews and the focus group) ensured the data were credible and trustworthy, achieving data triangulation. The request to close the study was received from the NU IRB on September 2, 2025 (Appendix I).

During data analysis, I utilized Braun and Clarke’s six-step thematic analysis. I focused on identifying patterns, similarities, and differences in the data to uncover themes and connections. This process enhanced my understanding of participants’ experiences and strengthened the rigor and credibility of the study. For analysis, I used Braun and Clarke’s six-step thematic analysis process, in which I (1) familiarize myself with the data, (2) generate initial codes, (3) search for themes, (4) review themes, (5) define and name themes, and (6) interpret

and report. This process led to the identification of themes that addressed the research questions and connected back to the literature. I manually coded the data from the Zoom transcripts with a highlighter to find similarities and differences with different colors to code for each research question. I was able to develop many common themes. Participants also reviewed transcripts and direct quotes for accuracy through member checking. I ensured that I did not take words out of context to uphold the themes. Themes are presented in Section 3. Credibility was further supported through triangulation, prolonged engagement, and member checks, while confirmability was enhanced through journaling, reflexive note-taking, and expert feedback from the expert panel.

Assumptions

As a qualitative researcher, I studied the interactions to examine how social impacts influenced experiences. Assumptions are the underlying ideas, beliefs, or conditions that guide the research. In this qualitative study, I examined interactions to explore how social impacts influenced experiences, recognizing that multiple perspectives exist, shaped by individual contexts. Assumptions reflect beliefs taken as true without direct evidence, such as the presence of different perceptions or biases among participants. My assumptions included that participants possess valuable insights and experiences regarding knowledge retention and skill application, and I assume that participants consider their learning experiences and that engagement with participants would reveal these viewpoints, that research is linked to the specific circumstances, events, or environment, and that my own biases could influence data interpretation. These assumptions, outside the researcher's control, were mitigated through reflexivity, identifying potential biases, and actively seeking diverse perspectives.

My assumption in qualitative data analysis included different perceptions or biases within a study, engaging with participants to comprehend their viewpoints, research linked to the circumstance, event, or environment, and the researchers' biases can influence the interpretation of the data. My assumption was that participants in this study would be honest about their experiences regarding training at the state government agency and truthful about their individual reporting regarding the inclusion criteria. These biases were mitigated by identifying them to reduce their impact on interpretation. Overall, qualitative methods are a thriving area of debate and innovation in this field (Ziskin, 2019). My assumptions remained the same, and the part of the analytic process that appealed to me was finding similarities and differences in the data. I enjoyed learning about categorizing the data, uncovering the themes, interpreting the data, and gaining a better understanding of the analytic process to prepare for my dissertation. The different data analysis processes were investigated to help me, as the researcher, recognize patterns, tendencies, and connections to gain a comprehensive knowledge of the topics over traditional text analysis methods (Mastrobattista et al., 2024).

Limitations

Qualitative research has known limitations, such as potential bias, time constraints, and difficulty generalizing findings. These limitations could influence the study and affect the accuracy and relevance of the findings. Donkoh and Mensah (2023) stated that qualitative studies' low credibility is common because qualitative studies frequently disregard the social and cultural constructions of the researched variables. Limitations of this study include potential researcher bias, limited sample size, digital literacy and recruitment of participants. Participants may not feel comfortable with digital literacy and using Zoom, therefore, might not volunteer to participate. Generalizability was another limitation because of the small sample sizes. Other

factors included limitations due to the researcher needing to be immersed in a group and sampling techniques that may generalize the population (Donkoh & Mensah, 2023). Furthermore, Donkoh and Mensahs (2023) stated that data interpretation and analysis are challenging and multifaceted, and cause researchers to use a great deal of time to complete. The limitations were decreased by employing triangulation.

Delimitations

Delimitations described the study's boundaries and emphasized what is included and excluded from the study (Coker, 2022). The delimitation allowed the researcher to outline the progression of delimitations to adjust the research and the thoroughness and significance of the results. This study had a delimitation as the research is limited to one state agency in Rhode Island to gain an understanding of training and learner experiences. A second delimitation in this study was that participants must have attended at least two trainings at the state government agency.

Summary

A qualitative methodology was selected over a quantitative methodology to explore experiences and insights of non-numerical data through interviews and a focus group with the state government agency learners. An exploratory case study design was chosen because it allowed data collection from the state government agency learners who met the criteria. The interviews and focus group were conducted to collect data from the state government agency learners to gain unique perspectives and commonalities. A semi-structured interview was used to collect data from nine participants with different job classifications and departments within the state government agency. Participants voluntarily consented and met all the inclusion criteria of the study. A focus group was conducted for those who met the inclusion criteria, participated in

the interview, and agreed to participate in the focus group. The focus group was a smaller subset of four participants to further obtain and analyze data about the state government agency training through shared perspectives and more in-depth discussions. The data was collected using Braun and Clarke's reflexive thematic analysis to comprehensively depict the state government agency learners' perspectives, experiences, and insights about the state government agency training. All data was collected after approval from the NU IRB and site permission approval.

The section also incorporated the study's assumptions, limitations, and delimitations. The section summarized the study's assumptions and included the expected setting and expectations of the research process. The study's limitations were outlined, and the constraints that may impact the study's design, data collection, or analysis, such as time constraints, sample size, or variables, were identified. Lastly, the delimitations were addressed, and the boundaries, parameters of the study, and the reasons behind these choices were explained.

Section 3: Findings, Implications, and Recommendations

The problem addressed in this study was many learners do not retain the knowledge or apply the skills they have learned after attending mandatory training (Utunen et al., 2023). The purpose of this qualitative exploratory case study was to explore the state agency learners' experiences regarding their knowledge retention and application of skills after attending mandatory training.

The study included a representative sample of nine state agency learners with varied backgrounds, from different sections with different amounts of time working at the state agency. Participants who met the requirements were asked to join a one-on-one Zoom interview, followed by a focus group. I led a focus group with four of the nine participants. Reducing the sample size provided a deeper analysis by focusing on a smaller group to delve deeper into learner experiences and options.

Each participant received a copy of the transcripts from both the interviews and the focus group, and I asked the participants to provide feedback to ensure the transcripts were correct and complete. I ensured I was transparent in reporting during the research process to allow for a deeper evaluation of the findings. The qualitative data collection from the interviews and focus group followed the principles of trustworthiness, including credibility, dependability, confirmability, and transferability. The study had several limitations, including potential researcher bias, time constraints, and challenges in generalizing findings due to small sample sizes. These limitations were largely outside of my control, and I mitigated the limitations through data triangulation. I employed data triangulation by collecting data from different sources, including learners from different roles, sections, backgrounds, and experiences.

Triangulation helped increase credibility and provided multiple perspectives to strengthen the accuracy and trustworthiness of the findings.

This section presents a detailed examination of the interviews and focus group data compilation, emerging themes, the coding process, and a detailed explanation of the research performed at the agency. Participants' experiences and perceptions were documented, and the section provides a detailed record of participants' answers to the research questions. The section presents the trustworthiness of data, the study's findings, evaluation of the outcomes, implications for recommendations of practice, and recommendations for future research.

Findings

This section presents the key findings from interviews conducted with state agency learners regarding their experiences with mandatory training. Nine participants contributed to this study. All participants were assigned gender-neutral pseudonyms, and the names were selected to create a personalized setting. The names helped to ensure participant confidentiality. All participants met the criteria and have worked at the state agency for a minimum of six months, and the range of state service varied from six months to thirty-five years of state service. All participants attended at least two trainings during their tenure at the state agency, and there was a diverse representation of different job titles among the participants. As the researcher, I collected data from one-on-one, detailed Zoom interviews and a focus group with a smaller subset of four participants. The following table illustrates the summary of relevant information, including gender-neutral pseudonyms, job title, and years of employment at the state agency.

Table 1

Participant Demographic and Characteristic Information

Gender Neutral-Pseudonym	Job Title	Years at the State Agency
Alex	Analyst	8 Years
Bobbie	Engineer	13 Years
Greer	Administrator	12 Years
Jessie	Engineer	25 Years
Joey	Director	6 Years
Lee	Analyst	6 months
Mel	Project Manager	1 Year
Pat	Manager	35 Years
Sunny	Engineer	15 Years

The participants communicated their perspectives on learning and development, preferences, learning styles, knowledge retention, and application of skills learned. The findings are organized around five major themes: (1) Training Participation and Formats, (2) Learning Preferences, (3) Training Content, Delivery, and Relevance, (4) Retention and Application of Knowledge, and (5) Organizational Culture and Barriers to Learning. The following table provides a summary of the major themes from participants on learning and development at the state government agency.

Table 2

Summary of Major Themes from Participant Perspectives on Learning and Development

Theme Number	Theme Title	Description
1	Training Participation and Formats	Participant experiences and choices related to training attendance, formats (in-person, virtual), and accessibility.
2	Learning Preferences	Learner learning styles, preferred learning environments, and engagement methods.
3	Training Content, Delivery, and Relevance	Perspectives on the usefulness, clarity, and applicability of training material and delivery methods.
4	Retention and Application of Knowledge	Insights into how well participants retained information and applied skills in real-world settings
5	Organizational Culture and Barriers to Learning	Identified supports and challenges within the organizational environment that influenced learning and development.

Alex. Alex is an analyst who has worked at the state agency for eight years. Alex prefers in-person instructor-led training, stating, “When it’s in person, I’m more locked in. I feel like I retain more that way.” Alex needs reinforcement on the job to fully apply training concepts, stating, “You learn something, but then it's okay, now what? If no one else is doing it, it fades out.” Alex expressed that interactive and applied learning is most effective, and if the content is relevant to the person's role and hands-on, it is more likely to stick better. Alex feels that learning retention improves when training content is repeatedly used, discussed with others, and refreshed by reminders. Alex measured training success by how much is remembered and applied over time.

Bobbie. Bobbie is an engineer who has worked at the state agency for 13 years. Bobbie prefers in-person training for better engagement and finds it easier to stay focused when the

instructor is dynamic and experienced. Bobbie noted it's difficult to apply training without on-the-job reinforcement, recommending real-world application and tailoring training to specific roles/departments and using real-world scenarios. Bobbies' perception is that asynchronous training is sometimes ineffective or surface-level, and they stated that it feels like checking a box if the class is not interactive or relevant. Bobbie stated, "Repetition and practice are key for content mastery, and training is most impactful when directly tied to job duties or career advancement."

Greer. Greer is an administrator, who has worked at the state agency for 12 years. Greer stated that instructor quality is the key to student engagement and wants relevant and applied content rather than generic lessons that are not related to the state agency. Greer stated, "If the instructor isn't into it, people check out. If they are, it changes the whole room." Greer expressed frustration when training is too generic and not directly useful for agency roles. Geer said, "It's okay, but what does this have to do with what we do here?" Greer expressed:

> Effective presenters and a comfortable learning environment enhance learning. The instructor for Mindful Leadership made learning come to life. The instructor put everyone into a comfort zone and made everyone feel open.

Jessie. Jessie is the engineer who has worked at the state agency for 25 years. Jessie prefers in-person training, especially when learning new or complex topics, and Jessie values the ability to ask questions in real time. Jessie stated, "If it's something new or complicated, I'd much rather be in a room with someone I can talk to." Jessie thinks some people feel training is just a checkbox, and motivation depends heavily on supervisor support. Jessie stated:

> If your manager doesn't care about training, then no one on the team does either. Training reinforces knowledge on the job and builds confidence. Being able to apply the

training to your work improves self-awareness and decision-making.

Joey. Joey is a director who has worked at the state agency for six years. Joey emphasized the value of hands-on experience in the learning process, explaining that they learn best when they can actively engage with the material. Joey shared that on-the-job training has been the most effective, especially when it involves real-time feedback and repetition. Joey said, "I learn by doing, and if I'm out there testing or watching someone do it, and then I try it myself, it sticks way better than just reading about it." Joey expressed that while formal training sessions can be useful, they are most impactful when directly connected to day-to-day responsibilities. Joey prefers a more structured learning opportunities that connect theory to practice, as well as more consistent follow-up to reinforce learning. Joeys' insights highlight the importance of practical application and continuous reinforcement in supporting skill development and retention.

Mel. Mel is a project manager who has worked at the state agency for one year. Mel has experience with both in-person and online training and finds in-person more engaging, especially for complex topics. Mel claimed, "I've done the online stuff and the classroom training for incentive credits. I prefer in person." Mel appreciated when training allowed for discussion and real examples, rather than just passive content. Mel emphasized the value of active, hands-on learning and training that directly connects to job responsibilities. Mel explained, "Learning through doing is needed to make it stay with you." Mel stressed the importance of timing and relevance in training, noting, "If I'm not using it right away, I'll forget it." This underscores the belief that training should be aligned with immediate job tasks to support retention and application. Additionally, Mel appreciated trainers who encouraged participation and interaction, saying, "When we get to try things out ourselves, it's more engaging and I remember it better."

Pat. Pat is a manager who has worked at the state agency for 35 years. Pat prefers in-person training for the ability to ask questions, interact, and stay focused. Pat stated:

> Asynchronous learning is convenient, but not engaging or impactful for learning retention. When I'm in a room with a trainer, I'm focused. Online, it's easier to zone out or get distracted. The online stuff, you get through it, but I don't think most of it sticks.

Pat explained that information is retained better when the training includes discussion, demonstrations, or real-life application. Pat's interview highlighted a strong appreciation for hands-on, experiential learning and the importance of observing real-world applications. Pat valued being in the field and seeing how things work, stating, "It's one thing to hear about it, but another to see it in action." This preference for applied learning was also evident in their reflections on job shadowing and cross-training experiences, where Pat shared, "You learn a lot just watching how someone else approaches a task or problem." Pat emphasized that informal learning from peers and supervisors had a lasting impact, reinforcing the idea that practical exposure is key to skill development and retention.

Sunny. Sunny is an engineer who has worked at the state agency for 15 years. Sunny stated, "When we can apply it or see how it works, I remember it better." Sunny applied training more effectively when it's immediately relevant and supported by the team or leadership. Sunny stated, "If what I learn fits what I do every day, I use it. Otherwise, it just gets forgotten." Sunny emphasized the importance of frequent use and relevance in training, noting that repetition helps reinforce skills. Sunny shared, "I use Excel commands weekly, and that's why I remember them," pointing to the connection between regular application and long-term retention. Sunny prefers in-person learning for complex or interactive topics but acknowledged that some virtual content can be efficient when it's straightforward. Sunny stated, "If it's basic, I can skim it. But if

it's something new or detailed, I'd rather be in a room with someone explaining it." Sunny's comments reflected a practical approach to learning, tailoring the format to the content's complexity and the ability to apply it right away.

Trustworthiness of Data

To ensure the trustworthiness of the data, this study applied the four criteria established by Lincoln and Guba (1985): credibility, dependability, confirmability, and transferability. These principles are the standard qualitative researchers use to establish confidence in the reliability and applicability of their findings. Trustworthiness in qualitative research is inherently complex, as it is shaped by diverse paradigms and the researcher's ontological and epistemological stance. As Ison et al. (2023) noted, qualitative research can be challenging to interpret across different designs and perspectives. Nevertheless, by systematically applying these four criteria, I sought to enhance the rigor and credibility of the findings.

Credibility refers to the confidence in the truth of the research, and strategies to increase credibility in qualitative studies are triangulation, prolonged engagement with participants, and data and member checks. Triangulation is when a researcher uses multiple data collection techniques to ensure cohesiveness in the themes that emerge. In this study, I met this criterion by completing two data collection techniques, interviews, and a focus group.

Prolonged engagement was used to establish a relationship between the participants and the researcher. I met with each participant for sixty minutes or more for each interview and a subgroup of participants for a focus group that lasted sixty-five minutes. I was able to develop a report with the participants by asking open-ended questions, clarifying follow-up inquiries, and asking questions to seek learner perceptions and feelings about the training. Participants understood that they could pass on a question, opt out at any time, and join the discussion to their

comfort level. Open-ended questions were used, and as the researcher, I built a rapport during the discussion to establish a comfortable and trusting relationship with the group to encourage open and honest communication. I practice active listening, good eye contact, and appropriate body language to express my genuine interest in creating a welcoming environment.

Member checking was used as a technique to share the findings with the participants to ensure the participants' information is accurate and trustworthy. I did this by asking each participant to review the transcripts and sections of the research paper to ensure that the transcripts reflect the participants' meaning. Each participant was asked to review the summary of findings and report to be sure the documents align with their experiences and perspectives. This process helped ensure the credibility and validity of the research findings.

The strategy that I used in my study was data triangulation to study the behavior from multiple perspectives to ensure the qualitative research is correct and accurate. I utilized a one-to-one interview and a focus group to implement data collection techniques and engage with participants. I sent transcripts and direct quotes to the participants to verify accuracy for member-checking purposes. As the researcher, I ensured the questions were concise and asked multiple questions to gain a consistent viewpoint from the interviews and focus group.

Dependability refers to the stability and consistency of research findings over time. Dependability is attained by making sure the research process is rigorous, transparent, and thoroughly documented to provide an opportunity for likely duplication of the study. Dependability was accomplished to quantify or show the steadiness and fidelity of the data. A strategy includes planning and documenting researchers' methods to collect, analyze, and interpret data.

As the researcher, the strategies I used included an audit trail, step-by-step replication, and meticulous descriptions. These strategies demonstrated the dependability of research by using parameters that allow a full scope of demographics, benchmarks, experience, and standards. The strategy assured dependability through research by documenting the methodology, data collection procedure, and data analysis techniques. I created a log to document the decisions made during the study as part of the audit trail to document the research process. According to Ahmed (2024), researchers need to replicate the research to ensure the dependability of the findings.

Confirmability is the objectivity or impartiality of the findings. Qualitative data is specific when facts are checked and rechecked during data collection and analysis to confirm repeatable results. As the researcher, I was able to show that my qualitative research was unbiased, impartial, and not influenced by my assumptions. Confirmability in qualitative research denotes the extent to which a study's findings are based on the data rather than the conclusions of the researcher's biases. Fundamentally, confirmability establishes that the research is not my opinion; instead, it is a dependable illustration of the participants' experiences and perspectives.

The strategy that I used for confirmability was to obtain feedback from experts (my dissertation committee) to analyze the research and reduce my biases. I kept a journal throughout the study and retained a detailed account of all research, comprising my data collection methods, transcripts, and coding schemes to document my thoughts and feelings. During the interviews, I noted my beliefs and feelings to ensure I did not influence the findings. I repeated back different views to help increase fairness and objectivity and confirm the correctness of the study (Ahmed,

2024). Different themes emerged without bias during the process, and I had the opportunity to record the information without bias as the researcher.

Transferability refers to the extent to which the conclusions are valuable to others in different scenarios or how the research is transferable (Connelly, 2016). As the researcher, I needed to provide enough information about the study to show the possible pertinence of the findings to the reader's personal situation. Transferability allows the reader to make their personal choice about whether the findings of the study are significant and applicable in their own context.

The strategy I used to improve transferability was to provide a detailed contextualization by adhering to the recorded audit trail of the research. The recording was converted to a written transcript along with a thorough written description of the environment, participants, data collection methods, and study procedures. The description included details about the social and cultural context of the study. The documentation showed that my research study could be replicated at an agency or organization that wants to evaluate learning and development and is interested in learner experiences and perceptions about training. The design of the research study and data collection protocols is generalized enough to be replicated in a different setting. Convenience sampling was used where volunteers were selected based on availability and accessibility. Describing this sampling strategy helped readers understand the likely applicability of the findings to comparable populations or settings.

Research Question 1: What Are the State Agency Learners' Experiences Regarding Knowledge Retention and Application of Skills After Attending Mandatory Training?

The first research question aimed to understand state agency learners' experiences and perceptions related to knowledge retention and the application of skills following mandatory

training. Braun and Clark's (2006) data analysis processes were used as the coding framework for thematic analysis to identify themes in this study. I manually coded the data to familiarize myself with the data, generate codes, combine codes into themes, review the themes, determine the theme significance, and report the findings (Braun & Clarke, 2006). Utilizing this coding method, I found meaningful quotes from participants, combined themes, and identified repeated patterns related to my study. I documented the frequency of each theme to recognize the common themes of perceptions and experiences of the participants.

Based on the findings, several themes and recommendations emerged to enhance agency training, retention, and application. For research question 1, the following themes emerged from the analysis: Training participants and experiences, learning preferences, and styles. The table below provides emerging themes and participants' contributions. The table shows research question 1, emerging themes, participants' contribution frequency, and participants ' names.

Table 3

Research Question 1: Emerging Themes, Participant Contribution Frequency, Participants

Research Questions	Themes	Participant Contribution Frequency	Participants
RQ1: What are learners' experiences regarding knowledge retention and application of skills after attending mandatory training?	Theme 1a: Examining training participation and experiences.	9/9	Alex, Bobbie, Greer, Jessie, Joey, Lee, Mel, Pat, Sunny
	Theme 1b: Understanding learning preferences and styles.	8/9	Alex, Bobbie, Jessie, Joey, Lee, Mel, Pat, Sunny

Theme 1a: Examining training participation and experiences. All participants, nine out of nine, reported that they have ample opportunities to participate in a wide variety of training topics with diverse training formats. Training was described as both foundational and

specialized, supporting learners at various stages of their careers. Participants indicated that they appreciate a blended approach to training and the mixed formats make training accessible to learners' needs, content, and organizational context. Alex underscored the benefit of accessing different types of training, stating:

> That's the beauty of it. There are some trainings that you can apply on a bigger scale, and then there are trainings that are very specific. Training is introduced early to new employees and remains consistently available. Training options at the agency range from mandatory annual training to elective professional development. I appreciate the flexibility that allows employees to pursue trainings that match their interests or career paths (e.g., leadership, technical skills, cross-training).

Bobbie recalled:

> I began my career as a construction inspector, progressed to resident engineer, then managed the entire construction section, and now I focus on technology initiatives. I have experience as both a training participant and instructor. Earlier in my career, I attended mandatory safety training such as flagger training and OSHA 10. More recently, I have been more involved in designing and assigning training to staff. Recent trainings I have attended include Work Zone Safety Supervisor training as a refresher, and I attended OSHA 10 virtually. This class was self-paced and time-restricted, but rather boring and less engaging due to the lack of interactivity.

Greer described engaging in a broad mix of training, from internal leadership and personality development courses to external technical and safety certifications. Greer shared:

> Generally, you know, at a high level, when you ask people about training, it's a lot about the incentive. And yet, when they take it, it's like that's a good training. Well, I do the

> training within the agency, and then I'm invited many times to be trained outside the agency, which has to do with my position. We have many opportunities for training, and the agency has a good training program.

Jessie replied:

> It's very accessible [training]. Always willing to try new things or find training that would be interesting, or that would be needed. If it's something like you really want to learn about, like in person. If it's a check the box, or an annual requirement. I think online virtual is fine. Like the cybersecurity training that we must do every year. It is fine being online. Something you can do on your own when it fits into your schedule. But if you want an actual technical class, or a new skill, you're learning, I think, in person is the way to go.

Joey noted:

> It's a robust training experience. It's positively viewed with a good variety of options. Classes are engaging and accessible, and the agency has a good learning culture. Trainings are diverse and offered regularly, which Joey appreciates, especially when compared to other state agencies. CPR training brought a lot of reality to what we could possibly be dealing with, and it was an overall positive training experience. The use of LMS, emails, and consistent needs assessments demonstrates a well-structured and communicative training infrastructure

Joey consistently praises the training team's efforts to support and encourage learning across all job levels, from litter crews to engineers.

Lee stated:

> The agency training culture is progressive and supportive. I was impressed on the second day at the agency. I met with [Kathleen] to learn about training, and I was surprised and impressed by all the learning opportunities. Training is such a great positive thing that is offered. During a recent Asset Management class, we learned a lot about the different struggles cities and towns were having with each other. How are you handling this? How are you handling that? I always embrace it as looking at it as an opportunity, because it's going to get me from Point A to Point B.

Lee later replied:

> My management team has been great about letting me attend all types of training. I even took a First Aid class. This is something in my toolbox that I can not only use here but in my personal life.

Mel has participated in both traditional online trainings (e.g., cyber training) and in-person classes (e.g., OSHA, incentive credit trainings). Mel noted:

> As a newer employee, there are plenty of opportunities to build foundational knowledge about the agency and the construction/project management field. I know it is not always available and not always feasible to do that, but for my own personal, more hands-on is better for me as a learner. I have learned a lot from standard training at the agency and see future training as critical to advancing my career. I am highly motivated to move to the next level, and I see training as a tool to prepare me for advancement. I am actively seeking exposure to training for Plan Reading, Construction, and other Departments to build my educational portfolio.

Pat expressed:

> I feel that training is largely forced on people. There are not enough people who are self-motivated to seek learning. If we make training more engaging and accessible, it will drive voluntary participation. I encourage building a culture where people want to learn, not just fulfill requirements. The Construction division is unique at the agency as one of the only departments that has a four-month winter period of mandatory training. This affects the culture of learning and is more compliance-driven and less voluntary. Some staff are internally motivated and seek development, especially project managers, while others (often in construction) treat the job as routine work rather than a career path. Educational background influences motivation—those with higher education or from other countries often show more drive to learn and grow. The desire to learn is often linked to career advancement, but some learners resist moving up even when capable.

Sunny places a high value on training that directly relates to his work, like the bridge inspection class, which he uses daily to evaluate structural integrity for overweight vehicle routing. Sunny said:

> Training's usefulness in real-world applications is a major criterion for determining a training's success. Our agency has a robust training program that is positively viewed by staff. Training has a good variety, and people are happy when we have new training. It is important to have qualified and engaging instructors because the instructor’s effectiveness is a critical factor in training. Memorable, engaging, and knowledgeable instructors positively influence my learning experience.

Participants discussed the diverse training formats available, and exposure to training varied based on role and tenure. New hires often complete foundational or compliance training early, while more experienced staff participate in advanced, or refresher courses aligned with

career progression. All participants expressed a preference for in-person learning, and many learners prefer hands-on, face-to-face training for better engagement, understanding, and interaction with instructors and peers. The challenge with online or asynchronous training is often viewed as less engaging, with some learners feeling it's easier to skim or disengage. Access to preferred training formats can be limited by scheduling, workload, or resource constraints, affecting participation levels. A strong preference for in-person learning was voiced by most participants, particularly for content requiring active engagement or skill practice. While online formats were appreciated for their flexibility, they were also perceived as less engaging or easier to skim, and learners expressed concerns about digital training fatigue. Access to preferred training formats was sometimes limited by scheduling conflicts, workload, or availability, creating barriers to full participation. Still, the diversity of training offerings supported both short-term competency building and long-term professional development.

Overall, the agency's training program is viewed as comprehensive, flexible, and supportive of both compliance and career development. While the agency's diverse offerings and delivery methods are largely appreciated, participants identified areas for improvement, such as increasing engagement in virtual formats and fostering a stronger culture of voluntary learning. To enhance training impact, the agency could focus on developing more interactive and relevant content, cultivating self-directed learning, and continuing to invest in skilled instructors.

Theme 1b: Understanding learning preferences or styles. The theme of learning style and preference is about considering how learners best obtain and process information. Eight out of nine participants contributed to this theme. This included distinguishing that people have different methods of learning, often classified into styles like visual, auditory, reading/writing, and kinesthetic. While some education professionals support tailoring teaching approaches to

learner learning styles to increase learning outcomes, new studies show that the proof of this concept is limited. The alternative view stated that a more successful approach stresses offering learners diverse and multimodal learning experiences that engage several cognitive processes, instead of following only one preferred learning style. Participants unmistakably expressed clear preferences for how they best learn, mainly hands-on, experiential, and applied learning methods. These preferences align with the principles of adult learning (andragogy), which propose that adults learn best when they can apply information directly, use real-life experiences, and engage actively with content.

Alex articulated a strong preference for interactive and experiential learning, particularly sessions that blend discussion, self-awareness tools, and application. Alex stated:

> I like interactive learning styles. When you learn something like the DiSC Assessment, you would do the DiSC assessment, and then you will talk about it, and then you will be thrown in a situation where you must, you know, a hypothetical project. You just had to do a discussion or come up with a solution based on whatever the training is. Obviously, the more interactive ones, because if you're sitting in a class, I don't mind sitting at the desk for an hour or two, but then after that, it gets tedious.

Bobbie is a strong advocate for in-person training due to enhanced engagement, informal knowledge sharing (hallway chats), and accountability. Bobbie replied:

> The preference for in-person, hands-on, and visual learning connects these designs to knowledge retention and iterative practice. Learning is iterative; skills and knowledge must be continuously updated. My way of learning retention is just repertory. Just keep doing it and doing it again.

Jessie prefers classes that do not require social interaction, and Jesse discussed that as an introvert, he likes classes that he can take independently. Jessie indicated that he does not like teamwork, case studies, or classes with social interaction. Jessie stated:

> If it's something like you really want to learn about, like in person. If it's a check the box, or like an annual requirement. Like, I think virtual is fine. Like the cybersecurity training that we must do, like something you can do on your own -it fits into your schedule. If it's an actual technical class, or like a new skill. in-person learning is the way to go.

Joey claimed:

> So, for my learning style, I always like hands-on stuff. Unfortunately, I'm more in a desk role right now. But I do some project management activities as well. So, for me, what works well to keep me engaged in a class is, as I alluded to before, real content, real stories, real answers on what you did in each situation to learn from, not the theoretical approach, or what would be taught in a class, but rather an actual factual instance of when these tools were applied. For me, it is. It just rings a lot truer when there's someone like our instructor, who we had for one of those classes, who was able to give a real-world experience of how they maybe didn't do so hot and had some big, you know, changes that came from that in their own way of viewing people. That's always the best learning style: to give me something that is applicable on a day-to-day basis, not theoretical, but something you can act on, and then, you know, either a mnemonic device or an example you can take to bring back to your day-to-day life.

Mel self-identified as a visual learner and stated:

> I want to see things (e.g., menu photos, classroom props) to fully absorb the material. I want to see things to fully absorb material, like photos on a menu or props in a classroom.

> I know it's not always available and not always feasible to do that, but for my own personal reasons, more hands-on is better for me as a learner.

Pat prefers hands-on, practical learning where they can directly apply skills to their job. Pat responds best to smaller, focused sessions rather than long, lecture-based trainings, and likes it when materials are visually clear and easy to reference later. Pat stated. “If I can try it while we’re learning it, I remember it better.” Pat appreciates short, focused workshops over long lectures, noting, “Too much at once and it doesn’t stick.” Pat values real-world relevance, explaining, “When I can see how it fits into my job, I’m more likely to use it.”

Sunny shared:

> Mixed styles work best, showing a preference for multimodal reinforcement. I like to have things told to me by the instructor, then reinforce that by reading myself, then applying it through practice or small group interaction.

The participants in this study shared examples of the different styles and preferences, and eight out of nine participants indicated they are kinesthetic learners who learn best through hands-on activities, physical movement, and practical experiences. Other examples shared include active and reflective learning preferences, and global learning was mentioned by seven out of nine participants, where learners needed to understand the overall picture and how the learning is relevant to their role and the agency. The agency has a diverse population, and understanding preferences is helpful. learning and development need to include all learning modalities since each learner is unique.

While personal preferences varied, participants consistently valued in-person, interactive formats for complex or relational topics, real-world examples and applications, multiple reinforcement methods (e.g., auditory explanation, visual material, and applied practice), and

understanding relevance to their roles. These preferences endorse inclusive and multimodal training programs, which accommodate diverse learning needs. In a public agency with a broad range of roles, backgrounds, and experiences, such diversity is especially important for equitable and effective training.

Research Question 2: What Improvements Do the State Agency Learners Suggest Would Increase Their Motivation to Apply New Knowledge and Skills After Attending Mandatory Training?

The second research question recognized the improvements suggested by participants to increase motivation to help learners apply new knowledge and skills after attending training. Table 4 summarizes the emerging themes, research participants' contribution frequency, and the names of each participant who contributed to the research question.

Table 4

Research Question 2: Emerging Themes, Participant Contribution Frequency, and Participants

Research Questions	Themes	Participant Contribution Frequency	Participants
RQ2: What improvements do the learners suggest would increase their motivation to apply new knowledge and skills after attending mandatory training?	Theme 2a: Evaluating training content, delivery, and relevance.	9/9	Alex, Bobbie, Greer, Jessie, Joey, Lee, Mel, Pat, Sunny
	Theme 2b: Assessing knowledge retention, impact, and application of skills.	9/9	Alex, Bobbie, Greer, Jessie, Joey, Lee, Mel, Pat, Sunny
	Theme 2c: Investigating culture and barriers to learning.	7/9	Bobbie, Jessie, Joey, Lee, Mel, Pat, Sunny

Theme 2a: Evaluating training content, delivery, and relevance. Effective training combines well-designed, job-relevant content with engaging delivery methods tailored to learners' needs, safeguarding a meaningful and practical application of learning**.** Nine out of nine

participants upheld this theme. Training content, delivery, relevance, and application are key topics that agency learners suggest increase their motivation to apply new knowledge and skills after mandatory training.

Alex spoke about the significance of attending classes that are relevant and pertinent to the job role. Alex stated:

> I was trying to understand how your principles and theories can be applicable to the public service, because everything is targeted at the private sector. And there are things we cannot do that is allowable there that we must do differently

Bobbie claimed:

> The application of what is learned is imperative to retention. A delay between training and applying the skill causes forgetting. From construction inspector to resident engineer to managing the construction section and now focusing on technology initiatives, this illustrates how accumulated training and experience contributed to my expanding knowledge base.

Greer stated:

> The relevance of the information taught in class to the job is critical. I struggled with a project management course that didn't align with the job role of a project manager. Trainings that allow staff to immediately apply what they've learned (like Mindful Leadership or Best Practices in Project Management) are much more effective classes. Real-world application, such as reviewing fatal crashes and determining actionable improvements, makes learning stick and feel impactful.

Jessie stated, "If it's more relevant to your job, you're more likely to keep using it and learn about it and retain that knowledge." Jessie is tying training to job relevance and how this

connection increases learners' motivation, retention, and learning application of skills acquired. Jessie implies that relevancy drives engagement, and Jessie believes that when training content directly relates to day-to-day duties, learners are more engaged and willing to participate. If employees see a clear reason to attend the training, this will increase their willingness to learn. Jessie's statements support the perception that information is more likely to be remembered when the learning is applied immediately and thought of as pertinent. Unrelated training, by contrast, risks being forgotten if the information is not used or practiced.

Joey acknowledged:

> Hearing personal stories from the instructor or class members about issues they screwed up and then learned from those things sticks with me a lot easier than just studying without examples or context. Hearing personal stories from the instructor or class members about issues they screwed up and then learned from those things stick with me a lot easier than just studying. So, I think, you know, the easiest kind of stuff you do on a day-to-day basis is talking to your peers, you know, getting periodicals and updates from. you know, certain groups. For example, for my role, it's great to see what the Public Works Association is doing and newsletters from them. Similarly, the League of Cities and Towns. You know. What legislation are they working on? \What are they focused on? How are they viewing our performance in the electric vehicle world? Great to get newsletters and updates from, you know, either the agency or the private sector, for the folks who are providing the services, always good to hear from. It's not something we do here a lot, but, you know, certainly conferences can be useful to stay up to date on those things. We really can't kind of be in a vacuum on a lot of these, especially if you're in anything technology-oriented, where it's constantly evolving.

Lee believes that engagement stems from both content relevance and interactive teaching styles. Lee stated:

> I enjoy in-person collaboration during training. During that four-day experience, I got to know some people. The classroom was very supportive of collaboration, interaction, and working in groups. This project management class was really a chance to roll something out that everyone could use the same way, so everyone talks to each other. The instructor-led classes were interactive, collaborative, and applicable to all. I like the instructor. I like the interaction. I like the idea of a think tank where you have problem-solving. If it's tactical, I'll do it online. If it's something that needs collaboration, it would be in-person. The instructor had such a wealth of knowledge and background, and the instructor was able to facilitate some positive discussions. There was an engagement of the class instructors that was very good. They gave us a couple of scenarios and said, how would you handle this, and we did the scenario.

Lee's statement corresponds to adult learning principles, which stress that adults learn best when training is self-directed, experiential, and problem-centered, with opportunities to draw on past experiences. Lee believes that engagement stems from both content relevance and interactive teaching styles.

Mel recognized that the training helped the transition from employee to manager, especially in adapting communication and expectations to each team member.

Pat talked about greater flexibility and engagement with integration with other departments and roles (traffic, civil rights, etc.). Pat stated:

> Training with diverse groups improved cross-functional understanding. I prefer hands-on, interactive, and broken-up training sessions over full-day lectures. I also enjoy training

> that involves real-life examples, breakout groups, and peer interaction. I find repetition and shorter, spaced-out sessions better for knowledge retention and focus.

Sunny stated:

> If they don't pertain to me at all, I find it more boring. The Bridge Inspection class was very relevant to my job, and we had a few days of classroom learning, a group project, and a site visit that allowed us to apply what we learned in action. This was my favorite class because it got us involved, it was relevant, we learned about our work, and it was interactive.

In summary, agency participants visibly value training that is applied, engaging, and relevant, strengthened by interactive teaching approaches, peer learning, and meaningful application. This approach is supported by increasing training literature, which highlights that relevant, engaging, interactive, real-world examples and timely training are crucial to increased employee learning, job performance, knowledge retention and application of skills.

Theme 2b: Assessing knowledge retention, impact, and application of learning.

Training is most effective when learners retain main ideas and can apply new skills on the job, leading to quantifiable development in learning, obtaining skills, self-assurance, and career development. Nine out of nine participants upheld this theme. Studies underscore the significance of reinforcement, relevance, and opportunities for application in supporting long-term retention and effective application (Baldwin & Ford, 1988; Saks & Burke, 2012). Participants consistently emphasized that the ability to retain and use information determines whether training has a meaningful impact.

Alex measures training success by how much they remembered and applied the material over time. Alex said, “If I don’t remember it, then it didn’t do anything for me. But the fact that I

do it's helpful." This reflects a main principle in adult learning: knowledge must be reinforced and applied to be retained. Research emphasizes this link, making note that long-term retention and knowledge retention and application of skills depend on opportunities to apply knowledge and practice it regularly (Baldwin & Ford, 1988; Saks & Burke, 2012).

Bobbie articulated, "Repetition and practice are key for content mastery." Bobbie talked about retention, impact, and the application of learning, stating that if there are limited opportunities to apply the training or reinforce learning, employees will not remember what they learned or use the skills on the job. Bobbie articulated, "We might remember it that day or that week, but if we're not using it, it just fades." This shows Bobbie feels retention depends heavily on regular use and practice, and without opportunities to revisit or apply content, information is easily forgotten. Furthermore, Bobbie emphasized that an application is rare without follow-up or manager involvement. Bobbie claimed, "If there's no conversation about what we learned or how we could use it, it just ends." This underscores that a barrier to learning exists due to a lack of workplace behaviors and relevance to the skills applied to the job.

Greer stated:

> So obviously, there are two parts there that we're thinking. Yeah, I think the knowledge part is as long as when you give me the knowledge at a training, make sure there's a tie-in resource to it, because I'm going to take it in part of it. But I need something to go to when I'm at home, when I'm in the office. I will not retain the knowledge unless I can go back and practice what I learned.

Greer talked about the need to apply what is learned, and if you cannot practice, you lose the information. Greer recommended that follow-up resources will help drive learning retention.

Jessie stated, “Make training relevant and applicable. Foster a culture of continuous learning and investment in people. Use real-life examples to reinforce and retain knowledge.” Jessie’s views are consistent with findings that retention is strengthened when learners encounter opportunities for retrieval and application. Jessie further replied regarding knowledge retention, “You probably need repetition, even though that's boring, if you hear the same thing multiple times, it should sink in.”

Joey underlined the significance of repetition, hands-on practice, and ongoing use to support retention and application of learning. Joey’s remarks propose that training is most effective when it is practical and used consistently on the job. Joey talked about repetition, stating, “You don’t retain it unless you keep doing it.” Joey talked about repeated learning and opportunities to practice what is learned over time. Joey said, “When I can use it right away, it clicks. If I don’t touch it again for months, it’s gone.” Joey makes the connection between application and timing of the training, and the closer the training is to real-world use, the more likely Joey will remember and apply what is learned. Joey stated, “If there’s a long delay, the learning

Lee’s opinion on retention and application of learning highlights the importance of doing, follow-up, and accessible materials. Lee thinks training is more effective when it’s reinforced after the class and when learners can revisit materials. Lee commented that retention increases when resources are available after training. Lee said, “I like having something to go back to a handout or slides. Otherwise, I forget it.” Lees emphasized the need for practical application after a training, and Lee values post-training resources that allow for review and reinforcement. Lee stated that the value of the session is lost if the information is not applied right away after the training

Mel struggled to retain information not applied regularly; prefers learning through doing. Mel trusts retention and application depend on doing, not just hearing the material presented in a class. Mel indicated that training must include real-world practice, be relevant to the job, and allow for immediate use; otherwise, the information is lost. Mel stated, “If I can’t try it out the right way, I won’t remember it later.” This supports Mel’s views that training must be timed with actual work so that the knowledge can be applied and retained, rather than forgotten.

Pat implied retention and application rely on relevance, repetition, and structured follow-up. Pat accentuated that training information fades quickly without practical use, real-world relevance, and ongoing support of what is learned. Pat indicated that one-time sessions are not enough, and repetition and use are imperative. Pat said, *“*If you don’t keep using it, it’s gone.” Pat stated that there needs to be a clear connection between the learning and job responsibilities. Pat stated, “Sometimes you take a training, but you don’t really get to use it in your day-to-day. That makes it harder to remember.” This stresses the importance of the alignment between training and actual job responsibilities, and when this is missing, the application of learning is tough. Pat values follow-up and accountability and stated, “It would be good to have a refresher or someone to check in, like, ‘How are you using this? This would help with applying information over time*.”*

Sunny said:

> After the training, the biggest one for me is the repetitive use of it. If I learn something that I'm not using, I'm just not going to remember it. Like I've forgotten some of the Excel skills because I didn't use those tools, but I remember that they were part of it, and I might have to go back and relearn them if I want to use it. Whereas there are other ones that I use on a weekly basis, and I remember the commands, you know, off the top of my

> head, and can type them right in. So, you know, knowledge retention, absence of class, number one would be repetitive use. Number two might be if it's a topic that gets at least discussed or talked about, whether you're using it or not. If other people are using it and it comes up, then you kind of want to remember at least the basics of it to be able to, you know, speak professionally and knowledgeably about it. But for me, if I don't use it, I'm going to forget it. I've run out of space for new stuff, so it goes out the window if I don't use it.

Nine out of nine participants stated that they need to use the new information learned; otherwise, they will forget, and applying the information directly to the work is key. Learners want suitable opportunities to apply recently learned knowledge, as without applied use, retention reduces rapidly. Learners need to incorporate new skills learned into their work tasks, as this is vital for strengthening and reinforcing learning, and to make sure of long-term learning retention

Theme 2c: Investigating culture and barriers to learning. Seven out of nine participants contributed to this theme. A supportive learning culture is needed for effective training. Agency barriers include lack of time, leadership buy-in, and everyday job demands, which impede learning and development. It is imperative that learners understand the importance of learning and how it relates to their job, and if leadership does not support training, motivation and engagement decrease, which reduces the probability of knowledge transfer and skill application (Noe et al., 2014). The perceptions from this study about agency support of training were varied. One participant acknowledged that training is available, and that leadership occasionally encourages participation.

Bobbie stated, “I feel like once we take a training, we kind of just go back to our desk, and that’s it. There’s no discussion or follow-up about it.” Bobbie is referencing a cultural gap where education and learning are handled as a one-time training rather than a piece of long-term or ongoing learning and development. Bobbie also noted that supervisors often aren’t involved in helping reinforce or encourage the application of training content. Bobbie stated, “This can be a barrier to learning transfer and workplace support”.

Mel echoed, “We’re starting to see more structure around training—like there’s an actual calendar and topics that matter.” Participants expressed inconsistent support, and many expressed concerns about inconsistent messaging, lack of time, or minimal reinforcement from supervisors. Greer stated, “You can go to a class, but if your manager doesn’t ask about it or help you apply it, it feels pointless. “Joey added, “They say training is important, but then you’re slammed with work and can’t actually attend.” Pat said, “Sometimes you’re on your own to find something useful. There’s no real system.”

Jessie voiced concerns about cultural and structural barriers to learning at the agency, emphasizing how work culture can either help or deter knowledge transfer and application. Jessie’s comments concentrated on the lack of support, poor communication, and lack of follow-through after training. Jessie stated that managers aren’t always engaged in the learning process. Jessie said, “It’s like you go to a training, but no one ever asks you about it afterward. The lack of leadership follow-up makes it harder to feel that the training is valued. You take something and then nothing happens. No check-in, no expectation to use it.” Jessie sees cultural barriers to training with limited supervisor involvement, no structured follow-up, and an overall lack of accountability for training transfer. Jessie stated that “This undermines the value and effectiveness of learning in the workplace.”

Joey acknowledged respective cultural and organizational barriers to learning, including a lack of time, insufficient support, and disconnects between training and job responsibilities. Joey's remarks mirror a culture where learning is not always prioritized, and workloads prevent learning. Joey stated, "We're expected to take the training, but then we're right back to work with no time to process or try it out." Joey indicated that work demands take precedence over learning, and this is part of the agency culture. Skill develops, and opportunities to learn come after work task completion. Furthermore, Joey expressed concerns about connecting work to training, stating, "Sometimes you take something, and you're not even sure how it fits into what you do." This ties back to the cultural disconnect where training is offered at the agency, but the learning is not always tied to roles and responsibilities.

Lee mentioned that follow-up from supervisors after training is rare. "It feels like you're left on your own after training. No one really checks how you're doing with it." Communication about what is learned is typically not communicated to the manager or team, and Lee states:

> There's not much conversation about the training after it happens; there is no feedback or sharing of ideas." This is a barrier since learning and development are not embedded into the fabric of the agency, culture, teams, or communications.

Lee tells of the cultural barriers at the agency with a lack of supervisor involvement, poor communication about learning, and the absence of reinforcement mechanisms.

Pat acknowledged several barriers to learning, concentrating on an absence of follow-up, inadequate managerial support, and training that isn't always affiliated with daily work. Pat accentuated that supervisors seldom check in after training: Pat stated, "Once the training is done, it feels like it's forgotten. No one asks how you're using it." This comment reveals a culture where manager participation in reinforcing learning is minimal, which challenges the

transfer of skills. Pat said, “Sometimes you get trained on things you don’t really use, so it’s hard to apply. This comment displays a difficulty when training content isn’t tailored or relevant, and this makes applying the training tough. Pat suggested that structured follow-up would help, and Pat said, “It would be helpful if there was some way to revisit training or get a refresher.” Pat argues that there is a gap in training reinforcement after the training.

Sunny emphasized several obstacles to learning, including missing supervisor encouragement, reinforcement, and scheduling. Sunny cited, “Supervisors “don’t often motivate or support applying new skills, and sometimes it feels like if the boss doesn’t care, then neither do we.” Sunny articulated frustration that there’s little to no follow-up after training, and said, “You finish a course and then it’s like, ‘Okay, next one,’ no reminders or practice.” Sunny discussed concerns about work schedules and demanding tasks interfering with learning. Sunny said, “It’s hard to find time to really focus on training when you’re swamped.” This statement underscores the barriers where work demands compete with learning opportunities.

Evaluation of Outcomes

Although there is a large body of research about knowledge retention and application for adult learners, limited studies have investigated the unique challenges faced by state government agencies in training learners (Lee et al., 2017). Research regularly shows that knowledge retention decays severely when learning is not reinforced or applied soon after training (Cepeda et al., 2008; eLearning Industry, 2024). Skills and knowledge are most successfully preserved when learners have opportunities for instant, job-relevant application and obtain reinforcement through practice, feedback, and supervisory support. Training application and applicability to current work are essential predictors of long-term retention. When learners see a strong link

between learning and job performance, learners are more likely to apply and sustain new skills over time (Baldwin & Ford, 1988; Saks & Belcourt, 2006).

The themes run parallel to the research questions in this study. 18 questions were asked to answer the two research questions to recognize and describe the experiences of learners regarding knowledge retention and application at the agency. The method for this research was a qualitative, exploratory case study, and the evaluation of the findings is discussed per research question. A thorough comparison to previous research on the topic, with an understanding of the theoretical framework implications, was conducted. Interview responses upheld and supported the need for inclusive and multimodal training programs, aligning with adult learning principles that emphasize self-directedness, relevance, and practical application. These preferences accommodate diverse learning needs without relying on outdated learning styles myths (Knowles et al., 2015; Pashler et al., 2008).

Table 5 summarizes key learning preferences voiced by participants during interviews and the focus group that identified instructional design implications. The table illustrates how learners' preferences for in-person interaction, flexible formats, practical application, and engaging facilitation suggest the best design for effective training programs. The goal was to align instructional strategies with adult learning principles, support diverse learner needs, and improve the relevance, accessibility, and impact of training at the state agency.

Table 5

Agency Learning Preferences and Instructional Design Implications

Learning Preference	Quote	Instructional Design Implication
Hands-on /Kinesthetic	Joey: "Give me something applicable on a day-to-day basis- something you can act on."	Use real-life examples, case studies, simulations, field activities, and hands-on learning.
Interactive / Experiential	Alex: "You'd do the DiSC assessment… then come up with a solution based on whatever the training is."	Incorporate team exercises, group discussions, and problem-solving activities.
Visual Learning	Mel: "I want to see things… like photos on a menu or props in a classroom."	Use diagrams, flowcharts, images, and visual aids to support learning.
Multimodal (Audio, Reading, Practice)	Sunny: "Told to me by the instructor… reinforced by reading… then applying it."	Combine lectures, written materials, and practical tasks in each lesson.
Real-World Application / Scenario-Based	Joey: "Real stories not theoretical… actual factual instances that's the best learning style for me."	Show real-world application, use examples with tangible workplace relevance.
Global Understanding (Big Picture)	Several participants "Need to "see the big picture and understand relevance to their role and agency.	Give purpose and context before diving into details; show the big picture.
Reflective / Repetitive Practice for Retention	Bobby: "My way of learning retention is just repertory doing it again and again."	Reinforce key concepts through repetition, spaced learning, and opportunities for reflection.

The evaluation of training outcomes showed that participants observed strong benefits when training content was relevant, interactive, and reinforced after completion. Participants discussed increased self-confidence and skill application when they were able to practice new knowledge immediately in their work setting. Retention outcomes showed that knowledge retention diminishes when training is not reinforced or regularly applied after the training

(Gordon et al., 2021). Participants defined continuous skill use months after training, while others stated the retained information weakened without ongoing opportunities to apply the skills or reexamine the materials. This aligns with research indicating that knowledge retention diminishes when training is not reinforced or regularly applied (Gordon et al., 2021). Participants suggested that ongoing refreshers, job aids, and supervisor engagement could help sustain training impact. These findings indicate that measuring training effectiveness should extend beyond immediate post-training assessments to include follow-up evaluations that capture long-term retention, application, and behavioral change.

The findings were upheld that previous research uncovered that training's impact is diminished in settings lacking leadership involvement and cultural emphasis on knowledge retention and application of skills (Gautam & Basnet, 2020). It was surprising that this theme came up at the state government agency, where participants did not feel that leadership supported training. The literature shows that the application of learning is greatest when training is relevant, timely, and supported by supervisors (Rouiller & Goldstein, 1993). Furthermore, Rouiller and Goldstein (1993) highlighted the value of a positive transfer climate, described by supervisor helpful reminders and feedback for learners to encourage higher concentration of training application and transfer. This cultural barrier was identified at the state government agency, with almost all the participants stating they receive minimal follow-up or encouragement from managers after training. The lack of manager support undermines learner knowledge retention and application of skills, along with time constraints that limit the opportunity for learners to focus on and apply new information learned after training.

Among all nine interviews, participants established that information must be used, or it will be lost. This applied practice is crucial for knowledge retention, and this view matches

decades of research. Baldwin and Ford (1988) hypothesized that learning content is quickly forgotten if the information is not relevant and used immediately. Applied knowledge reinforces memory and retention while increasing the probability of long-term incorporation into workplace behavior. Knowledge retention is supported by repetition and practice, job relevance, frequent use, and follow-up. Table 6 outlines the factors for knowledge retention, with participants' quotes and interviews revealing that effective learning is driven by practical relevance, frequent use, reinforcement tools, and hands-on experience. Skills are better retained when they are used regularly, and learners value post-training resources to continue learning, seek direct relevance to their job for motivation, and benefit most from active, practice-based instruction that supports real-world application.

Table 6

Key Learning Factors and Their Impact on Training Outcomes

Factors for Knowledge Retention	**Quotes**	**Outcomes**
Frequent Use	Sunny, “I use Excel commands weekly to remember.”	Long-term recall
Reinforcement Tools	Greer “I need resources after class.”	Continued learning
Relevance to Work	Jessie “Make it applicable.”	Motivation and use
Hands-on Practice	Mel “Learning through doing.”	Better skill uptake

While formal opportunities exist, perceptions of agency support are mixed due to varying levels of leadership engagement, operational constraints, and limited follow-up or accountability. A stronger, more visible commitment from supervisors and leadership could improve how training is received and applied. Joey feels encouraged by the training team but discouraged by upper management’s attitude and follow-through with supporting training and allowing staff

time to attend training. Bobbie stated, “Training isn’t seen as core to professional identity or day-to-day priorities. Our industry has done the same work for close to one hundred years, but we really have not changed a whole heck of a lot. Polices may be outdated or not enforced consistently, and our processes are outdated. When there’s leadership that supports training, it makes a big difference in how engaged folks are. If they see it as just a checkbox, the motivation drops.” Alex felt that “there needs to be more accountability. If someone retires, who’s supposed to do their job? There’s no process for knowledge transfer.” Joey said, “Sometimes it feels like training is separate from the real work, and that disconnect can make it hard to stay focused or see the value.”

Chiva and Alegre (2021) stressed the essential role of a strong organizational learning culture in leading innovation and overall job performance. The study emphasized that when an agency promotes continuous learning, inspires knowledge sharing, and encourages resourcefulness, the agency enriches learners’ capacity to apply new skills effectively. The findings of this study upheld that supporting and cultivating a healthy agency learning culture can increase the impact of training programs by motivating staff to engage with content and promote improvements on the job and skill application (Lin & Lee, 2017). This association between learning culture and training effectiveness is critical for developing staff capacity and encouraging continuing professional growth within the state agency.

Data from the interviews and focus group, combined with the literature review, theme, and patterns that emerged, showed that there are a variety of improvements that the agency can implement to increase knowledge and learner retention. Greer stated that resources are needed after class to reinforce learning. A strategy to address this need is to standardize post-training materials at the agency. Simple ways to implement this include quick reference guides, slide

decks, recorded sessions, job aids, post-training emails with materials or questions and answers, and centralizing materials in SharePoint or a learning management system. eLearning Industry (2024) claimed that adding reminders, microlearning, quick reference guides, and instruction produces a *reinforcement learning* approach that drives knowledge more intensely. Training summary emails after training can also reinforce learning to include key training highlights, presentations, handouts, resources, and follow-up items.

In summary, while extensive research exists on knowledge retention and skill application in adult learning, few studies address the unique challenges government agencies face in training learners. Literature and this study's findings show that retention declines deeply without reinforcement or immediate job application, and relevance to current work is a main predictor of continued skill use. I developed 18 interview questions aligned with two research questions to gain information about learner experiences at a state government agency. The findings highlight the need for inclusive, multimodal training based on adult learning principles, including self-directed learning, relevance, and practical application. Interview and focus group information showed preferences for hands-on, interactive, visual, multimodal, scenario-based, and reflective learning approaches, with an emphasis on real-world relevance and seeing the *big picture.* Participants reported stronger retention and self-assurance when they could instantly apply new skills, although retention deteriorated without continuing opportunities, refreshers, or supervisory support. The study is consistent with prior research, finding that leadership support and an encouraging transfer climate are vital for sustaining training impact. A lack of supervisor support and follow-up after training and time constraints emerged as cultural barriers to knowledge retention and application of skills, underscoring the need for leadership involvement and long-term evaluation of training outcomes.

Implications and Recommendations of Practice

The following section includes the implications and recommendations of practices. Table 7 displays the implications and recommendations for practices.

Table 7

Implications and Recommendations

RQs	Implications	Recommendation for Practice
RQI: What are learners' experiences regarding knowledge retention and application of skills after attending mandatory training?	A. Use multimodal training designs that address diverse learning styles to enhance engagement and support varied learner needs.	**Agency Instructional Designers should:** 1. Create and implement multimodal design techniques that cater to different learning styles, incorporating visual, auditory, kinesthetic, and scenario-based learning.
	B. Knowledge retention and impact improve when learners receive timely reinforcement, access to take-away resources, and opportunities to apply skills on the job.	2. Design training curriculum using appropriate strategies designed to increase knowledge retention and skill application.
	C. Leadership support and a positive organizational culture enhance learner knowledge retention and application of skills by increasing learner confidence, engagement, and the application of new skills.	3. Train supervisors to reinforce learning through check-ins, feedback, and encouragement; showcase success stories of skill application.
RQ2: What improvements do learners suggest would increase their motivation to apply new knowledge and skills after attending mandatory training?	D. Training is most effective when content is job-relevant and reinforced by a supportive organizational learning culture, enhancing engagement, retention, and skill application.	4. Tailor training to job-specific roles and foster a supportive learning culture through leadership, communication, structured skill application, supervisor reinforcement, and communities of practice.

Figure 2

Malcom Knowles Adult Learning Theory

Note. Adapted from "Adult Learning Theory" by CFI Team, 2025, Corporate Finance Institute.

RQ1 Implication A

Implication A for the research question: What are learners' experiences regarding knowledge retention and application of skills after attending mandatory training? The focus for implication A is to understand the different modalities that are needed for mandatory training to support diverse learning needs. The recommendation for practice under this implication highlights that multimodal design acknowledges that learners have different preferences for processing information. Learners benefit from varied instructional activities, strategies, and pathways that help them understand new information, practice skills, and strengthen comprehension. Blended learning formats can therefore help the state government agency learners obtain, retain, and apply training knowledge

Recommendation 1. The first recommendation for practice is that training at the state government agency needs to have a multimodal design that is catered to different learning styles to support diverse learning needs, which incorporates visual, auditory, kinesthetic, and scenario-

based modalities. Instructional Designers need to develop training using a combination of visual, auditory, kinesthetic, and scenario-based methods with both in-person and virtual formats to include visual diagrams, maps, videos, auditory lectures, discussions, instructor-led instruction, kinesthetic hands-on learning, scenario-based case studies, role playing, and real-world examples. Providing learners with choices, reinforcing knowledge through practice and feedback, and evaluating outcomes ensure training remains relevant and accessible to all learning styles.

RQ1 Implication B

The second implication for research question 1 is that knowledge retention and impact improve with timely reinforcement, access, and application. Implication B emphasizes that knowledge retention and impact improve when learners receive timely reinforcement, resources, and opportunities for application. The recommendation for practice under this implication stems from participants' consistent reports that the training value diminishes rapidly when there is a long delay before applying new information. This gap can be addressed by providing learners with accessible take-away resources after training and scheduling reinforcement activities. Encouragement and practice opportunities increase knowledge retention and skill application.

Recommendation 2. The second recommendation for practices is that multimodal instruction encourages knowledge retention by engaging multiple senses while allowing for learning flexibility. To strengthen knowledge retention and skill application, the state government agency should adopt a comprehensive reinforcement strategy that integrates multimodal instruction, accessible resources, refresher opportunities, timely reinforcement activities, and structured on-the-job practice. Multimodal training engages multiple senses and accommodates diverse learning preferences, while take-away resources such as handouts, job

aids, and digital modules allow learners to revisit material as needed. Scheduled refresher sessions and microlearning activities delivered shortly after training and at planned intervals will reinforce key concepts. Spaced repetition and structured practice opportunities, such as mentoring, job shadowing, and scenario-based exercises, will help embed learning into daily work tasks and counteract natural memory decline. By integrating these strategies, the state government agency can ensure that training is a continuous process that promotes engagement, long-term retention, and effective application of skills in the workplace.

RQ1 Implication C

Implication C for research question 1 is that leadership and organizational culture influence learner knowledge retention and application of skills. Implication C highlights that leadership support and organizational culture significantly influence learner knowledge retention and application of skills. A supportive and inclusive environment is vital for effective learning. Similarly, participants in this study noted that supervisor encouragement at the state government agency is currently limited, but they felt that manager support is essential for ensuring training *sticks*. When learners perceive support from their supervisors, they gain greater confidence and are more likely to apply new skills. the state government agency needs to change the learning culture to ensure managers endorse and support training, as this will help develop a positive organizational climate, which is central to knowledge retention and skill application.

Recommendation 3. The state government agency needs to develop a training program to train supervisors to reinforce learning through regular check-ins, timely feedback, and consistent encouragement. Supervisors play a key role in ensuring that training translates into enhanced job performance and skill development in the workplace. Reinforcement can occur through structured post-training conversations in which supervisors and learners review learning

outcomes, challenges, and next steps for skill application. Timely and constructive feedback helps prevent misunderstandings while strengthening new competencies. Additionally, supervisors should motivate learners by recognizing progress and highlighting success stories of skill application. Sharing examples through team meetings, newsletters, or internal communications can promote a stronger learning culture across the organization. To be effective, supervisors must be prepared with the necessary skills and tools to provide this ongoing reinforcement, thereby supporting learner development, knowledge retention, and skill application.

RQ2 Implication D

Implication D for research question 2 is that learners are more motivated to learn, retain knowledge, and apply skills when training content is directly relevant to their daily job duties and when training is supported by a strong organizational learning culture. Relevance guarantees learners see immediate value in training, which increases engagement, motivation, and the probability of skill application. At the same time, a supportive learning culture distinguished by leadership involvement, supervisor reinforcement, and opportunities for collaboration sustains long-term retention and embeds training into workplace practices. Without these two elements, training impact diminishes, as learners perceive less value and lack the encouragement needed to transfer learning to the job.

Recommendation 4. The state government agency should design training that combines role-specific relevance with supervisor reinforcement. Training materials should be tailored to reflect real-world tasks through case studies, simulations, and field-based activities drawn from actual state government agency projects. At the same time, supervisors should be trained to reinforce learning through structured check-ins, feedback, and recognition of successful skill

application. To strengthen agency-wide learning culture, the state government agency should establish communities of practice and communication channels where learners share knowledge and examples of applying new skills. Integrating customized, relevant training content with organizational support will maximize motivation, knowledge retention, and long-term knowledge retention and skill application.

Recommendations for Future Research

It is important for researchers to investigate different methodologies to gain a broad understanding of the multifaceted educational needs at the state government agency. As the training and development program at the state government agency continues to develop and grow, recognizing diverse research designs can explain different aspects of learners' experiences, perceptions, and learning outcomes. Each design suggests distinct benefits in focusing on different purposes to generate a better understanding of the learners' experiences in training at the state government agency. Researchers can contribute to the body of knowledge that explores best practices and effective training practices by exploring these methodologies. The table below summarizes three recommended methodologies for future research, including a qualitative multiple case study, a quantitative correlational design, and a qualitative ethnography. The table outlines the methodology, design, and purpose for future research, and the recommendations for future research provide a defined framework.

Table 8

Recommendations for Future Research

Methodology	Design	Purpose
Qualitative	Multiple Case Study	The purpose of this study is for a researcher to use semi-structured interviews and a focus group to analyze how training influences job performance, knowledge retention, and learners across similar agencies in the United States.
Quantitative	Correlational Design	The purpose of this study is for a researcher to examine the relationship between the number of hours spent in a specific training and the post-training test scores.
Qualitative	Ethnography	The purpose of this study is to provide a detailed account of how a training program is experienced by participants within their natural environment, uncovering insights and observing interactions following mandatory safety training.

The first recommendation for future research is for a researcher to conduct a qualitative multiple-case study. The purpose of this qualitative study is for a researcher to explore how training influences job performance, knowledge retention, and learner development across similar state government agencies in the United States. Semi-structured interviews and focus groups will be conducted with similar state government agency learners from different states to portray their perceptions and experiences with training. The data will be analyzed using thematic

analysis to identify common themes related to the effectiveness, application, and long-term impact of training initiatives. The findings of this study are intended to offer insights that can inform the design of more effective training programs, enhance workforce development, and support organizational performance within state government transportation agencies. Although government agencies invest significant resources in learner training, limited research has examined how these programs influence long-term job performance, knowledge retention, and learner development.

Existing studies on workplace learning often focus on private sector organizations, leaving a gap in understanding the unique challenges faced by public sector agencies, such as resource constraints, high workloads, and diverse workforce needs. Without a deeper understanding of how training is experienced and applied within similar state government agencies, agencies risk developing programs that fail to translate into sustained skill use, improved performance, or learner growth. This problem emphasizes the need for a researcher to explore how training impacts similar state government agency learners' performance and knowledge retention, and to find strategies for strengthening training value across transportation agencies.

The second future research recommendation is for a researcher to lead a quantitative correlational study to examine the relationship between the number of hours learners spend in a specific training program and their post-training test scores. By examining training participation data and assessment outcomes, this study strives to ascertain whether a strong relationship exists between training time and performance on post-training evaluations. Although organizations invest considerable time and resources into learner training, it is unclear whether the number of training hours is directly related to improved learning outcomes.

Many training programs are planned with the theory that increased instructional time leads to greater knowledge retention, skill application and stronger performance. However, first-hand evidence has been mixed, with some findings showing lessening benefits after a specific number of hours or discovering that other aspects, such as training design and learner engagement, play a bigger part in post-training success. Within state government agencies, training investments are mainly studied because of limited resources and accountability demands. The problem is that little is known about whether the number of hours spent in training significantly correlates with post-training test scores in this context. Without this information, agencies risk assigning funds wastefully by emphasizing training time rather than effectiveness.

The third potential research recommendation is for a researcher to complete a qualitative methodology with an ethnographic design. The purpose of this ethnographic qualitative study is to provide a detailed account of how participants experience a training program within their natural work environment. This ethnographic study should take a modern approach using anthropological methods to understand learners' behavior, organizational culture, and the impact of workplace culture, following learners in their natural work setting to gain insights into unwritten rules, valued interactions, and how culture is lived within the state government agency. Specifically, the study observes participants' perceptions, interactions, and engagement with training content, as well as related aspects that impact the application of safety knowledge.

Conclusions

The findings underscore the complex interaction between instructor, learner preferences, organizational support, and practical application in shaping the overall effectiveness of mandatory training programs. Tailoring training delivery to integrate diverse formats and engaging content, combined with cultivating a supportive culture that encourages skill

application and reinforcement, can substantially improve learner development outcomes within state agencies. By delivering training through a mix of formats, engaging content, and fostering a supportive environment that encourages application and reinforcement, state government agencies can significantly enhance learner development outcomes.

The results from learner interviews revealed several key themes related to training preferences, experiences, and instructional effectiveness. Participants emphasized a strong preference for in-person learning, particularly when the content was complex, interactive, or required real-time engagement. While flexibility was valued, virtual and asynchronous formats were often seen as less effective unless thoughtfully designed and relevant to daily job tasks. Many learners highlighted the importance of hands-on practice and real-world application in retaining and using new skills. Training that lacked immediate relevance or follow-up resources was often forgotten or underutilized.

Additionally, perceptions of the agency's learning culture varied; some learners described leadership support for development, while others experienced limited encouragement or time to pursue training. These insights suggest that agency training programs should prioritize multimodal, applied, and learner-centered approaches that align with adult learning theory and avoid reliance on outdated learning styles myths. Overall, effective learning at the agency appears to depend on practical relevance, reinforcement, and supportive organizational context.

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Appendix A:

National University Institutional Review Board Approval Letter

9388 Lightwave Ave.
San Diego, CA 92123
irb@nu.edu

Notice of Exemption

May 15, 2025

To: Kathleen Sisson

Project Title: Experiences of Learners Regarding Knowledge Retention at a Government Agency in Rhode Island: An Exploratory Case Study
NU IRB Number: IRB-FY24-25-872
Determination: Exempt from further review 45 CFR 46.101 Category 2.(ii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or

Status: Active - Research activities may begin as of May 15, 2025

Appendix B:

Site Permission Letter

National University IRB
9338 Lightwave Ave., San Diego, CA 92123
irb@nu.edu

Date: April 9, 2025

To [redacted], Director [redacted],

As the Director of Educational Advancement, I am responsible for developing, implementing, and measuring learning and development at the [redacted] RIDOT). The problem to be addressed in this study is many learners do not retain the knowledge or apply the skills they have learned after attending mandatory training.

I am an EdD Candidate at the National University and am working on my dissertation to gain a deeper understanding of training at [redacted] I will conduct an interview and focus group at [redacted] to investigate the experiences of [redacted] learners The interview and focus group will be strictly confidential via Zoom. Eight to twelve learners will participate in the interview, which should take about one hour. The focus group will include a smaller subset of learners, which will include four to six learners and will take about ninety minutes to conduct. I am requesting permission from [redacted] to conduct the interview and focus group for this study.

I will recruit participants who meet all the following criteria:

- Current [redacted] employee who has worked at [redacted] for at least six months
- Must have attended at least 2 [redacted] trainings
- Participants will represent different sections and units across [redacted]

I am requesting permission to do the following at [redacted]:

- Send a recruitment email out to learners
- Speak with learners
- Conduct an interview and focus group

If you have questions or would like to discuss this request in more detail, please reach out to me at 401-644-4681 or K.Sisson6005@o365.ncu.edu.

I appreciate your consideration.
Kathleen Sisson
EdD Candidate
401-644-4671
K.Sisson6005@o365.ncu.edu

Appendix C:

Approval Response Letter

Date: April 9, 2025

To the National University Institutional Review Board,

My name is [redacted] I am the Director [redacted] at the [redacted]

I have reviewed Kathleen Sisson's study, and I understand that they are recruiting participants who meet all the following criteria:

- Current [redacted] employee who has worked at [redacted] for at least six months
- Must have attended at least 2 [redacted] trainings
- Participants will be selected from different sections and units across [redacted]

I grant permission to Kathleen Sisson to do the following:

- Send a voluntary participation email out to employees
- Speak with employees
- Conduct an interview and focus group

If you have questions and would like to reach me, please do so at 401.[redacted]

Thank you for your time,

[redacted]

[redacted]
Director, [redacted]
[redacted]
[redacted]
Office - 4[redacted]ll – 4[redacted]

Appendix D:

Recruitment Email

National University IRB
9338 Lightwave Ave., San Diego, CA 92123
irb@nu.edu

My name is Kathleen Sisson, and I am a doctoral candidate at National University. I am conducting a research study to better understand learner training perceptions and experiences at [redacted].

I am recruiting participants who meet all of these criteria:

- Participants must be current [redacted] employees
- Participants have worked at [redacted] T for at least six months
- Have attended at least 2 [redacted] mandatory trainings

If you decide to participate in this study, you will be asked to do the following activities:

1. Participate in an online interview over Zoom for 1 hour
2. Review interview transcript via email for 10-15 minutes
3. Participate in a 60 to 90-minute focus group via Zoom. 4-6 interview participants will volunteer to participate in the focus group.
4. Review a transcript of the focus group sent to you via email (estimated time: 10–15 minutes).

During these activities, you will be asked questions about:

- Training at [redacted]
- Your experiences and perceptions about training at [redacted]
- Suggestions for improvements for training at [redacted]

If you are interested in volunteering as a participant in this study, please email me at K.Sisson6005@o365.ncu.edu.

Thank you for considering participating in this voluntary research!

Kathleen Sisson

Appendix E:

Volunteer Participation Flyer

Searching for [redacted] Employees to Participate in National University Doctoral Study:

Study Purpose: The purpose of this qualitative exploratory case study is to explore [redacted]arners' experiences regarding knowledge retention, application of skills, and what suggestions learners have for improving mandatory trainings.

You are eligible for this study if you meet all of the following criteria:

1. Participants must be curren[redacted]employees
2. Participants have worked at[redacted]for at least six months
3. Have attended at least 2 [redacted]andatory trainings

In this study, participants will:

- Be a current [redacted]mployee
- Worked at [redacted] at least six months
- Attended at least 2 [redacted]andatory trainings

National UNIVERSITY

Participants will be asked questions about:

- Training at [redacted]
- Your experiences and perceptions about training [redacted]
- Suggestions for improvements for training [redacted]

To volunteer as a participant in this study, please contact:

Kathleen Sisson, Doctoral Candidate, National University

K.Sisson6005@O365.ncu.edu

Appendix F:

Consent Form

My name is Kathleen Sisson, and I am a doctoral candidate at National University (NU).

I'm asking you to take part in a research study about the experiences of learners at a government agency in Rhode Island. The name of this research study is Experiences of Learners Regarding Knowledge Retention at a Government Agency in Rhode Island: An Exploratory Case Study

You may participate in this research if you meet the following criteria:

1. You are an employee at the [redacted]
2. You have attended a minimum of two mandatory trainings at [redacted]
3. You have been employed at [redacted] for a minimum of 6 months.

Participant Invitation:
I am seeking to include approximately 10–12 volunteers in this research study. Please read this form carefully and feel free to ask any questions before deciding whether to participate.

What You Will Be Asked to Do:
If you agree to take part in this study, you will be asked to complete the following:

1. Participate in a 60-minute online interview via Zoom.
2. Review a transcript of the interview sent to you via email (estimated time: 10–15 minutes).
3. Participate in a 60 to 90-minute focus group via Zoom. 4-6 interview participants will volunteer to participate in the focus group.
4. Review a transcript of the focus group sent to you via email (estimated time: 10–15 minutes).

During the interview and focus group, you will be asked questions about:

- Your training experiences as an employee at [redacted]
- Your suggestions for improving current training programs.

Risks:
There are no anticipated risks or discomforts associated with your participation. You may skip any question, decline any activity, or withdraw from the study at any time without penalty.

Benefits:
There are no direct benefits to you for participating. However, your insights may contribute to a better understanding and potential improvement of training practices at [redacted].

Appendix G:

Interview Protocol and Interview Questions

Good morning! Thank you for joining me via Zoom today to provide insights and experiences regarding training at [redacted]. My name is Kathleen Sisson, and I will facilitate this interview. I have invited you to this interview as you all work in different sections within RIDOT, have attended at least two training sessions, and have been employed at [redacted] for at least 6 months. This interview aims to ask a series of questions to learn about the experiences and insights of training at [redacted]. The interview will last for approximately 60 minutes. As the informed consent form mentions, this discussion will be recorded to ensure we capture everything accurately. The Zoom recording will be password-protected; all transcripts will use pseudonyms to maintain privacy. Please close any other windows or programs on your computer to minimize distractions.

Before we begin, is anyone not permitted to record audio and video? [Wait for response.]
Does anyone have any concerns about the recording? [Wait for response.]
Please remember that participation is entirely voluntary. Participants are welcome to skip any question or leave the Zoom room anytime for any reason.
Does anyone have any questions before we get started? [Wait for participant questions.]
If there are no questions, I will start the recording now. [Start the recording.]

Interview Questions

1. What is your current role at [redacted]? How long have you worked at [redacted]?
2. Please describe your experience with training at [redacted]. Tell me about the last two trainings you attended.
3. Can you describe a memorable training you participated in at [redacted]?
4. What types of training have you found most effective for your learning style?
5. How has a specific training helped you improve your performance or advance in your position at [redacted]
6. Can you give an example of how you applied something you learned in training to your actual work?
7. How do you measure the success of training?
8. What factors contribute to knowledge retention among learners following mandatory training programs?
9. Do you prefer in-person, online, or hybrid training? Why?
10. How do you usually stay up to date with skills relevant to your role?
11. What skills are you currently trying to develop?
12. How would you describe the learning culture at your organization?
13. Do you feel encouraged to pursue learning opportunities? Why or why not?
14. What could be improved in your current or past training programs?
15. What improvements can help with training?
16. Are there any training opportunities you wish were available to you?
17. What would make training more engaging?
18. What improvements would help with knowledge retention and skill application?

Appendix H:

Focus Group Protocol and Focus Group Prompts

National University IRB
9338 Lightwave Ave., San Diego, CA 92123
irb@nu.edu

Good morning! Thank you for joining me via Zoom today to provide your insights, and experiences regarding training at [redacted]. My name is Kathleen Sisson, and I will be the facilitator for this focus group.

I have invited participants to this focus group as you have volunteered to join a smaller sub-group from the interview to take a deeper dive to learn more about leaners' thoughts about training at [redacted].

Participants all work in different sections within [redacted], have attended at least two training, and have been employed at [redacted] for at least 6 months. This focus group aims to discuss training at [redacted] to learn more about learner experiences and insights of training.

We want to hear from folks about what worked well in recent training, what could have been improved, what did not work well, and what overall thoughts folks have on training at [redacted].

The focus group will last for approximately 90 minutes. As the informed consent form mentions, this discussion will be recorded to ensure we capture everything accurately. The Zoom recording will be password-protected; all transcripts will use pseudonyms to maintain privacy.

Please close any other windows or programs on your computer to minimize distractions. Before we begin, is everyone permitted to record audio and video? [Wait for response.]

Does anyone have any concerns about the recording? [Wait for response.]

Thank you for participating in the interview today! This group provided great information. If you have any questions about your participation today, please reach out to me at any time. The following steps include transcribing the audio recording.

After the transcription is complete, I will email a copy to all participants for review. Once reviewed, if needed, edits will be made to ensure the transcription is accurate [Stop the recording.]

Focus Group Prompts

Opening

1. To begin, we will introduce the group and describe experiences in training at [redacted] [Listen to introduction and explanations].

2. Tell me about your positive and/or negative experiences with training at [redacted]. [Listen to explanations]. Discuss convergent and divergent viewpoints. [Listen to explanations].

3. What was the best training you attended at [redacted] and why? [Listen to explanations].

4. Tell me what you would like to see change in [redacted] training. [Listen to explanations].

Closing

Now that we are reaching the end of our time, does anyone have any other comments, concerns, or questions? [Wait for responses.]

Thank you for participating in the focus group today! This group provided great information. If you have any questions about your participation today, please reach out to me at any time. The following steps include transcribing the audio recording. After the transcription is complete, I will email a copy to all participants for review. Once reviewed, if needed, edits will be made to ensure the transcription is accurate [Stop the recording.]

Appendix I:

National University Institutional Review Board Closure Letter

National University

9338 Lightwave Ave., San Diego, CA 92123
irb@nu.edu

Notice of Protocol Closure

September 2, 2025

To: Kathleen Sisson

Project Title: Experiences of Learners Regarding Knowledge Retention at a Government Agency in Rhode Island: An Exploratory Case Study

NU IRB Number: IRB-FY24-25-872

Status: Closed as of September 2, 2025

Dear Kathleen Sisson:
Thank you for your submission of materials for this research study. The National University Institutional Review Board has CLOSED your project. **You must adhere to the following conditions:**

Once a study has been officially closed via a Request to Close Study, it cannot be re-opened.

1. If a later use for the research data is identified, you must submit a new research proposal for the use of the previously collected data.
2. The later use of the data may qualify for an exemption, if the existing data is recorded without identifiers; however, you must submit a new research proposal prior to using the data.
3. You will maintain the confidentiality of all data collected and will adhere to the federal policy of storing all data and consent documents in a secured environment for a minimum of 3 years.

If you have any questions, you may contact the IRB at irb@nu.edu. Please include your study title and reference number in all correspondence with this office.

Sincerely,

Dr. Joseph Marron, IRB Chair

Dr. Brianne Mongeon, Director, HRPP & IRB

Jenessa Eberhardt, Associate Director, HRPP & IRB