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There's an urgent imperative for improvement in fighter pilot production because of the dire fighter pilot shortage plaguing the USAF. This study proposes a new approach to training, titled "Next-Level Instruction," that can potentially increase production and slash attrition by elevating the quality of the instruction. In the proposed paradigm, instructors take the role of coach and mentor, transforming the student into a "Thrivers," a student who is eager to learn and willing to take risk. The focus of the training is on providing effective feedback and helping students get better instead of simply evaluating them. The target audience is Instructor Pilots throughout the USAF's Air Education and Training Command.

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MASTER OF MILITARY STUDIES

**From Evaluation to Coaching, Surviving to Thriving:
Changing the USAF Aircrew Training Paradigm**

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Executive Summary

Title: From Evaluation to Coaching, Surviving to Thriving: Changing the USAF Aircrew Training Paradigm

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Thesis: To the extent that the United States Air Force (USAF) must increase fighter pilot production, implementing Next-Level Instruction methods can reduce training failures and attrition by improving the training environment, enhancing the quality of feedback, and building coaching expertise.

Discussion: The USAF's current approach to instruction is critically deficient because it is almost entirely focused on evaluation. Under the present paradigm, students are tested and graded constantly, shifting the focus of training away from learning and towards "making the grade." Likewise, instructors are constantly grading and evaluating instead of teaching or mentoring. There's an urgent imperative for improvement in this area because of the dire fighter pilot shortage plaguing the USAF. Training squadrons are being tasked with ramping up fighter pilot production without obtaining any additional resources like aircraft, flying hours, airspace, or maintenance personnel. This study proposes a new approach to training, titled "Next-Level Instruction," that can potentially increase production and slash attrition by elevating the quality of the instruction. In the proposed paradigm, instructors take the role of coach and mentor, transforming the student into a "Thrivers," a student who is eager to learn and willing to take risk. The focus of the training is on providing effective feedback and helping students get better instead of simply evaluating them. The target audience of the paper is Instructor Pilots throughout the USAF's Air Education and Training Command, as well as instructors embedded in operational squadrons.

Conclusions: The paper demonstrates the flaws and shortcomings of evaluation-based training and equips instructors with an understanding of how to recognize and adapt to the psychology of the student, give effective feedback, and provide effective coaching. It postulates one possible solution to an urgent USAF crisis that can be implemented quickly, and at zero cost.

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The most precious commodity in the United States Air Force (USAF) is the motivated and innovative people who fill its ranks. The flight training community in particular is brimming with talent, but the current USAF training paradigm fails to capitalize on it because it erroneously prioritizes evaluation above instruction. Students are immersed in an environment laden with tests, grade sheets, and check rides, and are acutely aware of the potential to be eliminated from training. Rather than concentrating on sharpening their skills as budding aviators, their primary focus shifts to “making the grade” to graduate their respective course. Likewise, Instructor Pilots (IP) become slaves to an organizational culture that forces them to observe and test more than to mentor. Intended to teach, they instead fill an evaluator role and spend countless hours writing grade sheets, reviewing syllabus requirements, and scrutinizing Course Training Standards (CTS). While this inefficiency has always been undesirable, there is now an urgent imperative to revamp the approach to training. The USAF is at a culminating point regarding fighter pilot manning and, in tandem with other initiatives, must maximize every training event to meet growing production demands. Without additional physical resources, improving the efficiency of the training will require the USAF to leverage its human capital in new and innovative ways.

To realize a level of efficiency that reduces failures and slashes course attrition, the USAF must shift the focus away from an evaluation model, and instead implement and perfect a different approach. The new model, referred to as “Next-Level Instruction (NLI),” is a way of rethinking the approach to training that makes coaching and mentoring the centerpiece of an instructor’s duty.¹ In addition to maximizing the USAF’s time, money, and ability to produce more fighter pilots, improving instruction will also produce aviators who are safer and more lethal. To the extent that the USAF must increase fighter pilot production, implementing NLI

methods can reduce training failures and attrition by improving the training environment, enhancing the quality of feedback, and building coaching expertise.

The series of formal training courses that comprise the fighter pilot training pipeline are world-renowned and the envy of adversary nations that struggle to replicate the USAF's amazing sortie generation, comprehensive curriculum, and stellar safety record. Young students who enter the service with little or no experience achieve a high degree of specialization and lethality in a relatively short period. On average, it takes slightly less than two years to advance through Undergraduate Pilot Training (UPT), Introduction to Fighter Fundamentals (IFF) and an airframe-specific Formal Training Unit (FTU) that results in the student being minted a "mission-ready" fighter wingman. The core characteristics of fighter pilot training are that it is conducted at an intensive tempo, using finite resources and uncompromising quality standards. While always a mainstay of the regimen, those interrelated trademarks evolve and fluctuate.

Today, the balance is unsustainable because of a service-wide shortage of fighter pilots. Reporting a manning shortage of "723 fighter pilots, which is projected to surpass 1,000 in 2017," the Secretary of the Air Force classifies the shortage as a "quiet crisis that will almost certainly get worse before it gets better." Currently, there is a "twenty-one percent gap between the fighter pilots the USAF has and the pilots it needs to meet the requirements of commanders around the world."² The USAF Operations Deputy Chief of Staff similarly cautions that "if unmitigated, in less than eighteen months we won't have enough fighter pilots even to fill our front-line squadrons."³ Though examining the causes of the fighter pilot shortage is beyond the scope or purpose of this paper, the shortage itself is crucial to highlight because the USAF plans to urgently respond by ramping up fighter pilot production to 1,375 officers per year, representing a twenty percent increase in yearly output.⁴ Woefully short of pilots and operating

under severe budget constraints, the USAF is only able to make modest adjustments to its physical resources such as aircraft, flying hours, airspace, or maintenance personnel. Moreover, the service cannot modify the rigid training standards in any impactful way without severely degrading safety and combat readiness. To produce more fighter pilots, the USAF must enhance the training, which it can do it by changing the focus of training from evaluation to coaching.

Although there is a legitimate requirement to test and assess students at certain milestones during training, the current paradigm mandates exhaustive evaluation in every phase of training. Most educators are aware of a longstanding warning to avoid “teaching to the test,” a practice of centering learning objectives on rote memorization. Teaching to the test hinders the learning experience because "students are likely to experience far more facts and routines than conceptual understanding and problem-solving in their curriculum. Narrow tests can become the de facto curriculum.”⁵ USAF training takes teaching to the test a step further. During an average lesson, lecture, or tutorial in academia, there is essentially no way a conventional student can fail. Their job is to be in attendance and absorb the information; the testing comes at a later point. An Air Force fighter candidate, on the other hand, can fail any flight, including the first sortie in any phase of training. The USAF system is even worse than teaching to the test because it skips the teaching and goes immediately to testing.

The testing approach to training is evident in all aspects of the organization, including the way the USAF qualifies new IPs. Instead of focusing upgrading IPs on becoming superior instructors, the concentration is on forging accurate evaluators, knowledgeable of CTS and adept at grade sheet writing. The IFF Upgrade Instructor syllabus, for example, contains no requirement to formally demonstrate knowledge of instructional techniques, but does require upgradees to draft four practice grade sheets and pass a graded, fifty-question test of CTS.⁶

Astonishingly, amid the vast library of USAF publications that govern tactics, techniques, and procedures, there is not a single publication that addresses the fundamentals of actual flight instruction. Likewise, outside of debriefs during their initial upgrade, IPs typically do not receive any formal training to develop their instructional ability. Overshadowed by the emphasis on evaluation, instructional techniques are treated like corporate knowledge, passed through the organization during debriefs or pilot meetings. In large part because IPs are such talented aviators, adept at tactically employing their weapons systems, there is an impression that they must, by default, be great IPs. But being a great *fighter pilot* is different than being a great *IP*. Many pilots are great fighter pilots, but this paper seeks to energize interest and concern about the art and science of instruction and the difficult task of developing skills in others.

Improve the Training Environment

To accurately assess the changes that need to occur in instructional methods, it is crucial for leaders to identify the traits they seek to develop and foster in their students. In *The Eagle's Secret*, author David McNally coins the terms “**Thriver**” and “**Survivor**” to describe two opposing attitudes that guide an individual’s approach to work and life.⁷ These terms are easily adaptable to the Next-Level Instruction model and will be used to bracket each end of the student spectrum. Survivors are mainly characterized by fear. They are quiet, timid, hesitant, and risk-averse. Their daily objective is to avoid highlighting themselves negatively, or at all, if necessary. An evaluation-based system encourages Survivors to scrutinize grading practices and CTS as the means of survival, and to tailor their behavior accordingly. While many students are in the middle-ground, somewhere between Survivor and Thriver, it is critical to note that *any* level of Survivor inclinations weakens combat squadrons by contributing to risk-aversion and insecurity amongst fighter wingmen.

If IPs are on the lookout for Survivors and are cognizant of their telltale signs, they can easily identify them as early as the flight brief. As a common technique of checking-in with students, IPs often punctuate instructional briefs with the question “Does that make sense?” Survivors will frequently answer, “Yes” in agreement, while their body language and facial expressions teem with uncertainty. If a question persists, a Survivor prefers to look for the answer in the relevant publication or ask a classmate, rather than admit difficulty or face confrontation. By contrast, a Thriver student is confident, communicative, outgoing, and courageous. A Thriver makes eye contact, asks questions, and seeks help. The epitome of a Thriver is a student that has the ability and confidence to coach his classmates by relaying insightful lessons from his flights. Coaching behavior from a student is a significant indication of a Thriver attitude because the evaluation-based system inherently pits classmates against each other. Classmates compete for prestigious awards and accolades, and their skillfulness and achievements are compared daily. Survivors constantly seek to increase their standing among peers, while Thrivers choose instead to elevate the performance of the entire class.

Although personality traits like work ethic and determination factor into a propensity to Thrive, “any notion that Thrivers must be intellectually or physically superior should be discarded quickly. Thrivers are not blessed with excessive luck or ability. What so clearly distinguishes Thrivers is their attitudes and behaviors.”⁸ This is a profound insight for prospective Next-Level Instructors, because attitudes and behaviors are pliable. If IPs can change the student’s mentality, it means students are not affixed to any section of the Survivor-Thriver scale. They can be molded and guided from one side of the scale to the other. The role

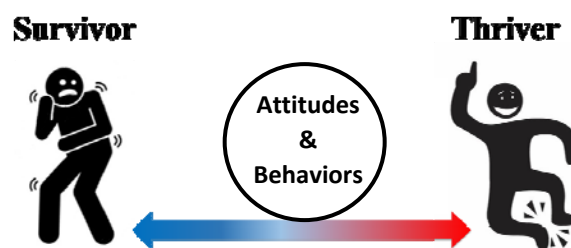


Figure 1: The Survivor-Thriver Scale

of propelling Survivors towards a Thriver mentality adds depth and purpose to instructing that far exceeds what can be achieved by assuming an evaluative function. Consequently, a training squadron comprised mainly of Thrivers can realize a lower wash-out rate.

The difficulty of shifting students along the scale towards Thriver can be minor or monumental, depending on the underlying reasons for their Survivor proclivities. Some students revert to Surviving as an unconscious habit, a carryover from their experiences in boot camp or Officer Training School where rigid conformity and inconspicuousness worked well. Others depend on Surviving as a calculated strategy to increase their odds of graduating. Convinced that their life-long dream of flying fighters is on the line, persuading students in the latter group to abandon their Survival strategy is difficult. To tackle the challenge, IPs must transform the environment into one that makes Thriving more appealing and rewarding than Surviving.

IPs can begin creating an environment that is more favorable to their goals by examining the balance of **pressure** versus **stress** in their organization. The iconic image of “William Tell using a crossbow to shoot an apple off his son’s head reflects the difference between pressure and stress, which is who is in control.”⁹ Although even a slight miss might kill his son, the circumstances of this harrowing scenario were high-pressure because they gave Tell a level of control over the outcome. William Tell’s son, on the other hand, felt stress. Stress is a feeling of powerlessness, when control is absent and a person is forced to simply allow events to unfold as they may. To improve the training environment, IPs must strive to create a **high-pressure, low-stress** setting that retains as much control for the students as possible.



Figure 2: William Tell

In theory, a fighter candidate most closely resembles William Tell, because his performance affects the outcome. He has a measure of control over each syllabus sortie because he can study, rehearse, and seek mentoring prior to his flight. To augment and enhance the student's learning, IPs provide expert, experience-based guidance. They share tips, memory-jogging mnemonics, and common practices concerning everything from fuel-saving throttle techniques to the optimal seating position for dogfighting. On the surface, everything appears to fit the mold of the high-pressure, low-stress environment that NLI seeks to create, but it does not. For the advice students receive to materialize into action, students must have the ability to experiment to find what works best for them. Regrettably, the current model is inherently high-stress because the emphasis on evaluation discourages experimentation.

At the end of each phase of training, students must “demo-pro” (demonstrate proficiency) in certain tasks by achieving established CTS. While these sorties are designated as instructional in nature, demo-pro rides take on a particularly high stakes evaluative quality. Each training syllabus directs that failure of any single demo-pro task drives the entire sortie to be non-effective, and mandates that it be re-flown.¹⁰ In a 2015 unit survey, IFF students frequently cited being on or nearing a demo-pro ride as the reason they did not accept certain instruction.¹¹ A subdivision of the Survivor, the “**Stubborn-Survivor**” is a student that rationalizes using a poor (but passing) technique as more sensible than attempting something unpracticed that might risk failure. This is a common tendency among students, and one of the deepest frustrations of IPs who wonder why students are not “listening” or “paying attention” to their advice.

In many cases, students *are* paying attention but make a conscious choice to discount instruction because “feedback can feel threatening when things are going okay. It asks people to let go of something that's comfortable and predictable. It forces them to embrace the confused,

awkward, unskilled parts of themselves, and to stretch to do things they have never risked before.”¹² The learning that takes place during each successive sortie should be cumulative, each sortie introducing more techniques that challenge the student. Stubborn-Survivor behavior skews that model by making early-phase sorties disproportionately crucial. Unbeknownst to IPs teaching late-phase sorties, they hold very little ability to influence or mold Stubborn-Survivors because Stubborn-Survivors are committed to using techniques that will ensure they pass, not techniques that are new and risky.

Another subdivision of Survivor is the “**Chameleon-Survivor**,” a student who alters his techniques based on individual IP preferences. During an interview with newly certified wingmen, three FTU graduates reported that several IPs were so rigid in their insistence on certain techniques that the class adopted an unofficial motto, labeled “Maneuver in relation to the IP.”¹³ Students in advanced courses have more insight into the evaluation system, more experience detecting IP preferences, and a higher skill level that allows them to employ different techniques. While flexibility and adaptability are prized assets of a fighter pilot, Chameleon-Survivor tendencies are particularly worrisome because the usefulness and effectiveness of single-seat pilots is grounded in their ability to operate independently, to exercise judgment and ingenuity to solve complex tactical problems. If burgeoning fighter pilots develop a habit of employing techniques simply to placate IPs, they will not become as lethal as Thrivers, whose skills are fine-tuned through deliberate testing and refinement.

Leaders must be keen to recognize this disconnect, when the environment seems one way but functions another. Although it appears to be *high-pressure*, with many variables under the student’s control and instructors advising them, the environment is actually *high-stress* because the emphasis on evaluation causes students to feel like they cannot put the advice into practice.

These Survivor subdivisions demonstrate how an evaluation-based environment generates Survivor tendencies. To improve instruction and reduce failures, IPs must realize that the current system *breeds* Survivor students and move to consider ways to change that cycle.

Grading every aspect of each sortie breeds Survivors by amplifying one of the chief activities of the brain, which is “processing the risk-and-reward response.”¹⁴ When new ideas are presented amid a backdrop of unyielding evaluation, students immediately calculate the risk versus the potential payoff. If the risk could put their core interests in jeopardy but the payoff is low or unimportant, they will most likely skip the opportunity because “you can only get someone to experiment when the stakes are low and the potential upside is great.”¹⁵ Thus, to shift Survivors towards Thrivers, Next-Level Instructors must frame their instruction as **low-risk and high-reward**. To do this, IPs should address the subject of experimentation and explicitly ask what techniques the student received previously, and if there are any new techniques that they want to try now. IPs can then tailor their instructional brief accordingly. Many IPs are already doing this, but what distinguishes Next-Level Instructors is a focus on *how* to execute a new technique, not the *outcome* of failing to execute it properly.

Instructors must recognize that students feel “positive pressure when they are held to their best work, but requiring people’s best work is different from insisting on desired outcomes.”¹⁶ IPs must value the learning process more than the results, and explicitly communicate that conviction to students to set the conditions for them to experiment. A quick conversation about experimentation that emphasizes that the focus is learning and improvement can propel “the brain to operate at its most sophisticated level. It is difficult to see and manage ambiguity if the brain feels threatened by risk, but the opposite is true when people generally feel safe. If learners assume positive intent of those around them, they become able to tap collective

wisdom and flourish.”¹⁷ Giving the student license to try new techniques also enhances the student’s perception of the risk-reward equation. Whether he uses the new technique or not, just having the *choice* plays to the psychology of the student by granting him a “degree of autonomy that convinces him that the environment is a place of reward, and therefore engagement.”¹⁸

While it is easy to convince students that improvement is rewarding, it is far more difficult to convince them that the environment is low-risk. To do that, the IP must establish genuine trust.

The foundation of “all healthy human relationships, whether professional or personal, is trust.”¹⁹ Establishing trust is an integral part of elevating the quality of instruction because students are inherently vulnerable. Open to attack and criticism, students will not be willing to accept instruction that will require them to take risk unless they trust the IP. Flying qualifications like IP or job designations like “Weapons Officer” or “Director of Operations” automatically imply experience and authority, but true influence is personality-driven. Although rank, duty titles, and position serve an important purpose, “the most critical role of the contemporary leader is to create an environment in which trust is dominant. Effective leaders do not wield power, they empower.”²⁰ Although often mentioned in jest, the “fear, sarcasm, and ridicule” approach to instruction destroys trust and “is not effective psychologically. A negative self-concept inhibits the perceptual process, fear adversely affects student perceptions, and the feeling of being threatened limits the ability to perceive. An effective IP organizes teaching to fit the psychological needs of the student.”²¹ *The Eagle’s Secret* outlines four attributes, those of straightforwardness, openness, acceptance, and reliability²² that form the basis for building trust. Next-Level Instructors can use the acronym “**S.O.A.R.**” as a useful memory aid.

Straightforwardness preserves the student’s control of as many variables as possible, because it ensures that he receives accurate feedback. By contrast, trust is diminished quickly if

the student perceives that the feedback is “sugarcoated,” and erased completely if he thinks an IP is withholding information or “keeping a secret.” Although some IPs avoid straightforwardness to side-step disagreements, it actually pays the biggest dividends when a disagreement arises because people appreciate sincerity and a willingness to have tough conversations. IPs must be willing to “choose courage over comfort, because it’s impossible to have both. Courage is uncomfortable, that’s why it’s rare.”²³ Honesty is strong evidence of **openness**, which parallels straightforwardness but is less about the courage to provide difficult feedback, and more about developing a persona of free-flowing interaction. An open IP instructs by sharing relevant experiences and informs each learning opportunity with their own thoughts and opinions. Openness is largely dependent on non-verbal communication like posture and eye-contact as well as an attitude of acceptance of different levels of aptitude and learning styles.

Acceptance is fundamentally about respect and acknowledgement of where each student is in terms of proficiency and competence. Instructors who are routinely impatient or easily frustrated by common student errors destroy trust and encourage students to revert to a Survivor mentality. By consistently working to recognize the student’s abilities and to define appropriate expectations, IPs will build a reputation for being both perceptive and reliable. **Reliability** is vital because an IP’s actions build or destroy trust. Next-Level Instructors must recognize that “no other virtue has such a direct correlation to actions than reliability. Good intentions are important, but it is what someone *does* that matters most.”²⁴ IPs must follow through on promises and eliminate any perception of a “say-do” gap, a term that describes how “trust is built by a congruence between word and deed at all levels.”²⁵ By using these techniques, IPs can create the conditions that *enable* Thriving. Once Thriving is possible, the next step is to examine the execution, the way feedback and instruction is delivered to get students actually Thriving.

Enhancing the Quality of Feedback

When asked about the traits of a great IP, many fighter pilots will mention experience, flying skill, the ability to multitask, or having a polished brief and mission products. While these elements are certainly important, the single most foundational part of instructing is giving feedback. Feedback is about connecting with students and providing tailored instruction. Unfortunately, humans are inherently poor givers and receivers of feedback. People struggle with feedback because, especially in a dedicated learning environment, the conversation usually centers around identifying faults. Feedback also presents a monumental challenge because although virtually anyone can provide feedback, it requires great skill and intuition to deliver feedback that is *helpful* to the student. A mismatch between the feedback the student needs and the feedback he receives can squander precious training opportunities. Likewise, off-base or poorly delivered feedback can leave students confused or frustrated. The following section will provide IPs with several concepts that can help them enhance the quality of their feedback conversations and transform the feedback culture within the unit.

Next-Level Instructors must always consider the psychology of the student and know what objective they are trying to achieve when selecting which type of feedback to use. In Roger Fisher and Alan Sharp's book, *Getting it Done*, three core types of feedback are identified: Appreciation, Coaching, and Evaluation.²⁶ An excellent memory aid is "**A.C.E.**" **Appreciation** encompasses acts of praise, recognition, and thanks. It conveys gratitude for the student's efforts or approval of their progress. Most importantly, the function of appreciation is that it keeps the student motivated. Without appreciation, people in any organization begin to feel undervalued and dissatisfied. A recent United States Department of Labor study found that "ninety-three percent of American workers feel underappreciated at work. Of those that ended up quitting

their job, fifty percent cited being underappreciated as the primary reason they left.”²⁷

Appreciation is crucial to keeping students engaged, but is grossly underutilized as a component of USAF flight training. Some instructors view appreciation negatively, suggesting it weakens the high-pressure training environment by coddling the students. To the contrary, the objective of appreciation is not to provide unwarranted praise or inflated approval. The goal is to adapt to basic human psychology and deliberately apply appreciation, when merited, to develop Thrivers.

Uniquely, flight training students can function without appreciation because they have an alternative source of motivation available to them. They can subsist on a diet of “fear, sarcasm, and ridicule” because they recognize that training is temporary and there is an enormous reward at the end. But if instructors resolve to use “negative motivation” to exploit the student’s dreams as a substitute for appreciation, they will rapidly generate Survivors who avoid interacting with IPs and dedicate all their efforts towards simply graduating.²⁸ In addition to using appreciation to motivate, it is also a practical tool because it makes it much easier for students to accept coaching. Positive learning experiences “are more apt to lead to success and motivate the learner, while negative training experiences stimulate forgetfulness or avoidance.”²⁹ Coaching is the true goal of NLI, but an IP seeking to maximize coaching cannot skip appreciation. There is a codependent relationship between coaching and appreciation, such that *both* are required to get the most out of coaching.

When it comes to feedback, people fundamentally require two things: they have “**the need to learn and improve, and the need to feel accepted or respected the way they are now.**”³⁰ These needs are profoundly at odds. The first need is obvious, particularly in a formal training environment. Students are fundamentally eager to accept coaching, both to become personally fulfilled as well as professionally successful. There is a “drive for learning and

mastery that should make receiving feedback easy, or even joyful.”³¹ But it is not joyful, and the reason is because giving feedback that aids improvement obliges the giver to point out failures and inadequacies. It forces the student to confront his weaknesses and blunders.

It is difficult to hear about one’s own shortcomings because of the second need, which is the need to feel accepted as we are now. If no one recognizes the hard work that the student has put into gaining the knowledge and proficiency he has now, it is motivationally devastating. The average student is working hard, studying and rehearsing diligently. In his mind, he is doing all the right things. If the feedback he receives does not incorporate appreciation, or even worse if the feedback is entirely negative, it gives him little incentive to remain receptive to coaching, when coaching is exactly what he needs to improve.

Coaching is used to enhance skills, knowledge, and effectiveness, and is the type of feedback most people instinctively think of when they hear the term “instruction.” Coaching takes the form of mentoring, advice, or suggestions about the steps the student can take to improve. Coaching should constitute the majority of any interaction with a student, but the emphasis of the current model is oftentimes disproportionately heavy on the last type of feedback, evaluation.

Evaluation is a measurement of how students are doing compared to their peers, or against established standards. It takes on several forms, such as check rides, grade sheets, and academic tests. Some IPs have a perception that evaluation is the way to generate results, but experts in human cognition assert that “comparative evaluation is rarely the best way to improve someone’s long-term performance.”³² If a student receives negative evaluation without appreciation or coaching, evaluation by itself will simply “discourage them, and convey no idea of what to do about it.” Meanwhile, if a student receives positive evaluation absent coaching, it

coaching. Using the word “written” implies that the student should specifically ignore the comments of the author, which inadvertently sabotages a key opportunity to get individualized coaching. NLI is based on promoting a feedback culture where feedback is sought after, not rejected or ignored.

The structure of grade sheets provides one reason that students might dismiss valuable coaching under the current system. To maximize training, IPs must examine practices across the board to determine where else quality feedback is being lost or discarded. The clearest target is the student’s primary source of feedback, the sortie debrief. There are several reasons students may reject feedback given during a debrief. For example, they believe it was wrong, or that the IP misdiagnosed the problem in the first place. Perhaps the student perceived unfairness, or even dishonesty. These might be good reasons to reject feedback, but the problem is that “we decide too fast. All humans are especially prone to ‘**wrong spotting**.’ When feedback is incoming, we’re trying to figure out what is wrong with it.”³⁶ Wrong-spotting is a basic defense mechanism. When humans become uneasy, “the mind tries to solve the problem or find an escape, but if these tactics don’t work, defense mechanisms are triggered that tend to distort, transform, or falsify reality.”³⁷ In *Thanks for the Feedback*, Douglas Stone and Sheila Heen explain three types of “**Rejection Triggers**” that people commonly use to reject feedback.³⁸

The “**Truth Trigger**” assesses the *content* of the feedback, and is based on searching for what is wrong with it. Examples are an IP misquoting a regulation, or asserting a certain technique as “the best,” when the student believes he knows a better one. A Truth Trigger occurs anytime the student thinks to himself “That’s not true.” The “**Relationship Trigger**” is entirely based on *who* is giving the feedback and the relationship the receiver shares with them, which can be more important than the feedback itself. Confirmation bias is especially powerful

with the Relationship Trigger. Feedback from someone who is widely admired or regarded as a great IP, for example, is far more likely to be accepted than someone with a reputation or credibility problem. The third trigger is the “**Identity Trigger**,” which is based on the feedback receiver’s *individual personality*. Perhaps the receiver is too immature, too stubborn, or there is something in their unique past that causes them to refuse certain types of feedback.

The main reason rejection triggers spring up is because “feedback usually comes in the form of frustratingly vague labels.”³⁹ As a basic example, a student nearing graduation may be told “You had a bad landing.” The student may immediately draw upon a Truth Trigger, recalling the landing as on-speed, on centerline, and in the first 500 feet of the runway just like he was briefed to do. Conversely, he may reject the feedback based on a Relationship trigger, thinking “I saw you botch a landing just yesterday. Who are *you* to tell me about landings?” Perhaps the student was a commercial pilot prior to joining the military. Drawing upon hundreds of previous landings, and now moderately proficient in the trainer aircraft, an Identity Trigger causes him to reject the feedback based on his experience level. This rudimentary example illustrates how quickly wrong-spotting can occur, especially when people are driven to make assumptions about feedback instead of to inquire about it. The feedback indeed may be wrong, but it is dismissed before the student asked enough questions to determine that for sure.

In the “bad landing” example, the IP might be trying to convey any number of things. He might be implying that the landing was a relative disappointment. In other words, the landing was *good*, but the student’s talent is such that most of his landings are *phenomenal*. Another possibility is that the IP is frustrated that the student did not apply the techniques he briefed. The student landed fine, but didn’t perform the “crack-shift-flare” method that the IP emphasized. In that case, the comment is more about the student’s ability to execute to the brief than it is about

the landing. The only way to differentiate these nuances is to place emphasis on the value of inquiry and curiosity. To improve, students need to “hit pause, and truly work to figure out what the feedback giver *means* before they decide what they think about it.”⁴⁰

Next-Level Instructors should guide students along the process of questioning confusing or offhand comments. Questioning feedback is not a skill that students have, and many are reluctant because asking questions leaves them vulnerable to exposing uncertainty or gaps in their understanding. This is where a foundation of trust and a high-pressure, low-stress environment matter most. Asking “Does that make sense?” will usually result in an irresolute “Yes.” By using a more direct approach, for example, saying “You look like you have a question. What aspect of my advice can I explain better?” IPs can be more explicit in making sure the student receives vital coaching. This is a simple example of how an IP can enhance the dialogue to further his cause. The goal is to increase instances like these, which will happen more frequently and naturally if the *IP* himself becomes better at receiving feedback.

The lurking background assumption about feedback in training squadrons is simple: the IP gives the feedback, and the student receives. It is incredibly rare to find that convention operate in reverse, yet “the fastest way to change the feedback culture in any organization is for the *leaders* to become better receivers.”⁴¹ By “cultivating a growth identity,”⁴² a reputation of constant improvement, IPs set the example and send “explicit and implicit messages about what is valued in the organization. If leaders want ‘learning’ to be valued, it must be embedded in what is discussed with admiration, what is highlighted as important in the stories that are told, and what matters when it comes to visible projects and key promotions.”⁴³ Feedback is largely about uncovering “**blind spots**,” the behaviors or habits that IPs do frequently, but are unaware of.⁴⁴ Blind spots can be distracting mannerisms, body language, or expressions, or they can be

indicative of a much deeper issue, like the way an IP makes others *feel* when he instructs. Next-Level Instructors need to work to reveal their blind spots, and in doing so must carefully consider the source of the feedback.

Thanks for the Feedback offers three types of “**Feedback Mirrors**” IPs can use to reflect their blind spots, each of which have different levels of utility and effectiveness.⁴⁵ The **Vanity Mirror** is the most common, but also least effective mirror. It is based on introspection and self-examination, but is generally inadequate because the premise of blind spots is that they are unknown to the individual. IPs can add some utility to the Vanity Mirror by videotaping themselves in the brief or debrief. However, even a recorded Vanity Mirror is less effective than other mirrors because a recording is one-sided and offers no interaction with others about how *they* interpret the instruction.

Another common, but only slightly better mirror is the **Supportive Mirror**, which is the “phone-a-friend” approach to uncovering blind spots. A Supportive Mirror is a poor gauge of blind spots because friends, above all, are there to support and reassure. In general, people ask their friends for feedback “so that they can get re-centered and feel better. But they miss the opportunity to also ask them to help sift through the feedback itself to fill in any blind spots.”⁴⁶ In the typical flight training setting, the Supportive Mirrors for students are their fellow students, and the Supportive Mirrors for IPs are other IPs. It is natural and liberating for each group to commiserate about their training woes, but it fails to elevate the learning. To generate meaningful crosstalk, the most effective mirror is the Honest Mirror.

Honest Mirrors are people who can see the blind spots of others, and who benefit from a relationship that is distanced and founded on professionalism instead of personal acquaintance. In this regard, *students* are in the best position to give accurate, unbiased feedback. They see the

things about an IP's instruction that work, as well as what falls flat. Some forms of coaching can "[O]nly come from your subordinates. They know your impact on them. They also hear what others in the organization think you don't understand, don't pay enough attention to, or aren't being clear about."⁴⁷ For an honest mirror to work, the relationship is almost as important as what the person can observe. If the person giving the feedback is someone close, it can trigger the need to feel accepted as we are now. Dear friends and family members are especially likely to act as Supportive Mirrors, while a student is better characterized as an acquainted coworker. By seeking coaching from the students, Next-Level Instructors get the twofold benefit of improving their instruction while also modeling how to receive feedback.

Some IPs have already made strides in this area, and will invite students to be an Honest Mirror by asking "What can I do to be a better IP?" While this is a noteworthy gesture, it is only a half-measure in terms of achieving accurate feedback. IPs will rarely get meaningful feedback using this question because it is too open-ended. It puts students on the spot and they rack their brains for a "right answer" among an infinite number of possibilities. Often, the Survivor instinct kicks in and the answer is that they "cannot think of anything" that needs improving. Next-Level Instructors must realize there is always something to work on, and to not be content with hollow validation. Instead, IPs can ask two simple questions that will result in real feedback. The first is: "**What's one thing you particularly appreciate about my instruction today?**"⁴⁸ This question will provide IPs with the positive impact they are having on the student, and ensure that in the quest to improve instruction, IPs preserve and reinforce their strengths.

After taking note of what instruction was helpful, the second question is: "**What is one thing you think I'm doing that gets in the way of my own effectiveness?**"⁴⁹ The terminology of each question is very deliberate. They both mandate that the student provide "one thing."

Asking “is there *anything* I can work on” provides a tempting escape for Survivors because it leaves the antonym, “nothing,” open as an intuitive choice. By framing the question to assume there is at least one thing, the student is guided to provide some answer. The benefits of these simple questions cannot be emphasized enough. Receiving accurate feedback from the students will makes IPs better, and more importantly, it models the behavior for the students. It transforms the environment from high-stress to high-pressure because the student gains a level of control over the instruction he receives. It also promotes a team concept that generates trust.

An enduring concept in the fighter community is the importance of mutual support. All fighter operations are built upon the “wingman concept,” which began as a tactical contract and evolved to define the relationship of trust among squadron mates. IPs are extraordinarily good at demonstrating mutual support concepts airborne, but when flight members return to debrief, the rapport reverts back to a unilateral relationship. By seeking feedback, IPs shift from “[B]lame conversations to *contribution* conversations, and begin holding themselves accountable alongside their subordinates, considering what *they* might have contributed to the problem.”⁵⁰

Under the current system, many IPs mistakenly cling to an illusion of perfection and view feedback from subordinates as a sign of weakness or lack of skill. To the contrary, pursuing “[C]oaching is a sign of competence. Seeking advice shows a drive to improve and the wisdom to seek new ideas.”⁵¹ Students are keen at detecting IP mistakes and especially perceptive of double-standards. IPs that attempt to maintain “[A]n image of flawless competence” will dismantle trust and eventually, “[B]y trying to prove themselves competent, ensure they remain incompetent at many things, and particularly at learning.”⁵² By taking a proactive approach to setting the feedback example, Next-Level Instructors can improve their skills and elevate the

feedback culture of the unit. Once solid feedback customs are established, IPs can focus on developing and refining their coaching skills.

Building Coaching Expertise

A coaching approach to instruction helps students “[W]ork out issues and find their own answers through the skillful use of probing questions. Coaching is the opposite of bossing. A supportive attitude of mutual discovery creates trust and builds support.”⁵³ The most common impulse of many IPs, whether conscious of it or not, is to criticize. They often confuse the act of identifying mistakes for mentorship. When a mistake is found, a sense of accomplishment comes from being the “**Mistake-Finder**” and makes them feel useful and knowledgeable.⁵⁴ Criticism is a poor form of feedback because it is evaluation-based, and if Mistake-Finders are prevalent in the organization, the student’s priorities became laser-focused on preventing mistakes rather than on taking the risks that lead to improvement. Even when the criticism is framed as “constructive criticism,” the “[D]istinction between ‘constructive’ and ‘destructive’ misses the point. It is the assumption that your purpose is ‘criticism’ that needs questioning. ‘Critics’ judge movies or restaurants. A critic is there to give a thumbs-up or thumbs-down, and move on to the next subject.”⁵⁵ IPs will not be moving on from the student. The students will continue to fly in the unit, and later in the Combat Air Forces, so the approach to instruction needs to be on *improving* their skills and lethality instead of simply providing a critique of their performance.

Leaders who want to avoid the Mistake-Finder tendency need to “[A]lter their thinking and recognize the difference between individual contribution and real leadership.”⁵⁶ The best coaching is not a lecture. It is a conversation that requires the IP to ask a series of questions and to be open to hear the student’s unique responses. Before an IP can offer advice about how to

perform a task, he needs to be clear what the student was trying to do. As older, experienced aviators, many IPs have difficulty putting themselves in the student's shoes. Understanding *why* the student behaves a certain way “[W]ill develop empathy, which is a critical characteristic that is lacking in the thought process of many leaders.”⁵⁷ Learning is a process that depends on each individual and “[T]akes place in different forms and in varying degrees of richness and depth. No two people have had identical experiences. Even when observing the same event, two people learn different things from it, according to the manner in which the situation affects their individual needs.”⁵⁸ While there are many techniques to get better information from the student, an excellent place to start is the “**Perception-Decision-Execution (P/D/E)**” model popularized in Captain Deptula's 2012 Weapons School paper, *Fundamentals of the Instructional Debrief*.⁵⁹

The P/D/E technique is a methodical approach to getting at the heart of what the student was aware of, how he applied his judgment, and how he carried out each operation. **Perception** is the pilot's mindfulness and interpretation of events during the sortie. The IP's line of questioning “[S]hould follow those same guidelines, remembering that just because information was available inside or outside of the cockpit, does not mean the student correctly perceived that information.”⁶⁰ **Decision-making** is about the actions the student takes with the perceived information. Questions about decision errors should center on what action the pilot intended to make and what he was trying to accomplish, but should “never let information collected post-sortie that otherwise would not have been available airborne, influence the debrief.”⁶¹ **Execution** errors result from students lacking the knowledge, skill, or experience to perform certain tasks, and are frequent in the training pipeline.

The P/D/E technique ties in perfectly to Next-Level Instruction in the way it inherently prevents “[P]reconceived notions or assumptions in the debrief that can lead to skewed learning

and inaccurate instructional fixes.”⁶² By approaching the debrief in a way that seeks to *find* answers instead of *assume* answers, IPs can avoid the common tendency to ask leading questions that “[E]mbed their solution in their question.”⁶³ Leading questions prompt students, especially Survivors, to aid the IP in funneling the conversation towards the IP’s desired answer rather than the truth. Although the student must admit to a mistake, leading questions are a tempting lifesaver because they tend to indicate common student errors, versus errors that might be more surprising or embarrassing if they were exposed. Leading questions also eliminate one of the most valuable student answers, “I don’t know.” A student that does not know certain aspects of his P/D/E loop should be a welcome challenge to IPs to build the student’s situational awareness as well as his flying ability.

IPs cannot afford to explore every error with probing questions, so it is important to select the most important lessons on which to focus. Commonly called “Debrief Focal Points,” these issues center on problems that affected mission success. As an IP asks questions, it is crucial to “seek the cause without being accusatory.”⁶⁴ In addition to body language and tone, IPs can convey personal interest by asking **open-ended questions**. Open-ended questions usually start with “what” or “how” and spur the student to reflect on his actions. Additionally, they give a large measure of control to students to steer their own learning. Some IPs deliberately avoid asking open-ended questions, because “they allow the respondent to take the conversation to new places. Leaders who like to maintain control focus on closed questions, which allow them to decide what to say or ask next.”⁶⁵ Asking genuine questions is vital to keeping the environment high-pressure, low-stress, and is the best way for the IP to correctly diagnose the cause of an error. Equipped with the cause of the error, the IP can transition to giving accurate feedback, utilizing the three types of feedback, to help the student improve.

As a reminder, appreciation keeps the student motivated and makes it easier for him to accept coaching. When using appreciation, it is crucial “[T]o direct your appreciation to the individual as a human being. The student’s mindset will be affected much more by directing comments towards him personally, rather than toward his actions.”⁶⁶ For example, remarking “You had a great landing. Good job applying the new technique we briefed” is a fine statement of appreciation, but it only speaks to the action the student performed. A way to improve the feedback is to target the underlying personal behavior by instead saying, “You had a great landing. I can tell you’re studying and practicing a lot, which shows you’ve got a great *work ethic*.” A unique landing technique that applies to a specific trainer aircraft will be irrelevant to the student as soon as he graduates, but by personalizing the feedback to focus on his mission preparation and work ethic, IPs identify and reinforce behaviors that pay dividends throughout his career. By providing appreciation, the IP also primes the student to receive quality coaching.

Whereas the best forms of appreciation are focused on the person instead of his actions, the opposite is true of coaching. Coaching is most effective when it is focused on choosing between different methods of completing a task, not on changing personality traits. There will be less “[E]motional resistance if the conversation is depersonalized. You are more likely to get better work if you focus on how to improve the work rather than on how to improve the human being. The model is two colleagues discussing different techniques for achieving a goal, like two anglers pondering which lure would catch the most fish. The comparison is between the way the recipient is working now, and some possible alternatives.”⁶⁷ Providing the student more than one technique is crucial because it forces IPs to be flexible to different learning styles, and it gives a measure of control to the students. By giving students multiple choices, IPs empower

students instead of constraining them, which bolsters the high-pressure, low-stress environment and could sharply decrease failures and setbacks throughout training.

Coaching can be maximized by directing it toward what the student does and *how* he does it. The current model places too much emphasis on what the student does and what the CTS are. Terms that revolve around judgment or draw a distinction between positive and negative act as warning signs of evaluation, which provokes anxiety that can distract from the IP's coaching. In *Getting It Done*, Roger Fisher and Alan Sharp provide an improved way to categorize learning points into two groups: what **Worked Well (WW)**, and what to **Do Differently (DD)**.⁶⁸ This terminology is important because it shifts the focus away from evaluation and over to improvement. Instead of judging the performance, “the wise leader will ask questions that focus on what has gone well, what could be done, and how the situation could be improved. The focus remains on continuous learning rather than on complaining. By being open-minded and positive, the leader encourages fresher and broader ranges of responses.”⁶⁹

WW instances are often neglected, but are some of the most important to recognize and use for coaching. Next-Level Instruction is about progress and building upon success, so IPs must capitalize on opportunities to underline triumphs, especially if there is noticeable improvement from previous sorties. An excellent way to amplify the student's learning from the WW construct is by asking the follow-up question: “**What was most useful for you?**”⁷⁰ This question stimulates insight and prompts the student to take note of WW items. Many times, students are so happy to be successful that they forget to pause and analyze what brought about the success so that they can repeat it again later. IPs could simply direct the student to record the WW items in his notes, or include them in the grade sheet, but asking the question in the debrief serves several vital functions. First, it gives the IP valuable feedback on his instruction. If

students routinely identify a certain technique as the most useful to them, the IP can draw an informed conclusion about which of his techniques are the best or most effective. Second, it is crucial to ask the question because it spurs along an important learning process called generation.

Generation can be explained best by the phrase “talking is remembering.”⁷¹ It occurs when students create their “own connections to presented ideas. It is the most powerful neurological driver of long-term memory. People start learning, start creating new neural pathways, only when they have a chance to recall and reflect on what just happened. The odds of information making its way into the brain’s hippocampus, the region that encodes memory, are substantially increased when people are asked a question and generate the answer instead of simply being told.”⁷² To get the most out of generation, it is important to phrase the question so that it is directed at each specific student. Adding “for you” “[M]akes the coaching personal. It becomes *tailored* instruction. It reminds students that you are useful to them and can help them extract individualized value from the conversation.”⁷³ Asking “What was most useful for you?” also primes the IP to give profound feedback by prompting himself to *listen*, not talk, when the student’s most important lessons are discussed. While listening to the student recall what was most useful to him, an IP should listen especially carefully for lessons that get to the heart of how he can develop as a fighter pilot.

The Perception-Decision-Execution model is ideal for identifying and fixing task-specific errors, and can be classified as “**coaching for performance.**”⁷⁴ Coaching for performance is about sorting out specific problems. If a student frequently misses radio calls, is late to configure for landing, and always forgets to announce his decision height, an IP can offer him a series of instructional fixes to help. But the best, most memorable and most impactful instruction is based on finding patterns of behavior to tie it all together. In the example, the student exhibited telltale

signs of task-saturation, and the cause might be something as simple as his preparation for each sortie. Maybe he did not understand how to interpret portions of the approach plate, did not have a logical cockpit setup, or did not understand how to “chair fly” an approach. By getting to the *source* of the problem, an IP can “**coach for development,**” finding the trends that exist behind the performance and engaging in a deeper conversation about, in this example, mission preparation instead of combing through a long list of errors that are only surface-deep.⁷⁵

Coaching for development is “[R]arer and significantly more powerful. When asked to think of a time when someone coached in a way that stuck and made a difference, it is almost always a coaching-for-development conversation.”⁷⁶ Instead of simply sorting something out, the focus is on developing patterns and behaviors that will pay dividends for the student’s entire career. There are endless ways to improve coaching, but the central ideas presented here will enhance the training while also developing the student for the long term. NLI is about improvement that gets students “[T]o learn from experience and do a better job next time. You cannot force your colleagues to do these things. They control their own behavior. Your purpose is to provide them with ideas and suggestions that they can choose to adopt.”⁷⁷ IPs must focus their efforts on discerning what happened, taking note of what worked and what was useful, and extracting the learning that develops the student as a pilot and as an individual. By doing so, IPs will get at the heart of NLI, which is shifting the focus and mentality of flight training from a manufacturing process to an investment in people and human capital.

In tandem with the practices outlined in this paper, the USAF can take several major steps to augment NLI techniques and enhance training. First, the USAF should create and publish a dedicated flight instruction document aimed at providing guidance on the art and science of instructing. Quoted throughout this paper, the Federal Aviation Administration’s

excellent guide, titled the *Aviation Instructor's Handbook*, offers a comprehensive example that covers subjects like human behavior, education psychology, learning styles, effective communication, and instructor responsibilities.⁷⁸ Second, Operations Groups throughout Air Education and Training Command should craft an ongoing development plan for IPs to focus purely on instructional techniques. An annual course, similar to the Instrument Refresher Course, will provide a venue for the discussion of evolving instructional techniques, as well as a way to equalize the vast spectrum of IP experience by fostering crosstalk between veteran and new IPs. Finally, the USAF should re-format grade sheets to a two-sheet system or, at a bare minimum, create a two-sided sheet that starkly separates evaluation from coaching. Besides being a more effective means of providing instruction, an entire page dedicated solely to coaching is a strong and visible way to signal a fundamental shift away from an evaluation-based system.

Under the current model, training is almost entirely focused on assessment and evaluation rather than instruction and education, which is particularly problematic due to the USAF's dire fighter pilot shortage necessitating a significant increase in training production. With only a limited ability to adjust aircraft, airspace, maintainers, or flying hours, one alternative way to streamline and accelerate the training pipeline is to increase the efficiency of the instruction. By adopting NLI methods and taking steps to enhance instruction, the USAF can simultaneously reduce training failures and attrition, and increase fighter pilot production by improving the training environment, enhancing the quality of feedback, and building coaching expertise. These steps could yield higher graduation rates, and more importantly, instill learning skills that will serve students in their follow-on training and operational combat assignments, leading to a more skilled, lethal, and effective Combat Air Force.

Notes

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- ³ Casey Kuhn, “US Officials Call Fighter Pilot Shortage a ‘Crisis,’” KJZZ, podcast audio, September 11, 2016, <http://kjzz.org/content/362523/crisis-sky-how-us-fighter-pilot-shortage-affects-arizona-air-force-base>
- ⁴ Oriana Pawlyk, “Air Force Details Plans to Boost Number of Fighter, Drone Pilots,” *Military.com*, September 2016, 1, <http://www.military.com/daily-news/2016/09/19/air-force-details-plans-to-boost-number-of-fighter-drone-pilots.html>
- ⁵ C.D. Jerald, “Teach to the Test? Just Say No,” (Washington, DC: July, 2006), The Center for Comprehensive School Reform and Improvement, <http://www.readingrockets.org/article/teach-test-just-say-no>
- ⁶ US Air Force, *Introduction to Fighter Fundamentals Upgrading Instructor Syllabus*, (Joint-Base San Antonio Randolph: Air Education and Training Command, November 2015), 5.
- ⁷ David McNally, *The Eagle’s Secret: Success Strategies for Thriving at Work and in Life*, (New York: Delacorte Press, 1998), IX.
- ⁸ *Ibid.*, IX.
- ⁹ Sheila Heen, “Thanks for the Feedback,” (speech, South Barrington, IL, August 6, 2015), Willow Creek Global Leadership Summit.
- ¹⁰ US Air Force, *T-38C Specialized Undergraduate Pilot Training Syllabus*, (Joint-Base San Antonio Randolph: Air Education and Training Command, November 2015), 13.
- ¹¹ 435 FTS Unit Climate Assessment (assigned instructor pilots and students), anonymous survey, June 1, 2015.
- ¹² David McNally, *The Eagle’s Secret: Success Strategies for Thriving at Work and in Life*, (New York: Delacorte Press, 1998), 84.
- ¹³ Interview with multiple A-10 Formal Training Course graduates, December 12, 2013.
- ¹⁴ Michael Stanier, *The Coaching Habit: Say Less, Ask More and Change the Way You Lead Forever*, (Toronto, Box of Crayons Press, 2016), 118.
- ¹⁵ Douglas Stone and Sheila Heen, *Thanks for the Feedback: The Science and Art of Receiving Feedback Well*, (New York, Penguin Books, 2014), 262.
- ¹⁶ Liz Wiseman, *Multipliers: How the Best Leaders Make Everyone Smarter*, (New York, HarperCollins Publishers, 2010), 83.
- ¹⁷ Michael Stanier, *The Coaching Habit: Say Less, Ask More and Change the Way You Lead Forever*, (Toronto, Box of Crayons Press, 2016), 118.
- ¹⁸ *Ibid.*, 122.
- ¹⁹ David McNally, *The Eagle’s Secret: Success Strategies for Thriving at Work and in Life*, (New York: Delacorte Press, 1998), 151.
- ²⁰ *Ibid.*, 151.
- ²¹ The Federal Aviation Administration, *Aviation Instructor’s Handbook*, (Washington DC, US Department of Transportation, 2008), 2-8.

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- ²² David McNally, *The Eagle's Secret: Success Strategies for Thriving at Work and in Life*, (New York: Delacorte Press, 1998), 157.
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- ²⁷ Sheila Heen, "Thanks for the Feedback," (speech, South Barrington, IL, August 6, 2015), Willow Creek Global Leadership Summit.
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- ²⁹ *Ibid.*, 2-11.
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- ³² Roger Fisher and Alan Sharp, *Getting it Done: How to Lead When You're Not in Charge*, (New York, Harper Business, 1999), 174.
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- ³⁴ Douglas Stone and Sheila Heen, *Thanks for the Feedback: The Science and Art of Receiving Feedback Well*, (New York, Penguin Books, 2014), 45.
- ³⁵ Sheila Heen, "Thanks for the Feedback," (speech, South Barrington, IL, August 6, 2015), Willow Creek Global Leadership Summit.
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- ³⁸ Douglas Stone and Sheila Heen, *Thanks for the Feedback: The Science and Art of Receiving Feedback Well*, (New York, Penguin Books, 2014), 18-24.
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- ⁴¹ Sheila Heen, "Thanks for the Feedback," (speech, South Barrington, IL, August 6, 2015), Willow Creek Global Leadership Summit
- ⁴² Douglas Stone and Sheila Heen, *Thanks for the Feedback: The Science and Art of Receiving Feedback Well*, (New York, Penguin Books, 2014), 302.
- ⁴³ *Ibid.*, 301.
- ⁴⁴ *Ibid.*, 280.
- ⁴⁵ *Ibid.*, 281.
- ⁴⁶ *Ibid.*, 28.
- ⁴⁷ *Ibid.*, 281.

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- ⁴⁸ Sheila Heen, “Thanks for the Feedback,” (speech, South Barrington, IL, August 6, 2015), Willow Creek Global Leadership Summit.
- ⁴⁹ Douglas Stone and Sheila Heen, *Thanks for the Feedback: The Science and Art of Receiving Feedback Well*, (New York, Penguin Books, 2014), 259.
- ⁵⁰ *Ibid.*, 305.
- ⁵¹ Roger Fisher and Alan Sharp, *Getting it Done: How to Lead When You’re Not in Charge*, (New York, Harper Business, 1999), 180.
- ⁵² *Ibid.*, 179.
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- ⁵⁴ Mark Schmidt. “How to Fix the Air Force’s Retention Problem: Make Better Leaders,” *Randolph AFB Wingspread*, May 10, 2016.
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- ⁵⁷ *Ibid.*
- ⁵⁸ The Federal Aviation Administration, *Aviation Instructor’s Handbook*, (Washington DC, US Department of Transportation, 2008), 2-16.
- ⁵⁹ David Deptula, *Fundamentals of the Instructional Debrief*, (Nellis AFB, NV: US Air Force Weapons School, 2012), 13.
- ⁶⁰ *Ibid.*, 13.
- ⁶¹ *Ibid.*, 12.
- ⁶² *Ibid.*, 12.
- ⁶³ Michael Marquardt, *Leading with Questions: How Leaders Find the Right Solutions by Knowing What to Ask*, (San Francisco, Jossey-Bass, 2014), 117.
- ⁶⁴ *Ibid.*, 105.
- ⁶⁵ *Ibid.*, 97.
- ⁶⁶ Roger Fisher and Alan Sharp, *Getting it Done: How to Lead When You’re Not in Charge*, (New York, Harper Business, 1999), 164.
- ⁶⁷ *Ibid.*, 167.
- ⁶⁸ *Ibid.*, 169.
- ⁶⁹ Michael Marquardt, *Leading with Questions: How Leaders Find the Right Solutions by Knowing What to Ask*, (San Francisco, Jossey-Bass, 2014), 113.
- ⁷⁰ Michael Stanier, *The Coaching Habit: Say Less, Ask More and Change the Way You Lead Forever*, (Toronto, Box of Crayons Press, 2016), PAGE???. What was most useful for you??.
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- ⁷² Michael Stanier, *The Coaching Habit: Say Less, Ask More and Change the Way You Lead Forever*, (Toronto, Box of Crayons Press, 2016), 190.
- ⁷³ *Ibid.*, 194.
- ⁷⁴ Michael Stanier, *The Coaching Habit: Say Less, Ask More and Change the Way You Lead Forever*, (Toronto, Box of Crayons Press, 2016), 40.
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⁷⁸ The Federal Aviation Administration, *Aviation Instructor's Handbook*, (Washington DC, US Department of Transportation, 2008) vii.

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