

Theory of Learning by Doing

Darrah-Helena Lobo

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Valdosta State University

Dr. James L. Zink

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Author Note

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Learning by Doing

Learning occurs regardless of our intentions to teach or not, a reality most evident when adults are asked to perform tasks rather than merely listen. The educational philosophy outlined in the preceding section was based on the premise that access to learning must be established before growth can be fostered. So what happens once someone actually walks through that door? In government and military settings, in particular, training often measures success in ways that exclude important context. Yes, the module gets finished, and reports get filed. The boxes get checked, and it is treated as if real learning happened, even when it did not. Completion and comprehension are different things, and the theories in this section are built around that gap. Learning by doing treats creativity and critical thinking as part of the skill itself. They are not an extra step tacked onto the end.

Kolb's Experiential Learning Cycle

Kolb's experiential learning cycle is one of the better explanations for why actually doing something changes a person in a way that just hearing about it never quite does. He broke it into four stages: do something, reflect on what happened, figure out what it means, and try it again differently next time (Bierema et al., 2025). None of those stages work alone. A person who has an experience and never thinks it through has not really learned anything from it. A person who only reflects, without ever testing that thinking against a new situation, is still just theorizing. It takes going through the whole loop, more than once, before anything changes.

This is exactly what military and government exercises are built around, and the reason is simple: you cannot create war to practice for it. Large-scale exercises, inspection cycles, and readiness evaluations exist to give service members and civilians the closest available substitute for real-world conditions. Take a Contingency Contracting Officer (CCO). Their job is to get

whatever a mission needs, and they usually must do it quickly, without all the information they would want or the systems and support they might normally have at their home station (Defense Procurement and Acquisition Policy, 2017). A recent CCO exercise brought in a local Army installation specifically to recreate that pressure, so the training felt less like a classroom exercise and more like the stress of an actual deployment. The concrete experience of the exercise itself, the after-action discussion that follows, the lessons that get folded into standard procedure or into the next iteration of the exercise, and the return to practice all trace Kolb's cycle well. Some lessons become permanent changes to procedure. Others become the reason the same exercise is run again the following year, adjusted to correct what failed the first time.

Designing that exercise meant thinking beyond contracting itself. Contingency contracting rarely happens in a controlled office, so the exercise had to include what a bare-base deployment looks like: setting up a tent, getting a generator running, addressing heat safety, and working as a team under unfamiliar conditions. That is not contracting content—not in the traditional sense—but it is absolutely part of the job once the mission moves out of a seventy-degree, air-conditioned office. That was not an accident. The contracting simulation alone would not have prepared anyone for the actual job, so the real conditions had to be built in on purpose. Concrete experience teaches only what is actually included.

A separate training focused on travel documentation reflects the same principle from a different angle. Government travel card compliance and Joint Travel Regulation (JTR) requirements are not intuitive, and members who travel infrequently get few chances to practice the process before they need it, with a delinquent card or lack of payment as real consequences of getting it wrong (Defense Travel Management Office, 2022, 2026). Using Enterprise Web Training System (EWTS), a mock version of the Defense Travel System with no real

consequences attached, members could practice building travel documents before anything was riding on getting it right. Neither example was really about the paperwork itself. Both were about giving someone a safe place to make mistakes before real-world consequences happened.

This shows up outside contracting too. Communications squadrons conduct readiness inspections to assess how the entire base responds when normal systems go down. Not just the people whose job titles have "communications" in them—everyone. Most people on base depend on those systems every day and never think twice about them until they are gone. That is the same thing said earlier in this paper. Learning happens whether anyone means it to or not. An exercise built to test one squadron ends up teaching the whole base what to do when the tools they normally use stop working (Johnson, 2019).

Argyris and Schön: Espoused Theory and Theory-in-Use

Chris Argyris and Donald Schön talked about a gap most people do not notice in themselves. Someone might say they believe in clear communication and think they are good at it; that is their espoused theory. But what they actually do once things get messy is their theory-in-use, and it does not always match (Bierema et al., 2025). Most people never notice that gap exists until life forces it out into the open. Schön also described reflection-in-action and reflection-on-action. One means adjusting your thinking while you are still doing the thing. The other means only figuring it out afterward, once it is already over. None of this can just be told to someone. A person can insist all day that they communicate clearly. They do not find out whether that is true until they are standing in front of someone who has only half the information they need.

A training session built around giving clear directions deliberately relied on this exact gap. Small groups worked through vague task descriptions in rounds, with the number of

clarifying questions each group was allowed to ask deliberately reduced each time, so that participants who walked in confident their instructions were clear discovered otherwise once the room stopped answering questions. The whole idea came from something you have probably seen online, a video of a dad trying to make a peanut butter sandwich using only his daughter's directions. Her instructions seem completely clear when she gives them. He still messes it up almost every step of the way, because what is obvious to her is not obvious to him at all (Jubas et al., 2021). That is basically the exercise. Information disappeared bit by bit as the exercise went on. That was on purpose. It is the only way to see the gap between what someone thinks they are communicating and what actually lands. You do not see that gap when everything is handed to someone all at once. You see it once things start getting taken away.

The Air Force Negotiation Center's training on conflict management is built on the same premise, just at a larger scale. Leaders are rarely given the chance to practice managing conflict until conflict has already become disruptive enough to demand attention, by which point the cost has already been paid (Firman, 2023). Firman points to research showing U.S. employees lose more than four hours a week dealing with conflict that never got resolved. Add that up across the country, and it is hundreds of billions of dollars in lost productivity. A recent negotiation course put people through the same scenario in three ways: once as the supervisor, once as the employee, and once as the mediator. Each player received only a small part of the total knowledge from a single perspective. Going through all three roles made one thing obvious: the thing driving one person's side of an argument rarely matches what drives the other person's, even though they are both stuck in the exact same conflict. Firman's own conclusion is that leaders can gain real skill managing conflict through training and practice, not just instinct. Honestly, that is the same thing this whole section keeps circling back to. Someone can say they

are a good listener who catches conflict early. Whether that is true only shows up once things get tense, and practice is usually the only way anyone finds out. You still cannot create war just to practice for it.

Situated Cognition and Communities of Practice

Situated cognition's core principle is that learning cannot be separated from the context in which it takes place. Learners' retention is shaped by the available tools, the language used, and the people present (Bierema et al., 2025). Jean Lave's grocery store study remains one of the clearest demonstrations of this. Adults solving math problems with physical objects in front of them inside the store answered correctly most often. The same adults, given the same problems on paper afterward, missed far more of them. Wenger later extended this line of thinking through the concept of communities of practice. Mastery, in his framework, does not belong to any single expert. It is held collectively by the group, and a newcomer gradually absorbs it through language and unspoken norms picked up simply by being present in that community over time.

A training session built around Spoon Theory, Christine Miserandino's framework for explaining the limited energy available to someone managing chronic illness or a heavy cognitive load, demonstrated this same principle in practice (Miserandino, 2003). A prepared slide deck failed early in the session due to a technology problem. The class was left with an open conversation, which had a much greater impact than the planned instruction. The insight the training was meant to produce came from the participants themselves. Describing their own experiences to one another, the group arrived at the central idea on its own: what restores one person can genuinely exhaust another. No one delivered that conclusion from the front of the room. This was not just a byproduct of the technology failure. Choosing to facilitate it that way was deliberate. Situated cognition holds that mastery lies within the group itself, so the

facilitator's job is to create the conditions for that kind of discovery instead of just handing over the answer.

Long before any of this, there was a much quieter version of the same pattern. Working as a lead teacher in preschool and school-age classrooms meant more than teaching the children in the room. It also meant shaping learning experiences for the assistant teachers, who were working toward their Child Development Associate credential at the same time. This nationally recognized early childhood qualification requires candidates to build a professional portfolio grounded in direct classroom practice (Council for Professional Recognition, n.d.). Teachers modeled activities for children while using their observations of those same children to satisfy the requirements of their own credentialing process, guided in turn by classroom environments shaped by standards set by organizations such as the National Association for the Education of Young Children (National Association for the Education of Young Children, 2022). Mastery in that classroom shifted and took several forms depending on the perspective. The lead teacher shaped things for the assistant teachers. The assistant teachers shaped things for the children. Every so often, something a child needed taught the teacher something about that child's family, and that changed how the next day got handled. Everybody in that room was teaching and being taught at the same time. Most days, nobody would have called it that.

Connecting Learning by Doing with Practice

Theory only matters because of its impact on practice. Kolb, Argyris and Schön, and situated cognition each appear in real decisions about how training is designed. They show up in who ends up in the room. They even show up in what happens after the exercise concludes. The rest of this section walks through how that plays out across fields unrelated to any one job title.

You Cannot Create War to Practice It

There is a phrase you hear often in military and government circles: you cannot create war to practice for it. That is why simulated exercises, readiness inspections, and scenario-based training exist. Contingency contracting exercises, communications squadron readiness inspections, and Air Force Negotiation Center training all do the same thing, even though they operate in completely different career fields. Each one creates pressure that cannot really be manufactured any other way. Conflict, uncertainty, whatever the case calls for, it gets built into the scenario on purpose. That way, the people who ultimately handle the real version have already been through something similar (Defense Procurement and Acquisition Policy, 2017; Firman, 2023; Johnson, 2019). This kind of training is not tied to one mission or one base. You will find it anywhere the cost of a first mistake is too high to let it happen for the first time out in the real world.

Designing the Practice for Who Is in the Room

Designing an experience for hands-on learning is not finished once the activity itself is built. It also requires paying attention to who can actually access it. A training on Operations Security once used a deduction exercise modeled on elementary school logic puzzles, the familiar format in which one person wears a red shirt, another does not wear orange, and the group has to reason its way to the answer using only partial information. Several neurodivergent participants said the word-based version of the puzzle was harder for them to process than the underlying logic itself. The same exercise was rebuilt using a numbers-based, Sudoku-style format and offered as a parallel option. Participants could choose the version that matched how they process information, while the skill being practiced, drawing a conclusion from incomplete information, stayed the same.

That kind of in-the-moment redesign is precisely what Universal Design for Learning describes on a larger scale, and it is also the area that a recent integrative review found underdeveloped specifically in workplace training. Education as a field has made real progress applying Universal Design for Learning in classrooms. Workplace training has not kept up in the same way. A recent integrative review found that organizations have been slow to adopt those same principles for employees with learning disabilities (Gulseren et al., 2024). A federal report released earlier this year backs this up from a different angle. It found that federally funded job training programs often do not track how well they accommodate participants with disabilities. That accessibility tends to break down most in training outside a regular classroom, which covers most hands-on and field-based training (Government Accountability Office, 2026). The sudoku redesign was one small decision made by one instructor in the moment. The problem it addresses is much bigger than any single classroom or training session.

The Pattern Holds Outside the Training Room

If learning by doing were only a convenient philosophy for military and government training, it would be a much weaker argument. The same underlying idea appears in fields unrelated to either. Progressive approaches to adult environmental education make the same case in a completely different setting. These programs lean on hands-on problem-solving. They treat the body and direct experience as central to how people actually absorb material, not lecture-based instruction (Walter, 2021). The setting could not be more different, campgrounds and nature centers instead of deployed environments or negotiation rooms. The underlying commitment is identical to everything else in this component: people understand things by doing them, and telling someone about something only gets you so far.

Contracting policy offers a parallel from the opposite direction. Other Transaction Agreements exist within the Department of Defense specifically because standard, checklist-driven procurement regulations leave little room for creative or flexible problem-solving when an agency needs to reach nontraditional, innovative contractors quickly (Almonte, 2019). The same tension that shows up in a training room—compliance without creativity producing motion without progress—shows up in the structure of acquisition policy itself. Practice creates the space to think creatively rather than follow a checklist, whether that practice occurs in a simulated exercise or in the slow evolution of the regulations that govern an entire acquisition system.

Practice is what creates room to actually think, instead of just following a checklist. That holds whether it is happening in a simulated exercise or in the way acquisition regulations have slowly changed over time. Put all of this together, and it comes back to one thing. Opening the door, which was the whole point of the previous component, is only the beginning of an educator's job. What happens once someone is in the room matters just as much. Training that only asks someone to comply, check a box, or finish a module does not leave much behind once the situation gets real and unscripted. Training that asks someone to actually try something, fail at it in a safe environment, and reflect on what just happened builds judgment that still holds up when the stakes are no longer simulated.

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