From Theory to Practice

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Author Note

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From Theory to Practice

Every adult learner will eventually complete a task with little to no timely or available guidance. Some learners manage this easily by setting goals, organizing their work, and making steady progress. Others are equally capable of completing the task but may need an environment that helps them bridge the gap between their available energy and the demands placed on them. Structure alone rarely explains why some adult learners follow through on independent work while others get stuck before finishing. The first part is explained by self-directed learning, which describes how a learner plans, manages, and evaluates their own progress. Self-determination theory accounts for the second half, describing the psychological conditions that keep a learner engaged in that process once it is in place. Neither theory, read alone, fully explains what makes independent learning succeed.

This tension is not new to this component. Military and government training has repeatedly assumed that learners will manage their own progress once instruction ends, the same assumption that surfaced in the compliance-versus-creativity problem discussed in the previous component. Little in the design of training geared toward compliance accounts for what happens when a learner's progress is interrupted, delayed, or redirected entirely because of life or another aspect of the mission. A learner who looks unmotivated in that gap is often not lacking drive; the conditions around them are not built to catch it. Self-directed learning and self-determination theory pick up that same thread. Treated separately, structure and motivation look like two different problems. Treated together, they explain a single one.

Self-Directed Learning

Theoretical Foundations

Knowles' second step in his model of self-direction may be his most imperative to learning success. This does not discredit the other five steps: establishing the environment, setting goals, finding resources, applying strategies, and reviewing results (Bierema et al., 2025). However, assessing needs is not really the point; deciding who does the assessing is. Earlier models handed that job to instructors, teachers, or curriculum designers. Knowles argued that the individual with the need, the learner, is best suited to evaluate it. This claim traces back to andragogy's broader assumption that adults already have the capacity to recognize their own gaps, particularly when someone helps guide that recognition. Every assessment carries the bias of whoever is doing it. Someone standing outside a problem cannot fully understand what it feels like to be inside it. Learners given real flexibility in how they pursue a goal are the ones actually inside that problem, which is exactly why they are best positioned to navigate their way through it.

Knowles never said self-direction was automatic once responsibility shifted to the learner. Other researchers spent the decades after Knowles' original observations testing his assumptions, and they did not fully hold up. Garrison (1997) complicated the idea of self-direction by showing that setting a goal is not enough to carry a learner through a task. That includes managing the task itself and staying motivated enough to see it through. How much each of those pieces matters shifts depending on the task and the learner's capacity in the moment (as cited in Bierema et al., 2025). That aligns with something I have seen repeatedly in military training: what is supposed to work on paper and what actually works once you are in it are two different things. A Technical Order (TO) specifies exactly how a task is supposed to be performed. However, it does not always account for resource availability, personal stress and capacity, or the speed at which decision-making must occur in an operational environment. The

result is learners who can pass the test and technically meet the requirements for mastery but are unable to accomplish the tasks in real-world action. Aulakh et al. (2025) found in their meta-analysis that self-directed learning generally outperformed traditional instruction in medical education, though most of that advantage showed up in theoretical knowledge. Hands-on skills improved less, which suggests learning material and applying it in practice may need different kinds of support. Carrying this further, we conclude that learners arrive at self-directedness in different ways and at different stages and phases (Grow, 1991, 1994, as cited in Bierema et al., 2025). It does not happen all at once, and when we try to force that into a single, well-defined process, we create problems that might not exist if we allowed the process to develop more naturally and creatively. Robinson and Persky's (2020) six-step framework offers a more practical way to think about autonomy. Instead of assuming beginners already know how to direct their own learning, the framework helps them develop that ability through structure, goal-setting, and feedback from a mentor.

Self-direction assumes planning, working memory, and cognitive flexibility are the default, quietly running in the background for most, if not all, learners. When those things do not come naturally, and there is no foundation built to develop them, starting a task becomes hard, sustaining it becomes harder, and finishing it can feel nearly impossible. Online and self-paced formats make this obvious. Self-management demands go up. Educator check-ins go down. Learners are largely left to sort it out alone (Bryson et al., 2025; Le Cunff et al., 2024). The same pattern runs through other professions, including health care, where neurodivergent students are expected to fit into frameworks built for easy replication and teaching, frameworks rooted in what is considered neurotypical (Gray et al., 2025). Anyone who differs from that norm may struggle to absorb or master what they are trying to learn, not because they cannot, but because

the structure was not built with them in mind. That structure can end up working against the learner rather than for them. Knowles' model can start to feel like it is pushing learners to learn how to learn, on top of everything else they are already trying to do. A model that can shift as the learner shifts is more workable. I think of this as a brain tornado: everything I am learning moves in a circle, drawing in from everywhere around it and discarding what it does not need. When someone has not learned how to work with that tornado instead of against it, it creates more problems than it solves. Strategies are not designed to stop the tornado, but they can help a learner make it a learning tool instead of a disadvantage. What a person needs, how they take in new information, what they let go of, how they build a process that genuinely works for them—that process looks a lot more like Spear and Mocker's spiral than Knowles' straight line (1984, as cited in Bierema et al., 2025).

Strategies

Five strategies below turn SDL's theoretical claims into something usable. Each ties back to a piece of the theory discussed above- Knowles' sequence, Garrison's dimensions, or the scaffolding Robinson and Persky argue is necessary- and together they treat structure as something built for a learner, not assumed of one.

Front-Loaded Plan. When learners build a plan or list before starting, they have a focus and return point when their progress stalls. This kind of scaffolding should not remain a crutch for learners, however. Learners may experience greater success by building the skills to become less dependent upon front-loaded plans (Robinson & Persky, 2020). This early structure also builds the conditions for effective self-directed learning in the first place (Aulakh et al., 2025).

Individualized Task Organization. No two learners approach a task the same way. Some organize their work by topic. Others organize by speed or ease, tackling the parts that

come naturally first and taking on the harder pieces later, similar to a test taker completing the questions they know immediately before circling back to those that require more thought. Others start with the end product and work backward by figuring out what the finished result should look like; they are more able to learn how to accomplish the task. Letting learners choose their own organizing method, rather than requiring a single approach, respects that no path fits everyone. What matters is whether the learner has control over the task itself, not whether they arrived at it the same way someone else would have (Garrison, 1997, as cited in Bierema et al., 2025). Le Cunff et al. (2024) point to delivery and instructional format as specific areas where this kind of flexibility affects cognitive load, meaning the format in which a task is presented can either support or undercut a learner's own organizing strategy.

Diagnostic Observation Before Design. Good instructional design does not start when the first slides are built, or the first talking points are jotted down, because educators do not have enough information. Good instructional design is built on observations of the group's communication dynamics, the materials they naturally reach for, and how they take notes or absorb information. Most training environments start with assumptions about who the group is and what they collectively need. Instead of being designed for an honest inventory of varied learners, they are built for a homogeneous class and a default learner. Self-direction hits the same wall at the individual level. It only works if it starts from where the learner is, not an assumed baseline (Bierema et al., 2025). When educators observe first, the burden shifts. Learners stop having to force themselves into a structure that wasn't built for them. Curriculum designers become the ones doing the adjusting instead (Gray et al., 2025).

Self-Designed Checkpoints. Some learners do not wait for an external deadline to check their own progress. They build their own checkpoint earlier, specifically so they can catch

themselves drifting off track before it turns into a real problem, rather than finding out from someone else after the fact. That kind of self-monitoring depends on a learner's capacity to track their own progress in the first place (Garrison, 1997, as cited in Bierema et al., 2025), a capacity Bryson et al. (2025) tie directly to executive functioning, noting that this kind of tracking does not operate the same way for every learner.

Learning Contracts. A learning contract can be written or informal, and it does not have to involve an instructor. It might exist between a learner and themselves, a learner and a teammate, or a learner and a professor, whoever else is engaged in that learning process. It defines how success will be measured, because success does not look the same for everyone. It depends on the person's motivation, their drivers, and where their skill level actually starts. A learning contract lays out what the learner is actually going to do: how long they will spend in a session, what resources they will use and how, and what initiative looks like in practice, such as checking other people's schedules before proposing interview times. It also defines what a reasonable goal looks like for that specific person, an honest inventory of where they currently stand, where the ideal outcome would be, and what is actually achievable given the situation. This kind of specificity is what makes a learning contract genuinely evaluative rather than just a formality, since it gives the learner something concrete to point to, rather than leaving autonomy abstract (Robinson & Persky, 2020). Learners who had that kind of self-authored benchmark were also the ones self-directed learning tended to benefit most, outperforming traditional instruction most clearly when there was a real standard to measure against (Aulakh et al., 2025). But a learning contract does more than help a learner succeed. It communicates a plan before anyone else gets the chance to impose theirs, getting ahead of the kind of hierarchical, one-size-fits-all structure that assumes every learner's path should look the same.

Rationale

Each of the five strategies above responds to something specific: the gap between what self-directed learning assumes a learner can already do and what that capacity actually looks like in practice. This is especially crucial for a learner whose executive function works differently.

Front-Loaded Structure. Willpower is not what gets many other neurodivergent learners and me through a task. Preparation is. Neurodivergent learners' executive function tends to thrive in structured environments when effort alone is not enough (Bryson et al., 2025). So if I know enough about a task ahead of time, I build a list. This list is not really designed to be followed step by step. It is more like a road map that helps retrace to my task when something inevitably drives momentum off course. Outcomes are better when that list exists before I need it, not after. After all, a map when you are already lost is not as useful. For me, interruption does not just pause a task. It can make the task disappear entirely, the way Bugs Bunny only falls once he looks down and realizes the ground beneath him is gone. Without something pre-built to return to, there is no path back to where I left off.

Individualized Task Organization. When our workplace upgraded to larger monitors, it changed more than just the screen size; it changed how people worked and learned. On the smaller monitors, everyone had been forced into roughly the same layout, whether or not it actually fit how they thought through a task. Once the larger monitors were in place, I started walking the floor to see whether they were making a difference. Watching trainers over trainees' shoulders showed that something real was happening. Some trainees worked on an entire screen of open documents side by side. Others worked on one document start to finish before moving to the next. Nobody was doing it wrong. However, forcing everyone into one method would have left some with incomplete learning. Instead, the trainees who had had that flexibility had better

outcomes in their ability to explain the material to the next group coming in. Giving people room to organize a task the way they think, rather than handing them a fixed layout, strengthened the training environment.

Diagnostic Observation Before Design. When I designed a recent communications training, the goal was to help supervisors and trainers achieve better outcomes with their subordinates and mentees, but our group already had a real communications gap to address. In Early Childhood Development settings, we recorded the everyday activities of children. Those observations helped extend their learning, support their families, and shape curriculum for both enrolled students and the teaching team. That habit followed me into how I designed this training. I paid attention to hallway conversations, how people annotated things in staff meetings, and whether they preferred face-to-face conversations or e-mail. I also noticed some of the more subconscious behaviors like who fidgeted, who reached for a pen versus a pencil versus a crayon, or who used dictation instead of writing by hand. Even who made eye contact, who positioned themselves away from the group, and which teammate groupings put people at ease versus which ones created friction played into the shape of the training itself. Groups were divided to encourage engagement with team members who were less familiar. I built in options for people who didn't want direct eye contact. Those initial observations surfaced where our communication gaps were, and they let the training address them.

Self-Designed Checkpoints. Sometimes, established checkpoints and measurements of success are inadequate for learners. A team member noticed their upgrade training and degree coursework were starting to overlap in both content and timing. The established procedure was monthly checks. However, they added an earlier checkpoint to allow for recalibration early. They described this as seeing two paths diverge, with one remaining unexplored. Nobody told them to

do this. They noticed the pattern themselves and built the fix before it became a real problem. That's the self-monitoring this strategy is about.

Learning Contracts. Of the five SDL strategies discussed here, this is the one most directly drawn from the literature rather than from personal experience. Learning contracts formalize what the other four strategies do informally: they make the learner's plan explicit, evaluative, and their own. Where a front-loaded list serves as an informal tether, a learning contract serves the same function with added structure and accountability, making it a natural strategy to pair with more personal, less formalized approaches like those above.

These five strategies are not designed to control a learner. Each serves as a foundation that is a starting point and prevents flexibility from devolving into chaos. Structure and freedom can be unjustly regarded as mutually exclusive. However, in practice, it is the foundation that makes freedom functional.

Implementation

Rationale explained why these strategies work. What follows is what they look like in practice, the concrete, repeatable version of each.

Front-Loaded Structure. Front-loading training early gives learners room to manage what's happening outside of work without that pressure bleeding into the training itself. There's always going to be urgency somewhere, but training must still happen, and for contracting professionals specifically, there are hard certification timelines and required ancillary and total-force training on top of that. A lot of the inspections that check whether people can intelligibly speak to their program, their compliance, their skill level, land right at the end of the fiscal year, exactly when people are already stretched thin. Moving low-pressure training earlier, while still giving people a clear checklist of what has to be done by when, gives them room to arrange their

own learning creatively, group related trainings together in a way that actually helps things stick, while still meeting every compliance requirement. Sometimes I advise people to hand that scheduling problem off entirely, uploading their own deadlines and letting an AI tool redistribute the load into something more manageable. Breaking a large, undifferentiated workload into smaller, specific goals is exactly where this kind of tool earns its value, a use Lin (2024) documented directly in her work on ChatGPT and self-directed learning.

Individualized Task Organization. This started as an accommodation. Someone needed larger print, and our monitors weren't big enough to display a full document at the font size they needed. We piloted larger monitors to solve that, replacing about ten percent of the squadron's monitors to start, and used the rollout to test something else too: whether people worked better with multiple documents open at once instead of constantly closing and reopening files. Once people had the space, I started paying attention to how they actually used it. Some ran their monitors vertically, some horizontally, some stacked, some side by side. Some lined up identical FAR parts or clauses in a single row to compare them directly. Others kept several similar contracts open together, not because the contracts were alike, but because they were working them in tandem, alongside something like the chemical compounds referenced in those contracts, so everything they needed was visible at once. People formed their own groupings based on how they actually needed to interact with the material, and they could do so while still working alongside a mentor in real time. This mattered most during COVID, when in-person, one-on-one training largely disappeared, and most of it moved to video calls. Having room for multiple things on screen at once was part of what kept real training and interaction possible even then**.**

Diagnostic Observation Before Design. This starts before anything about the training itself gets built, with a conversation with supervisors and leaders about what they are seeing and

what they think the goal should be. Sometimes what they describe as a training gap is about how they themselves teach or communicate, and that becomes part of what I am working with. I try not to make the observation itself formal, because formal observation changes how people behave and makes them less likely to engage naturally. Instead, I use existing gatherings. Morale events tend to show how people group themselves based on real social preference. Other organizations' mandatory training, even sessions I am not required to attend myself, gives me a chance to watch what questions come up, who checks out, and when. Email language tells me something too, since it hints at what someone wrote down in a meeting I was not looking over their shoulder for. Unplanned meetings tend to show the most honest version of how people communicate. When I catch something without a notebook nearby, I use dictation on the spot. Otherwise, I jot notes in the sidebar of whatever meeting I am already in. I pay particular attention to how people phrase their questions, since the shape of a question usually reveals exactly where someone's understanding is breaking down.

Self-Designed Checkpoints. In military and government work, checkpoints are usually predefined by policy, but the real skill lies in teaching people to build their own buffer ahead of them. I ask learners one question: if the next person in line hit an emergency and had their timeframe shortened because you used every bit of time you were allowed, would the mission be impacted? That question stops the checkpoint from being about one person's deadline. I do not hand people a blanket rule either, no "always finish two or three days early." Arbitrary buffers do not manage anything real. What works is teaching someone to look at their own schedule and set the checkpoint that accounts for their own risk of an emergency, so they are not forced to stop mid-task and lose their place. System access is a clean example of this. Government systems often revoke access after a set period of inactivity, thirty days is common, and getting that access

back can eat up an exhausting amount of time and justification with higher-ups. So, log in well before the limit. Fifteen days instead of waiting until day thirty means training availability never becomes the thing standing in someone's way.

Learning Contracts. This does not always mean something formal on paper, though it can. Sometimes it looks like a formal development plan, sitting down with a supervisor or mentor and working through goals in both directions: what the learner wants, what the organization needs, and how those two things align. The learner still gets to figure out how they will get there. However, the plan must meet the organization's needs, not just individual preference. This is also apparent in academic advising and student accessibility services. A third party mediates, helping the learner and the professor sort out which accommodations make sense to enhance student success, course structure, and outcomes. It is not about paperwork, though. It is about both agreeing to a plan for success before failure has a chance.

Every one of these strategies moves structure earlier. Not after a learner struggles, but before the task even starts, so it's already there the moment it's needed.

Effectiveness

Success here is not about following the process exactly. It is about the outcome, and whether a learner can explain and teach back what they did.

Front-Loaded Structure. A learner who gets interrupted mid-task and can pick it back up using the list they built beforehand; that's the strategy working. If the task gets finished at all, that's the second sign, since the whole point of the tether is to keep something from getting abandoned once it's interrupted.

Individualized Task Organization. Effectiveness is measured by whether the completed product meets the defined standard for the task, regardless of which organizational method the

learner used to reach it. If a document meets required formatting and content standards, the method used to sequence the work is irrelevant to whether the strategy succeeded.

Diagnostic Observation Before Design. Benefit is often observable in the learning environment itself—whether people participate, ask questions, or tell you the format actually felt accessible to them. However, true success can only be measured in later outcomes. Learners from the original session continue to use language or ideas from the training naturally as part of their regular work. The even stronger test is how they extend the learning to those around them. These habits show the design met people where they were, rather than assuming everyone started in the same place. That is the core difference between building a learning session and a learning environment.

Self-Designed Checkpoints. Success is apparent when suspensions are met, and mission partners are not experiencing additional pressures due to delays. Certifications and training goals are met when needed, not just when due. Teams are well-equipped and knowledgeable. Additionally, team members have bandwidth left over when something unplanned or urgent shows up. When a learner starts setting their own reminders without anyone prompting them to—when it just becomes part of how they approach every task—it is clear that learning outcomes are achieved. The real measure, though, ties back to whether the learner is meeting the goals of their organization, their class, or whatever setting they're in, and doing it in a way that's emotionally regulated instead of scrambling.

Learning Contracts. Success here gets measured against whatever the learner actually wrote into the contract: did they meet the goal, were the resources they chose enough, and can they explain to whoever helped draft it, a mentor or instructor, what they learned and how they know they actually learned it (Robinson & Persky, 2020).

Across all five strategies, one test matters most. Can the learner teach it back? Completing a task once doesn't prove understanding. Explaining why it worked does.

Motivation and Self-Determination Theory

Theoretical Foundations

Self-determination theory starts from the idea that people have a built-in drive toward growth. Whether that drive shows up depends on the environment, and whether it provides the support a person needs. Autonomy is feeling like you are the one driving your own actions, not just reacting to outside pressure. Competence is feeling capable at whatever you are doing. Relatedness is the feeling of being connected to other people engaged in similar tasks. Deci and Ryan built the theory around one claim: all three of these needs matter universally. A person does not have to consciously consider autonomy, competence, or relatedness for their impact on motivation to appear in every culture (Deci & Ryan, 1985, as cited in Morsink et al., 2022). Bierema et al. (2025) trace this same framework into self-directed learning. Autonomy, competence, and relatedness are simply the drivers of intrinsic motivation—the desire to do something because it genuinely matters to you, not because something outside you is forcing it. When that kind of motivation is present, learning outcomes improve.

Not all motivation works the same way, though. SDT lays this out as a continuum, from amotivation, no real intention to act at all, through several increasingly internalized shades of external motivation, up to fully intrinsic motivation, doing something purely because it interests you (Morsink et al., 2022). Motivation built entirely on external reward or punishment tends to be fragile. It only holds up as long as the reward or threat stays in place. Motivation that's been genuinely internalized, where someone comes to believe in what they are doing even if the

reason for doing it came from somewhere else, tends to last longer and shows up alongside better performance and well-being.

Champ et al. (2023) take this framework in an unexpected direction: attention-deficit/hyperactivity disorder (ADHD). Traditional models treat ADHD as a deficit in executive function. Champ et al. argue that evaluation does not account for most of the actual evidence. What looks like impulsivity, hyperactivity, or inattention might be engagement-seeking behavior, someone's natural drive toward autonomy, competence, and relatedness pushing against an environment that is not giving them any of the three. In low-autonomy, tightly controlled settings, that same underlying drive toward growth can look exactly like the deficits clinical models describe. The problem is not necessarily inside the person. It is a mismatch between what someone needs psychologically and the structure they are stuck operating inside of, and that mismatch shows up hardest in academic and workplace settings built on rigid, externally imposed structure.

That mismatch affects how motivation is measured in adult learning and, therefore, the available supports and the positivity of outcomes. In a study tracking medical students across different stages of training, they found that students with greater life experience and more autonomy-supportive backgrounds exhibited greater intrinsic motivation. Students with less foundational autonomy-supportive backgrounds needed more extrinsic motivation to stay engaged (Matos Sousa et al., 2025). That gap was already evident among first-year students, suggesting that a program cannot build intrinsic motivation without intentional design. It is something students bring with them, shaped by how they learned before they arrived, and it is supported or undermined by how well the learning environment itself is designed. Motivation is

not fixed. It is not something a person simply has or does not have. It is a state in which a learner's own desires are supported in ways that actually promote growth.

None of this treats motivation as a binary, present or absent. It is always there in some form. Sometimes it gets redirected, strengthened, or blocked by whatever is happening around it. Self-directed learning assumes a learner already has the executive capacity and function to start something and see it through to completion. Self-determination theory picks up exactly where that assumption ends. There is no absence of motivation here, just motivation that needs additional guidance to find its way.

Strategies

The five strategies below take SDT's account of motivation, autonomy, competence, and relatedness and turn them into conditions an educator can build into a task, rather than abstract needs to acknowledge. Where the SDL strategies above focus on structuring the learning process itself, these focus on keeping the motivational energy behind that process alive, especially once it stalls, gets redirected, or needs outside help to restart.

Barrier Reduction and Motivational Redirection. Motivation often already exists. It may just be directed at the wrong task, the wrong lesson, or the wrong goal. Educators must work to close the gap between where that motivation is pointed and where the goal actually is. Champ et al. (2023) frame motivational difficulty in the same way, not as a personal deficiency but as a mismatch between a person's needs and their environment. Champ et al. (2025) tested this directly with adults with ADHD and found that adjusting the environment, not the person, was what produced the best results.

Body Doubling and Relatedness. In the neurodivergent community, people often talk about body doubling, when someone else is performing a similar task nearby, and your own motivation comes simply from that proximity. This is exactly how body doubling works in adult learning too. It reflects relatedness, one of the three basic needs Morsink et al. (2022) identify as central to durable motivation. Bierema et al. (2025) link that same need directly to intrinsic motivation within SDT, tying it to positive learning outcomes**.**

Self-Advocacy Through Failure Analysis. Failure is sometimes treated as proof that motivation does not exist. It is not. It is information, and learners are best positioned to interpret it. Instead of experiencing failure as a personal shortcoming, a learner can use it to identify what went wrong—what is not working for them—and let that fuel a direct ask for help. When learners analyze their own failure, they can discern and advocate for their needs. By analyzing their own failure, learners can decide what they actually need. Shifting from just trying harder to actively requesting what you need—more time, a different format, or some other accommodation—is self-advocacy in practice. Champ et al. (2023) support this reasoning. Correcting failure through compliance undermines competence and autonomy, while treating it diagnostically strengthens both. Champ et al.'s (2025) intervention work built this directly into their treatment approach. They taught self-advocacy as a skill and saw real improvement in learning outcomes as a result.

Protecting Generative Tangents. Not every tangent is a digression. Sometimes tangents are generative to learning. This often happens when a learner finds a topic more relatable than the structure the original curriculum created. When educators learn to protect those generative tangents and let learners creatively connect concepts, those loose connections are less likely to be missed. When learners get to choose how they think through a problem, not just complete it,

motivation follows naturally, rather than assuming it should already exist within a fixed curriculum. That is the autonomy-supportive principle at the center of SDT (Morsink et al., 2022), and it holds for self-directed learning too (Bierema et al., 2025). Choice is not a minor detail in either case. It is what sparks motivation where rigid structure cannot.

Praise-Forward Feedback Structure. Sequence matters in feedback. Leading with what went well protects competence before criticism can define the whole conversation. Matos Sousa et al. (2025) found this holds up in practice: students with stronger self-determined motivation showed more resilience, tied directly to how supported they felt. Champ et al. (2023) make the same case differently. Protecting competence sustains motivation. Correcting through compliance does not.

Taken together, these strategies address motivation not as a fixed trait to be assessed once and treated as stable, but as something that fluctuates in response to environmental conditions and can be actively supported through deliberate design. The Rationale section that follows examines why each of these strategies is suited to the specific motivational challenges discussed in the theoretical foundations above.

Rationale

Where the previous section addressed why structure matters for self-direction, this section addresses a different problem. What happens when structure exists but the motivation to engage with it does not? Each of the following strategies responds to how motivation actually behaves, not to the way deficit-based models often assume it behaves.

Barrier Reduction and Motivational Redirection. Task paralysis is not motion pointed the wrong way. It is an actual stop, one that's hard to restart once you have lost the path back to what you were doing. It means staring at the pieces of a task instead of being able to touch any of

them. This shows up most with large projects, a twenty-five-page paper, for instance, where the sheer size of the thing makes the whole climb look pointless before you have even started. Getting unstuck rarely means forcing motivation at the mountain itself. It means finding wherever motivation already is and closing the distance between that and the smallest piece of the frozen task. Barrier reduction is effective because it reconceptualizes motivational challenges as environmental rather than personal issues. This approach bridges the gap between a learner's current motivation and the level required for a task, rather than expecting the learner to generate motivation from scratch (Champ et al., 2023). For instance, if a person is motivated to read but not to complete cleaning, the better strategy is not to push motivation toward cleaning. Instead, it is to keep the book in the room where it belongs, aligning existing motivation with the task—the same works for research-heavy tasks. Keeping a library database open on a second monitor means a stray thought can get chased down the second it surfaces, no extra step required just to reach it.

Body Doubling and Relatedness. You can see this clearly in mixed military and civilian work centers. Someone's visible engagement with a shared task shifts depending on who else is still around. One group gets dismissed early, the other stays, and motivation among the ones still working drops, even though nothing about the task itself changed. This scenario does not amount to formal collaboration. Instead, it looks more like what people call body doubling. Just being near someone doing something similar helps hold your focus, even when there is no real teamwork happening. Connection does not need real interaction to work. It just needs the sense that someone else is putting in effort too. Kids do this in early childhood with parallel play. A child can learn a task simply by watching someone nearby, with no direct interaction needed

(Morsink et al., 2022). Independence and relatedness are not at odds here. They work together even when what is happening is parallel rather than truly shared (Bierema et al., 2025).

Self-Advocacy Through Failure Analysis. Naming what is not working, rather than pushing through it silently, can change how a learner functions in a training environment. Sometimes that means recognizing a small adjustment the learner can make on their own. Other times, no self-accommodation exists, and the learner has to advocate outright. A learner with sensitivity to fluorescent lighting, for example, might need one-on-one training in a different setting entirely if the standard room offers no way to avoid it, since the environment itself is triggering something the learner cannot simply push past. The same holds for learners who cannot absorb material through standard step-by-step checklists and instead need something hands-on and practice-based. Gray et al. (2025) found the same pattern across health professions education. Programs build frameworks for easy replication and teaching, frameworks rooted in neurotypical norms, without stopping to reconsider the framework itself. Self-advocacy does not always stay personal either. Scenarios and practice methods built through that process can become tools the learner later uses to train someone else facing the same struggle, turning one person's self-advocacy into something that helps the next learner too.

Protecting Generative Tangents. My team does not try to suppress what I call brain tornadoes—the tendency to follow one thought through a series of seemingly unrelated connections. That drift is often where real learning happens, not just problem-solving. During a recent situation involving untracked government equipment, the initial instinct was to look for who was at fault, with everyone defending their own piece of the process. However, letting people follow their own threads rather than shutting them down proved more valuable. As each person explained what had gone wrong from their own standpoint, they started learning things

about programs and processes outside their own, information nobody had connected before. Given the flexibility to think freely, those individual threads merged into a single picture. Learners discovered that multiple policies, while individually reasonable, conflicted when combined. This realization only came after they explored tangents and connections. Instead of just addressing the immediate issue, the team transformed their collaborative, nonlinear approach into a model they could teach others, resulting in a real learning outcome that a quicker, simpler fix would have overlooked. This kind of nonlinear thinking reflects the same autonomy-supportive principle at the center of SDT: when people have real choice over how they process a problem, rather than being locked into one prescribed sequence, the thinking that results tends to be more genuine and more durable (Morsink et al., 2022).

Praise-Forward Feedback Structure. A flight chief told me once that she never knows which sentence out of an entire debrief someone will actually walk away holding onto. That is why she always leads with what went well. Then comes what did not. Then the overall impact, last. She calls it a dirt sandwich, and she never lets it end on failure. The critique is still there. Nothing gets skipped. It is placed on purpose so that a learner's sense of their own competence is not left standing on the one thing that went wrong. Matos Sousa et al. (2025) found something that aligns with this: students who felt supported rather than criticized showed greater resilience and remained more engaged over the long run.

Motivation is not something that can be forced or created, but it can be cultivated. SDL provides the necessary structure for learning. These strategies address the challenge of sustaining the desire to use that structure, even when it is inconsistent, misaligned, or demands genuine effort to accomplish the intended task.

Implementation

Once you understand the rationale behind these strategies, we could begin to look at the practical, day-to-day ways each can be implemented in a learning environment.

Barrier Reduction and Motivational Redirection. First, notice where someone's motivation is already pointed. Then find the smallest possible adjustment that lets that motivation reach the actual task. Keep research materials open and ready before a session even starts, so nobody has to hunt them down once their focus slips. Pair the task itself with whatever location or activity is most likely to hold someone's attention.

Body Doubling and Relatedness. Make sure nobody is working through something hard or tedious in total isolation. That might mean scheduling shared work blocks, keeping a call open during independent work, or just sitting in the same room as someone who is doing something similar. The activities do not need to match. The presence does.

Self-Advocacy Through Failure Analysis. Build in a real moment after a failed or incomplete attempt to name exactly what did not work, instead of moving on or trying the same thing again. Ask directly what kind of support, format, or accommodation would actually change the outcome. Then request it. Do not assume the problem was effort.

Protecting Generative Tangents. Let a tangent run its course before pulling attention back. Build in actual time for open-ended discussion during a session, rather than running every minute on a fixed agenda.

Praise-Forward Feedback Structure. When planning feedback to evaluate how a learner absorbed information, annotate the content ahead of the meeting rather than working from something more casual and free-form. Start with specifics about what was observed working well. Address the areas that did not meet goals or targets. Close on the overall impact of what the learner has actually mastered.

Across all five, the same holds: motivation has to be managed in the moment, not assessed once and assumed to hold steady for the rest of the task.

Effectiveness

Whether these strategies work is not about finishing a task or earning a certification. It is about learner engagement, whether someone goes looking for new or similar learning opportunities afterward, and whether they can actually duplicate what they learned.

Barrier Reduction and Motivational Redirection. Effectiveness shows up in how often a suspense is delayed by an interruption. A genuine drop in stalled mission effectiveness is the real litmus test. Another key sign is that learners begin reducing their own barriers to motivation without being told to, by starting tasks in spaces or contexts connected to what keeps them engaged, in ways that actually sustain the task or the learning itself.

Body Doubling and Relatedness. Engagement often drops when shared presence disappears, and effectiveness shows up in that contrast. Visible motivation rises when work centers and training groups stay together until every member has met the learning objective. Teammates' willingness to stay engaged in that shared environment, actively supporting each other's learning success, becomes its own measure of whether the strategy worked.

Self-Advocacy Through Failure Analysis. This one has a multifaceted measure of effectiveness. First: does the learner have the confidence to advocate for their own needs, and can they do it routinely, not just once? Second: are the accommodations they are asking for precise? Real specificity looks like naming exactly which resource was missing or which format did not work, not just a vague sense that something was off. When a learner can clearly point to what worked and separate it from what did not, and advocate for themselves on that basis, the strategy is working.

Protecting Generative Tangents. Did the tangent actually produce something real, an insight or solution the narrower approach would have missed? The equipment accountability example is a case where it did. If a tangent goes nowhere and eats time, the strategy did not work that time.

Praise-Forward Feedback Structure. Observe what someone genuinely remembers and repeats after a feedback session. If they can identify a strength and an area for improvement, rather than fixating solely on the critique, then the process has been effective. In the long run, see if they remain open to seeking feedback again instead of avoiding it after a difficult conversation.

The same test applies across every strategy here. It is not about following the process exactly as written. It is about achieving a real outcome, understanding why it worked, and being able to explain or apply that understanding elsewhere.

Synthesis

Self-directed learning and self-determination theory, considered on their own, both have real limitations, specifically in the default assumptions they make about learners. SDL assumes that learners already have the skills to plan, organize, and monitor their own progress (Bierema et al., 2025; Robinson & Persky, 2020). SDT, on the other hand, assumes that fulfilling a person's need for autonomy, competence, and relatedness will foster sustained motivation (Morsink et al., 2022). Both assumptions are built around a default learner and do not capture what makes every learner successful. Combined, though, they give a learner just enough structure to anchor a roadmap and mark the path to follow, while still leaving enough freedom and flexibility to pursue tangents and creative learning along the way.

A learner who lacks consistent executive function might have autonomy but struggle to hold onto it. A motivated learner might need a different foundation before they can act on that

motivation at all. Neither theory captures the full picture of what drives learners to learn. Picture a race. Runners must stay on the marked path and cross the same finish line, but they choose their own shoes, pace, and training program. Whatever works for their body is the right answer. That is the course acting as a guideline, not a script. It creates a clear goal and structure for what success looks like without dictating the exact path to get there. In that same race, when a runner hits their limit, they need help staying motivated. Making sure their shoes are tied or knowing other runners are still out there on the track with them is what breaks down the barriers to that motivation. Focus on the end goal instead of the exact path, and the pieces start working together. Front-loaded lists. Individualized task organization. Barrier reduction. Other runners still moving alongside you. Put together, that is what builds a learning environment that actually produces strong adult learners.

It makes a genuine difference in how success is measured. A learner can reach the right goal through an unconventional method and still look like they failed. That is what happens when success only means following one specific process. Educators end up teaching at learners instead of for them. Mastery goes stagnant. The teach-back standard used throughout this paper applies equally well to both SDL and SDT. Can a learner explain their own reasoning? Can they repeat it? Can they help other learners succeed too? Those are the real questions. Understanding gets measured. Not a checked box.

References

Aulakh, J., Wahab, H., Richards, C., Bidaisee, S., & Ramdass, P. V. A. K. (2025). Self-directed learning versus traditional didactic learning in undergraduate medical education: A systematic review and meta-analysis. *BMC Medical Education, 25*, Article 70. https://doi.org/10.1186/s12909-024-06449-0

Bierema, L. L., Fedeli, M., & Merriam, S. B. (2025). *Adult learning: Linking theory and practice* (2nd ed.). Jossey-Bass.

Bryson, K. L., MacEachern, S., Jackson, T., & Guzman, C. (2025). Building adult capacity to support executive functioning: A universal design for learning approach — a literature review. *Canadian Journal for New Scholars in Education, 16*(2), 100–106.

Champ, R. E., Adamou, M., & Tolchard, B. (2023). Seeking connection, autonomy, and emotional feedback: A self-determination theory of self-regulation in attention-deficit hyperactivity disorder. *Psychological Review, 130*(3), 569–603. https://doi.org/10.1037/rev0000398

Champ, R. E., Meneses, R. W., Adamou, M., Gillibrand, W., Arrey, S., & Tolchard, B. (2025). A neuroaffirmative, self-determination theory–based psychosocial intervention for adults with attention-deficit/hyperactivity disorder: Randomized feasibility study. *JMIR Formative Research, 9*, Article e69943. https://doi.org/10.2196/69943

Gray, L., McNeill, B., Pecora, L., Macfarlane, S., Hayley, A., Hitch, D., & Evans, S. (2025). Navigating neurodivergence: A scoping review to guide health professions educators. *Medical Education, 59*(10), 1037–1048. https://doi.org/10.1111/medu.15676

Le Cunff, A.-L., Martis, B.-L., Glover, C., Ahmed, E., Ford, R., Giampietro, V., & Dommett, E. J. (2024). Cognitive load and neurodiversity in online education: A preliminary

framework for educational research and policy. *Frontiers in Education, 9*, Article 1437673. https://doi.org/10.3389/feduc.2024.1437673

Lin, X. (2024). Exploring the role of ChatGPT as a facilitator for motivating self-directed learning among adult learners. *Adult Learning*. https://doi.org/10.1177/10451595231184928

Matos Sousa, R., Santos, M., Marangoni, M., & Pereira, V. H. (2025). Motivation in medical students: Higher intrinsic motivation among graduate-entry students across academic stages. *Frontiers in Medicine, 12*, Article 1625352. https://doi.org/10.3389/fmed.2025.1625352

Morsink, S., Van der Oord, S., Antrop, I., Danckaerts, M., & Scheres, A. (2022). Studying motivation in ADHD: The role of internal motives and the relevance of self-determination theory. *Journal of Attention Disorders, 26*(8), 1139–1158. https://doi.org/10.1177/10870547211050948

Robinson, J. D., & Persky, A. M. (2020). Developing self-directed learners. *American Journal of Pharmaceutical Education, 84*(3), Article 847512.