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Building Learning Assignments Through Coaching

Introduction

The most important workplace relationships are often those between managers and their team members. A good manager makes a huge difference in the career trajectory of his or her employees. Managers who prioritize and encourage learning and development play a critical role in the current and future success of their employees. Despite operational demands and conflicting urgencies, they schedule one-on-one meetings with their team members to discuss learning plans, progress, and obstacles. They support and encourage wholistic development – with emphasis on experiential, self-directed, peer-to-peer, and informal learning – that matches the unique interests and aspirations of each team member to the needs of the organization.

In making time for employee development, good leaders balance short-term operational demands with long-term thinking. In other words, they manage the organization's immediate needs without sacrificing its future. They approach development as a partnership between themselves and the learner: listening, coaching, measuring results, and providing support.

Now that you know why the manager and employee relationship is so critical to employee development, let's talk about how you can embrace your role as learning coach and partner, as well as the steps you should take to fulfil that role effectively. This paper offers evidence-based advice on how to work with your team members to:

- Identify and create a broad range of 70/20/10-based learning options
- Evaluate learning options
- Ensure that learners are equipped to get the most out of learning
- Extend learning into on-the-job application, and measure its impact

First, Do No Harm

There is, of course, a place and time for constructive feedback, but as a general rule of thumb, try to keep learning discussions positive, and remain optimistic. In his 2021 book *Unleashed!* Gregg Thompson advises would-be managers and coaches that people tend to live up or down to expectations.[1] Researchers call it the "Pygmalion Effect (In Greek mythology the sculptor Pygmalion loved one of his statues so much that it came to life)."[2] In other words, when a manager lets employees know that she has confidence in their ability and trusts them to do their job well, employees tend to excel. When an employee feels that their manager thinks they are incompetent, they tend to underperform.

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[1] Thompson, G., Biro, S. (2007) Unleashed! Expecting Greatness and Other Secrets of Coaching for Exceptional Performance, Selectbooks

[2] Rosenthal, R., Jacobson, L. Pygmalion in the classroom. *Urban Rev* 3, 16–20 (1968). https://doi.org/10.1007/BF02322211

Remember, most experts once thought of intelligence as an innate and fixed trait.[3] More recent research, including from the behavioral sciences, psychology, and neuroscience, refutes this.[4] By staying positive and optimistic, you encourage a growth mindset among your team members, which primes them for better learning.[5]

The takeaway is simple: Don't cause harm through unnecessary criticism, or by setting low expectations. Don't make assumptions about an individual's intelligence or capacity to learn. Resist the natural tendency to assess people based on reputation or even past performance. Adopt the role of coach over supervisor. Keep an open mind with each of your team members when discussing their development. Listen more than you talk. Offer praise and give your learners the benefit of the doubt by *assuming* their ability to learn and succeed. Try not to frame learning as a corrective. Instead, present it as an opportunity.

Explore a Wide Range of Learning Options

Most learning professionals and managers have grown acquainted with the "70/20/10" model in workforce development. In general, this means that formal classroom instruction and assigned online courses should only amount to about 10% of an employees' overall learning. Among the rest, about 20%should come from informal learning with others – such as direct supervisors, colleagues, team members, coaches, mentors, and extended professional networks – and 70%– the great majority of learning – should occur informally, on-the-job, and in many cases, be self-directed.[6]

The 70/20/10 approach recognizes that people learn continuously, and in many ways. Throughout the span of their career, today's typical worker probably relies least on formal training, and learns mostly outside the boundaries and control of the organization.[7] As a learning coach, acknowledge that people learn differently today than in the past. They learn online, remotely, and continuously, often using technology, search engines and social networks.

70/20/10 acts as a framework (the percentages are not fixed) for the new world of workplace learning and as a guide for managers and team members to think about learning assignments differently; to innovate, to explore new, cross-disciplinary learning, and to focus on the ultimate goals of workplace learning: growth, performance, and outcomes.

Get the Most Out of Learning Assignments

As a learning coach, don't attempt to solve team members' problems for them. Instead, help them tackle each problem as a learning assignment, assessing potential solutions, and equipping them to see their biases and blind spots, so they can figure out how to overcome

[3] Resnick, L., Schantz, F. (2015). Re-thinking intelligence: schools that build the mind. European Journal of Education. doi.org/10.1111/ejed.12139
[4] Dweck, C. (2007). Mindset: The New Psychology of Success. Ballentine.
[5] Ibid
[6] Arets, J., Jennings, C. Heijnen, V. (2016) 702010 towards 100% Performance. Sutler Media
[7] Jefferson, A., Pollock, R. (2014). 70:20:10: Where's Is the Evidence? ATD. See: https://www.td.org/insights/70-20-10-where-is-the-evidence

their own challenges. Part of this lies in offering evidence-based guidance on how to get the most out of every learning assignment.

A good deal of accepted wisdom about how people learn is questionable – one size does not fit all learners.[8] As you'll discover, some of the most effective learning strategies are counterintuitive.[9]

Employ Mnemonics Techniques

By attaching difficult-to-remember things to memorable ones, for example, "I Value Xylophones Like Cows Dig Milk" you can remember categories of Roman numbers from one to one thousand. Suggest to your learners that they associate new concepts with familiar things or places, like their office. They may associate their desk with the first step in solving a complex problem, for example, the chair the next step, and a computer, the third. It may sound basic, but this technique called "memory palaces" helps learners recall concepts as they visualize familiar things.[10]

Space Repetition

Close repetition of information (i.e., cramming) usually produces only temporary learning.[11] Based on more than a century of research, experts estimate that people rapidly forget about 70% of what they read or hear. Spacing out retrieval practice – which makes the brain work harder – proves an effective study strategy because it interrupts the "forgetting curve."[12]

When a team member is working toward a certification or another formal credential, they must often absorb a large amount of material and then retrieve it during an exam. In these circumstances (or in any situation where remembering matters), encourage them to frequently quiz themselves on the material, create and use flashcards, write about the topics in their own words, and practice spaced repetition. Information presented in different formats helps learners attach new concepts to prior knowledge, improving retention and memory.[13] Studies have shown that this approach consistently leads to better learning results and outcomes.[14]

Practice Like You Play

Learning is deeper and more durable when it's real, effortful, and continuous. The more effort and time put in, the more connections the brain creates.[15] Encourage team members to seek

[8] Brown, P., Roediger, H. McDaniel, M. (2014). Making it stick: The science of successful learning. Harvard University Press
[9] Nickerson, R.S., Adams, M.J. (1979). Long-term memory of a common object. Cognitive Psychology 11,287-307
[10] Ralby, R., Mentzelpoulos, M., Cook, H. (2017). Learning languages and complex subjects with memory palaces. International Conference on Immersive Learning. 217-218
[11] Kornell, N. (2009). Optimising learning using flashcards: Spacing is more effective than cramming. Applied Cognitive Psychology. https://doi.org/10.1002/acp.15
[12] Averell, L., Heathcote, A. (2011). The form of the forgetting curve and the fate of memories. Journal of Mathematical Psychology. https://doi.org/10.1016/j.jmp.2010.08.009
[13] Brown, P., Roediger, H. McDaniel, M. (2014). Making it stick: The science of successful learning. Harvard University Press
[14] Agarwal et al (2008). Examining the testing effect with open and closed book tests. Applied Cognitive Psychology. https://doi.org/10.1002/acp.1391
[15] Bennet, D., & Bennet, A. (2008). The depth of knowledge: surface, shallow or deep? VINE, 38(4), 405–420. https://doi.org/10.1108/03055720810917679

stretch assignments that push and extend their capabilities outside of their comfort zones. A team member may have learning preferences, but don't attempt to match learning assignments to those preferences, as doing so confers no benefit.[16] Instead, think about instruction style in terms of how it best *enables* learning. A mix of styles, including some that your team member may not prefer, makes the learning more challenging, improving retention.[17] Coach team members to practice what they learn on-the-job, and give them the time and opportunity to do so. If on-the-job practice isn't possible, explore the potential for simulations and/or job shadowing.

Learning can be made more challenging (and more effective) by "interleaving" topics (studying all parts of a skill at once instead of in sequence).[18] Mixing practice to include a variety of skills or knowledge in a session challenges learners more than practicing only one thing per session. Studies reveal that variety helps embed the learning deeper and improves future recall.[19] When, for example, you isolate a movement, like a mid-court forehand in tennis, or long division in math, the repetition feels productive because it yields fast results. Experiments and empirical evidence, however, show that these results translate into desired outcomes only when tennis matches and math exams unfold according to script, which rarely happens. When baseball batters focus practice sessions only on curve balls, fastballs, or sliders, they don't hit as well in games as those who practice each of these pitches in the same session.[20] When astronauts prepare for missions, they don't learn techniques they'll use in space sequentially, they simulate the conditions of space as closely as possible, including randomness.[21]

In experiments, learners who break problems down to practice the parts discretely score significantly lower on subsequent exams than those who mix the problems up in practice.[22] Before John Roberts became U.S. Chief Justice, he prepared his arguments before the Supreme Court by writing hundreds of possible questions on flash cards, then shuffling them before practicing. Roberts did this because he knew questions would come in no predictable order.[23]

Intuitively, it makes sense to teach people one part or stage of a job at a time, waiting until they master each piece before moving on. But your team members are likely to see better results by interleaving practice – moving between and within steps and levels. They will probably make more mistakes, get confused, and maybe feel like they're failing, but studies reveal

[16] Pashler H, McDaniel M, Rohrer D, Bjork R. (2009) Learning Styles: Concepts and Evidence. Psychological Science in the Public Interest. 2008;9(3):105-119. doi:10.1111/j.1539-6053.01038.x
[17] Ibid
[18] Healy, A. F., Kosslyn, S. M., & Shiffrin, R. M. (1992). From learning processes to cognitive processes: Essays in honor of William K. Estes. Hillsdale, NJ: Erlbaum.
[19] Stenger, M. (2016) Interleaved Practice: 4 Ways to Learn Better by Mixing it Up. Open Colleges Australia. See: https://www.opencolleges.edu.au/informed/learning-strategies/interleaved-practice-4-ways-to-learn-better-by-mixing-it-up/
[20] Brown, P., Roediger, H. McDaniel, M. (2014). Making it stick: The science of successful learning. Harvard University Press
[21] Varol, O. (2020). Think Like a Rocket Scientist. Public Affairs, New York
[22] Rohrer, D., Taylor, K. (2007). The shuffling of mathematics problems improves learning. Instructional Science. 35, pages 481–498
[23] Varol, O. (2020). Think Like a Rocket Scientist. Public Affairs, New York

that learners and trainees retain more and learn better by mixing it up.[24] In sum, encourage learners to practice what they learn in conditions as close to possible to those they'll encounter on-the-job, where events rarely unfold in neat steps.

Reflect on Learning (After and *Before*), and Think Critically

Learning coaches may understand the importance of giving their team members time to reflect on their learning *after* a program, but what about before? Scholars have discovered that a technique, called "generative learning" – contemplating upcoming learning in the context of prior knowledge – sparks thinking and curiosity, priming the brain for new learning.[25]

Before a team member begins a new training or learning program, encourage them to research the topics and to think about how those topics or skills relate to other things they know or have learned. This process may also help them to overcome the "Dunning-Kruger" effect, in which most people fail to accurately assess their current competence related to the skills/knowledge they hope to improve.[26]

Finally, encourage your team members to think critically while learning. Much material found on internet searches is incomplete or misleading. This extends to published research as well. In a recent survey, economist John List found that almost 5% of academics admit that they have falsified data in peer-reviewed research.[27] Indeed, over the past decade, social science research has suffered a reputational crisis in which almost 40% of peer-reviewed study results – published in prestigious journals – cannot be independently replicated.[28] Even when experiments do replicate, learners should question whether the findings are likely to generalize to other fields and/or populations. Where important ideas, facts and information are concerned, encourage learners to question the things they read, watch, or hear, and to look for supporting, as well as contradictory, evidence.

Coach your learners to recognize the numerous human biases that impair good thinking and learning. These include confirmation bias (seeking only information/opinions that conform to one's beliefs) and groupthink (succumbing to the majority opinion, despite misgivings).[29] As physicist Richard Feynman said: *"The first principle is that you must not fool yourself – and you are the easiest person to fool."*[30] Caution your learners to question the neat narratives people create to describe the past and to make sense of complex matters. Everyone, essentially, falls

[24] Ibid
[25] Fiorella, L., Mayer, R. (2015). Eight ways to promote generative learning. Education Psychology Review. DOI 10.1007/s10648-015-9348-9
[26] Kruger, J., Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. Journal of Personality and Social Psychology, Vol 77(6), 1121-1134
[27] List, J. (2022). The Voltage Effect. Currency, New York. P.39
[28] Freese, J., Peterson, D. (2017) Replication in Social Science. Annual Review of Sociology. DOI:10.1146.annurev-soc-060116-053450
[29] Murata, A., Nakamura, T. (2019). Basic study on prevention of human error – Debiasing method of cognitive biases in decision making. AHFE International, Vol 6, 252
[30] Leighton, R., Hutchins, E. (1985). Surely you're joking Mr. Feynman: Adventures of a curious character. W.W. Norton & Company, New York, p.343

prey to "narrative bias."[31] Share H.L. Mencken's advice with team members: *"For every complex problem there is an answer that is clear, simple, and wrong."*

A wide range of biases can impact a learner's thinking and memory.[32] The learning assignments you and your team members include in their development plans matter, so coach your team members to slow down and engage deliberate, conscious, and slow thinking while learning.

Co-evaluate Learning Outcomes with Team Members

First, work with team members to link their learning to NAVFAC's mission, objectives, and values. Ask your learners to review strategic workforce plans and competency frameworks to gain an understanding of the organization's current and future needs. Together, seek the intersection between their interests and career plan, and NAVFAC and Navy needs. Co-create learning goals with your team members. Every goal in a learning plan should include information on how it will be measured. The most frequently used learning measurement framework is based on the "Four Levels of Evaluation" model created by Professor Donald Kirkpatrick. To use this model, evaluate your learning program according to four criteria:

1. **Satisfaction** – Did your team member enjoy/find value in their learning experience?
2. **Learning** – Did the program teach them what they needed to learn?
3. **Impact** – Is your team member using their learning/training?
4. **Results** – Has the learning had impact? Has it contributed toward team/NAVFAC goals?

For the most important or expensive learning programs, NAVFAC might conduct an ROI analysis to determine whether a program's learning results merit the costs involved. This process would normally fall outside the scope of a manager or supervisor's responsibility.

Kirkpatrick's four levels of learning evaluation may seem to demand a lot of effort. In fact, for decades, many professionals have complained that evaluation at Levels 3 and 4 costs too much and proves too difficult for practical application. Conducting a four-level evaluation does take time, effort, and money, but for your purposes as a learning coach, a streamlined process is possible for any training, and will likely yield valuable insights. That said, evaluate learning and training relative to its importance to team and organizational success.[33] If you want to make an informed decision about whether to send other team members to the same training, for example, it probably makes sense to evaluate that program's impact through Levels 3 and 4.

To overcome many of the historical barriers to training evaluation, follow the Kirkpatrick's advice by applying their levels in reverse order.[34] With your team member, start at Level 4.

- **Level 4: Results.** These are the extent to which the identified business benefit occurs due to the training and related follow-on activities and support. Strive to identify a high-

[31] Heshmat, S. (2016) What is narrative bias? Psychology Today. See: https://www.psychologytoday.com/us/blog/science-choice/201612/what-is-narrative-bias
[32] For a partial list see: https://thedecisionlab.com/biases
[33] Kirkpatrick, J., Kirkpatrick, W. (2016) Kirkpatrick's four levels of training evaluation. ATD
[34] Ibid.

level objective, like providing an improved and measurable level of client service. From here, work backwards to determine what metrics drive the high-level outcome, such as client satisfaction survey results, percent of clients who request more services, etc.

- **Level 3: Behavior/Application**. This is the extent to which participants apply the learning on-the-job by changing the way they do things. Identify the crucial behaviors learners must adopt to achieve the measures that drive the outcomes in Level 4. Also, identify the things learners need to exhibit those behaviors – "leading indicators" – such as supervisory support, incentives, coaching, or equipment, and turn them into metrics. During a workshop or other learning session, coach your team members to imagine performing the new skill or technique at work. This builds mental models which "encode" the learning, and over time, consolidate it into long term memory with anchors and cues for retrieval.[35] Post-training, learners require reinforcement of the concepts learned in order to apply them in their work. When this happens, you can expect that up to 85% of your learners will use what they learned on-the-job.[36] Accountability and recognition for continuing to practice learning when back at work factor enormously into the ultimate success of training – driving Level 4 results.
- **Level 2: Learning**. This is the extent to which participants learn the things that a program was designed to impart – including knowledge, abilities, and the mindset or determination to apply the new learning. Learners should leave the program knowing the subject matter and possess the skills to apply it. They should believe in its value and feel committed to using it at work. Contrary to what many assume, knowledge and skill transfer are rarely the main obstacle. More often, learners choose not to apply what they learn because they don't believe the change will lead to improvements. Moreover, the environment in which they work might discourage or disincentivize them to change their behavior. These missing ingredients impair confidence and commitment, so you need to recognize and address them.
- **Level 1: Reaction**. This is the extent to which participants like the training, engage in it, and believe it is relevant to their work. Participant satisfaction and engagement with the training, and perception of its applicability, aid in learning. Understandably then, most organizations evaluate most of their programs at Level 1. Unfortunately, they may focus so much on participant satisfaction that they have little time left for the more important measure of whether participants actually use the learning.

Your success factors should lend themselves to clear measurement. Rather than, for example, "_____ will achieve advanced-level competency in Excel," define it further: "____ will be able to conduct multivariate regression analyses in Excel following the training." In sum, seek agreement with your learners around precisely what they should be able to do with the learning when back at work. Where behavior change is the objective, wait a sufficient period of time for new behaviors to take hold before you measure.

[35] Bucciarelli, M. (2007). How the construction of mental models improves learning. *Mind & Society* 6, 67–89. https://doi.org/10.1007/s11299-006-0026-y

[36] Kirkpatrick, J., Kirkpatrick, W. (2016) Kirkpatrick's four levels of training evaluation. ATD

Though you should place the greatest importance and investment of time into Level 3 evaluation, Level 4 results are the reason you evaluate. In most cases, learning/training only makes sense if it delivers results. Progress against Level 3 (application of learning) helps you gauge and report progress against Level 4 outcomes. Again, not all learning merits evaluation. Self-directed exploration of a topic using books, articles, or web videos, for example, might be encouraged but not formally evaluated. Online courses that require commitment of time and money, on the other hand, might warrant varying levels of measurement.

As a learning coach, prepare your team members by communicating the importance of the training and your expectation that learners will apply their new knowledge/skills when they return. After the training, stay involved to reassert your enthusiasm and expectations for them.

Conclusion

Coaching helps employees develop at work, grow professionally, and become more self-reliant. It increases their accountability and makes them feel valued. Extensive research correlates learning opportunities and manager-coaching with improved employee engagement, reduced turnover, improved performance, and stronger bonds between managers and staff.[37]Most managers don't coach enough, and when they try, many fail to do the job well. For example, they don't plan or structure the coaching conversation, or they do all the talking instead of listening. Some make the mistake of criticizing team members, or they make learning feel punitive rather than rewarding. Others try to solve problems immediately instead of framing it as a productive, career-building conversation. Avoid these pitfalls. Become an effective learning coach by maintaining an open, positive attitude toward team members' ability to learn, and by experimenting with the techniques above (by no means an exhaustive list) and/or others you may discover in your own research and practice.

[37] Crowell, B., Kaye, B. (2010). Coaching for engagement and retention. Business Coaching Worldwide, Vol.6, Issue. See: http://careersystemsintl.org/PDF/Coaching_for_Engagement_and_Retention_0610.pdf