

When You Think You Know More (Or Less) Than Anyone Else—The Dunning-Kruger Effect and Imposter Syndrome

Abstract

Learning progresses through stages of unconscious incompetence, conscious incompetence to conscious competence and unconscious competence. The process, especially in the transition between the first two stages, is often impeded by the Dunning-Kruger Effect or Imposter Syndrome. When self-awareness of a person's knowledge lacks, exaggerated in the case of Dunning-Kruger and diminished in Imposter Syndrome, learning and decision-making are suboptimal, sometimes with damaging consequences. This review paper aims to describe both phenomena and offers practical measures to combat both in individual and team setting.

Contents

The Four Stages of Competence	2
1. Unconscious Incompetence	3
2. Conscious Incompetence	3
3. Conscious Competence	4
4. Unconscious Competence	4
From Mount Stupid Through the Valley of Despair	5
1. Mount Stupid	5
2. Valley of Despair	5
3. Slope of Enlightenment	6
4. Expanded Learning and Practice	6
5. Complex Mastery	6

Imposter Syndrome 7
 Different Types of Imposter Syndrome8
 Ways to Cope with Imposter Syndrome9
How to Manage the Dunning-Kruger Effect in Your Team 11

Imagine you are in a technical team meeting, and you are discussing engineering concepts to resolve an issue you’ve recently had in a production unit. There is always one rookie who appears to know it all, right? They flaunt their new-found wisdom, rarely giving the older hands an opportunity to speak. The problem is, their knowledge is often stock standard—quite general, from a textbook, and does not consider the intricacies of the specific problem. Everyone else knows they do not yet have the experience to adapt and apply their knowledge in practice. Everyone else but them, that is.

As the old saying in poker goes, if you don’t know who this person in your team is, it is probably you! Don’t get me wrong, though—being in this stage is not necessarily a bad thing. It is an integral part of any learning and growth process and also the stage where team member can harness the creativity from child-like wonder and confidence.

So, how does this work and how do you deal with a person who does not realize that they don’t know it all?

The Four Stages of Competence

Let’s start by explaining the stages of competence, a model introduced by management trainer Noel Burch in the 1970s to describe the four levels of learning any new skill.

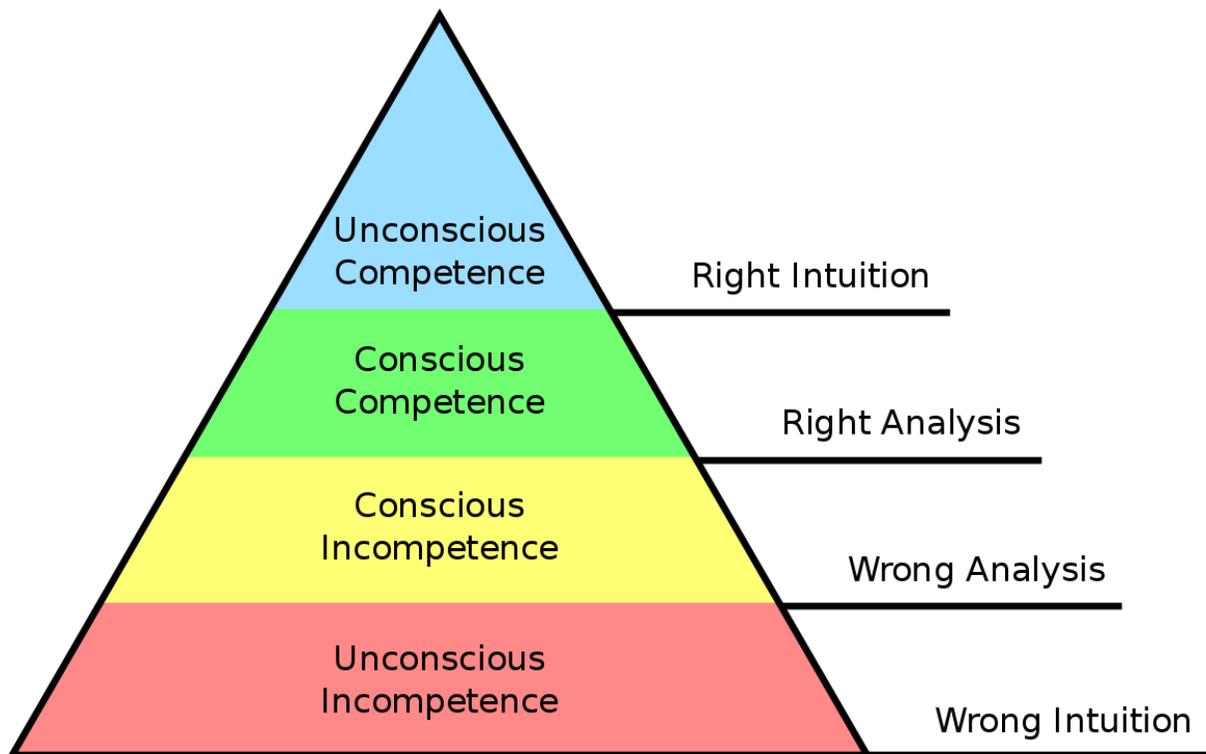


Figure 4.1. The Four Stages of Competence¹

The hierarchy of learning suggests that a person is initially unaware of how little they know about something new.

1. Unconscious Incompetence

A person who has just started to acquire new knowledge or learn a new skill does not know or understand what they don't know and how to apply what they have learned. Yet, they don't recognize their deficit and are often in a state of ignorant bliss, believing that they know more than what they do in reality.

2. Conscious Incompetence

As they learn more and start to apply their knowledge in practice, they realize that the application is not as easy as they thought it would be. They start to appreciate that they require much more effort to master their new skill. They recognize gaps in their learning that will support their practice in different contexts and situations. Now, they know that there is stuff that they don't yet know and have entered the stage of conscious incompetence, a fruitful place from where to continue to learn and practice.

3. Conscious Competence

As they build their mastery and receive positive results and feedback from peers, experts, and others, they recognize their competence in the skill that they have acquired. Put in simple terms, they know that they know stuff! They can apply their knowledge with success, but it still requires conscious thought and focus.

4. Unconscious Competence

At the fourth and final stage of unconscious competence, the expert does not think about their knowledge and application anymore. Their practice is routine and automatic. Even a complicated skill becomes much like riding a bicycle, instinctive action to produce the intended result. The person knows a lot, can apply it effectively, but does not give a second thought to their practice. They have achieved the level of unconscious competence where no further deliberate development takes place.

As an example, one gap that I had until recently was becoming frustrated and despondent when faced with difficult situations. It has held me back in promotions and development. Until I received feedback in a 360-degree assessment that I tend to "jump to conclusions," "personalize criticism," "assume negative intent," and "become defensive when feeling threatened," I was oblivious to these reactions. The awareness moved me from unconscious incompetence to conscious incompetence, which allowed me to seek solutions and work on alternative strategies.

Although my natural attachment style formed over many years, I could make small changes to develop self-compassion, which created a buffer between my instincts and actions. With practice I became competent in regulating my emotions much better. Eventually, the mindfulness and self-compassion became an instinctual nature of my connections and reactions. Although I continue to monitor and find value in feedback, I have mastered my emotion regulation skills to the point where constant thought was not required.

These four stages of competence are closely related to the competence-confidence progression that social psychologists and professors David Dunning and Justin Kruger described in their 1999 study titled "*Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments.*"ⁱⁱ

Roughly divided, the Dunning-Kruger model highlights five stages from unawareness to mastery.

From Mount Stupid Through the Valley of Despair

In the first stage of the Dunning-Kruger effect, a person has acquired some knowledge to applying a skill, but they haven't done much practice yet.

1. Mount Stupid

If a person is fresh out of college or relatively new in a job, they have acquired some relevant knowledge, but their confidence far exceeds their ability to apply that knowledge effectively. They see themselves as equals to their peers, even those with superior experience. In fact, they often question the value of years of practice, arguing that their recent theoretical knowledge outweighs practical applications. Given the opportunity, they will do better.

Their pattern of thinking is concrete, unadaptable, and boilerplate. They tend overlook nuances, special circumstances, and changing demands as they force-fit their knowledge to the problem. The worst part is that a person does not know that they're on Mount Stupid. They don't know what they don't know, being oblivious to the amount of learning and practice required to apply and adapt knowledge effectively in practice.

Guidance from coaching and mentoring can be a great help to make a person aware of their shortcomings and gaps. As they reflect on struggles and failures in real-life situations and the performance of experts, their confidence starts to take a turn downward. This inflection point is probably the most significant (and necessary) in whatever learning or growth endeavor they are pursuing.

Accelerating as they stop externalizing blame for failures and internalize the responsibility to perform, they rapidly approach the point where they question everything they have learned and experienced.

2. Valley of Despair

Nearing the lowest point of confidence after the initial peak of inflated expectations, a person increasingly feels disappointment, disillusionment, uncertainty, and despair. Quite different from the false, heady confidence experienced at Mount Stupid, this is the place

where many people quit. Impostor syndrome sets in. People start to know just how much they don't know. They feel overwhelmed and insecure, questioning whether they should be in their position or doing the job they are doing. They are afraid that their qualifications or knowledge are seen as discreditable by others – that they are a fraud.

In this dangerous place, they cannot see beyond the bottom to realize that they should push through as the upward slope is around the corner. In fact, impostor syndrome is not all bad. It is a natural and healthy feeling from where to push one's boundaries of competence and knowledge. Offering a valuable sense of humility, the motivation to learn and practice more is inherent here. The strongest growth is always achieved by pushing the edge of competence.

3. Slope of Enlightenment

When a person has turned the corner from the Valley of Despair and they start moving up the Slope of Enlightenment, feeling the relief of enthusiasm, learning, and results. Their confidence builds again but at a sustainable pace that keeps up with a realistic perspective of their knowledge and practice in the context of peers.

4. Expanded Learning and Practice

As learning and practice continues in an upward slope, it is important to realize that, in any growth and development phase when settling on a plateau is not an option, confidence does not remain at the same level nor increases at a fixed slope. As learning and application takes place, failures and disappointments reveal gaps. This is a natural (and unavoidable) phenomenon in continuous learning. It is temporary. At times, feelings of impostor syndrome reoccur but are more easily overcome than before. In fact, allow it to exist and acknowledge it as an important reality check and drive to success and complex mastery.

5. Complex Mastery

Eventually, many practitioners arrive at a point of mastery where their competency becomes unconscious. They act, react, assess, and adapt without a second thought. This point assumes a mature field of expertise where knowledge does not expand anymore, and practices have become manualized, standard protocols. No changes in the environment or situation demand new thinking. The person is satisfied

with a routine mode or enters another cycle of learning and practice in a different area.

The most valuable message to be taken away from the progression through the stages of the Dunning-Kruger effect is that self-reflection and -awareness are necessary stimulants to effective learning and performance.

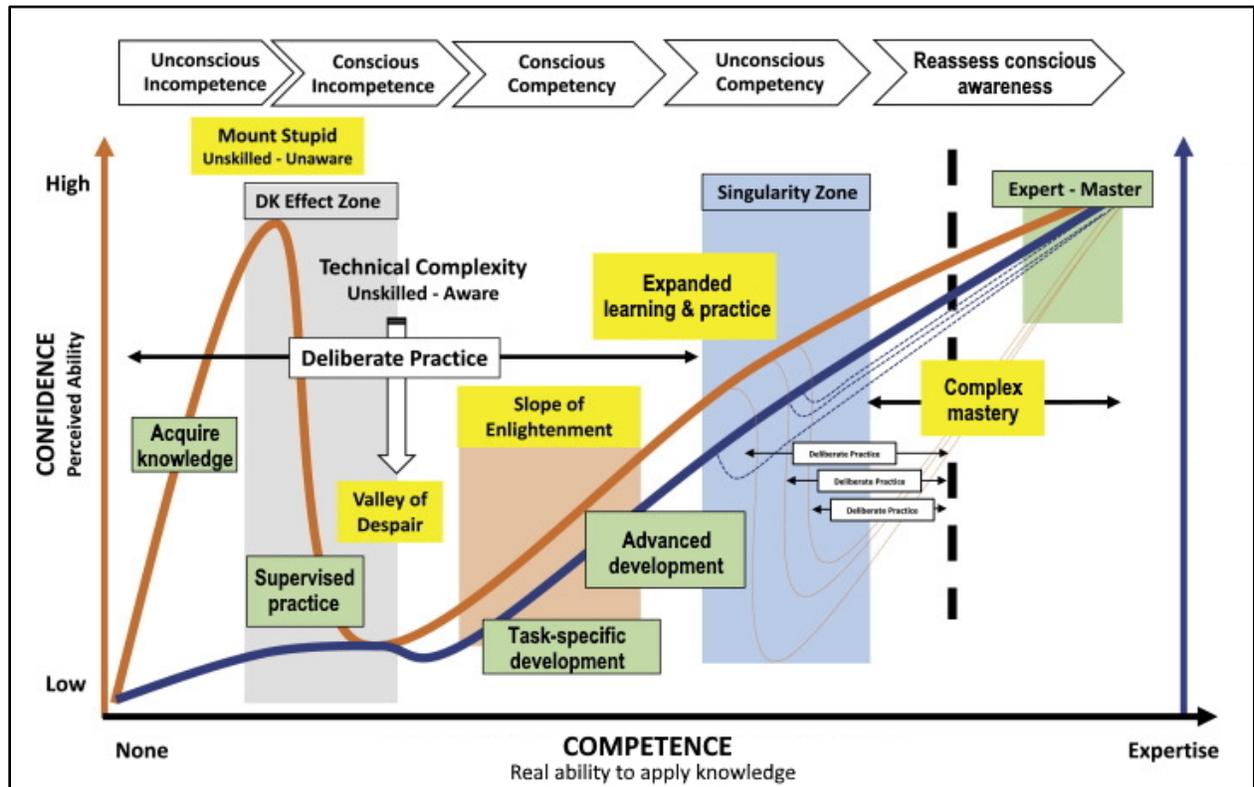


Figure 4.1: The Dunning-Kruger Effect Progressionⁱⁱⁱ

Feeling insecure and fearful to be exposed as a fraud, as a result, is natural and a precursor to continued development. Occasionally doubting one's ability helps sustain humility and curiosity, both valuable factors in any authentic presence.

So, having established that periodic feelings of impostor syndrome is part the growth of competence, let's take some time to look at the phenomenon in more depth.

Imposter Syndrome

Dr. Tim Hunt told an interviewer of the words of his colleague, Dr. Paul Nurse after mulling over the news that he had just won the Nobel prize, "Oh Tim, I've just had a most ghastly weekend because I felt so unworthy." This quote illustrates imposter syndrome quite well.

Have you ever suddenly felt a wave of uncertainty and insecurity that borders on shame for misrepresenting or deceiving people about your knowledge and competence? Although the feeling tends to appear, disappear, and reappear depending on the specific context, the experience can be quite debilitating and unsettling. If this ordeal sounds familiar, you have probably already dealt with imposter syndrome.

Imposter syndrome is a group of psychological symptoms that include feelings and beliefs that one's skills and competencies are not real and having the fear of others exposing them as a fraud. Drs. Pauline Clance and Suzanne Imes first named imposter syndrome in an article titled, "*The Impostor Phenomenon in High Achieving Women: Dynamics and Therapeutic Intervention*" in 1978.^{iv}

It is only when the fear and doubt become debilitating in limiting or derailing competence growth that it is unhealthy. In such cases, external pressure or manipulation may be involved, such as marginalizing or ridiculing a person based on a different quality (or group membership) than their knowledge, competence, or potential. Nevertheless, by identifying the source of the feelings, a person can begin to identify measure that are in their control to manage or change. Whether it is about different thinking patterns, changing environment, support, or resources, or utilizing coaching, mentoring, or training, impostor syndrome does not have to be a lasting burden.

An affected person can start by analyzing their feelings of insecurity and fear to determine their expectations and needs that underlie the distress.

Different Types of Imposter Syndrome

Dr. Valerie Young, an expert on imposter syndrome, has divided the syndrome into five types of people.^v

1. **The perfectionist** sets unrealistically ambitious goals. As a result, they are likely to fail. They have an obsessive need to control everything. They even view success as inadequate because they did not set goals properly and missed greater opportunities.
2. **The superhuman** works harder than anyone else and tries to compensate for perceived shortcomings. They desperately seek validation and are overly sensitive to criticism.
3. **The natural genius** relies on being independent and expects great successes to come in quick succession, setting themselves up for unnecessary disappointments.

4. **The soloist** refuses assistance, viewing it as a weakness and sign that they do not deserve their accomplishments. They go to any length necessary to prove their individual worth rather than collaborating.
5. **The expert** feels the need to know everything in their area to avoid others exposing them as incompetent. They often have multiple certifications and degrees to prove their adequacy.

Typically, people with imposter syndrome have difficulty fitting in and needs to learn to relieve stress, communicate better, accept and celebrate their own success and value, and share responsibilities.

Always remember that impostor syndrome can be a healthy experience that stimulates success. As with many other things, a lack of awareness, restraint, and objectivity can lead to maladaptive responses, including depressed feelings, giving up, frustration, and anger. Diligently develop your self-awareness and nurture the confidence needed to move forward.

Ways to Cope with Imposter Syndrome

Coping with and guiding impostor syndrome in a healthy direction is a matter of methodically building awareness, thoughts, and actions that supports success.

1. **Know the signs.** Firstly, learn to recognize feelings of fear and uncertainty in your ability for what it is, an awareness that there are gaps to develop in any growth process.
2. **You are not alone.** Secondly, acknowledge that impostor syndrome is a stimulus of competence as you continue to learn. Everyone feels insecure in new situations and environments. It is how you manage the feelings that makes all the difference.
3. **Be kind to yourself.** Everyone fails or have setbacks sometimes. Even times of multiple disappointments present an opportunity to learn and try new alternatives. A failure is only when you stop trying.
4. **Recognize the difference between humility and fear.** If you experience impostor syndrome you are afraid that others will notice your incompetence and think that you misrepresent your skills or accomplishments. You may even feel some guilt or shame for the supposed deceit. As this is a very externalized view depending on the perspectives of others, something that one can often not control, instead, try reframing the fear into humility. Being humble means that a person recognizes that they are not perfect yet acknowledge how far they have come and that they deserve to be there. They

- understand their vulnerabilities and growth opportunities and are willing to work on improving.
5. **Let go of perfectionism.** Wanting to be perfect is an elusive goal. It is prone to constantly feeling dissatisfied and frustrated. Imagine being perfect; what a boring place to be! With no space to grow, nowhere to share vulnerability with someone, and few exciting surprises. Rather let go of the expectation of perfectionism and embrace the challenge of real-life grit. With the possibility of failure comes the greatest advances.
 6. **Accept moments of doubt.** Uncertainty and unforeseeable outcomes are integral parts of change and growth. Doubt will inevitably creep in but use it to your advantage by letting it build your motivation to strive toward your goals. In other words, don't allow doubt to paralyze you. Know where you want to be and why and let that passion and purpose be your energy instead of doubt and fear.
 7. **Share your experiences and feelings.** A shared experience or feeling helps validate it and weakens any negative control it has. Sharing builds relationships and strengthens your support system. Having someone who listens with attention and non-judgment is very valuable to stimulate new perspectives, increase acceptance, and empower a person. Whether you are talking to a receptive friend, family member, or coach, allow yourself to be open and vulnerable. The power therein will help normalize your feelings and break your fear.
 8. **Be excited about opportunities.** Henry Ford has said that failure is the opportunity to begin again, this time more intelligently. Every failure and setback contain valuable information for the future. Learn to recognize moments that you can use to pursue your goals and passion. Apply all your knowledge, experience, and resources to make the most of these opportunities. Be excited about the prospects life offers you to learn, live your passion, and make a difference.
 9. **Remember your successes.** While learning from your setbacks, do not become suspended in their grip of negativity and hopelessness. Don't forget or minimize your successes. Remember them, celebrate them, and draw energy from their recollections. Identify the strengths that got you there. Practice and reinforce these forces and qualities to continue to new heights.
 10. **Treat failure as a learning opportunity.** I have talked about the importance of accepting and learning from setbacks before. Every failure is just a new opportunity. Another chance to discover something, learn something, and try another way. Moving is always

better than inertia. Even if you feel you are moving more steps back than forward, your momentum still provides energy that you can turn around.

11. **Embrace the feeling.** So, embrace your uncertainty and fear of being seen as a failure of fraud. A healthy level of self-doubt can act as a catalyst to energize you to improve yourself for continued growth, getting unstuck from lethargy and disappointment, and repeated success. It helps you to stay authentic and realistic. Linked to humility and curiosity, questioning oneself is valuable to always find new answers and better ways.
12. **Provide validation and reassurance to others.** Build your support network. Show an interest with nonjudgment and empathy to the people in your life. Connections built on mutual advance are longer-lasting and protective. Be there when you are needed, and others will return the favor. Always protect your own energy first but when you are grounded and strong, share your positive nervous system state with people to co-regulate theirs to a better place as well.

So, I have shown you several ways and ideas to minimize your impostor syndrome and direct the feelings of self-doubt to more productive directions. By regulating your energy and emotions first, you can focus on pushing your boundaries and building stronger relationships with others that will provide you resources in times when needed.

Finally, not only the impostor phenomenon influences your confidence and performance, being present in your team, the Dunning-Kruger effect can also deter individual and collective achievements. Being observant and recognizing when it occurs are the first steps to avoiding the false confidence and uncertainty that are present in different stages of learning and practice.

How to Manage the Dunning-Kruger Effect in Your Team

Team members who have excessive confidence in their knowledge and abilities and believe they know better than others often disrupt the harmonious and productive dynamics of a team. Also, they can negatively affect members who feel insecure in their position and doubt the value of their contributions. The leader is responsible to bring a sensibility to the team and support and encourage continuous learning and structure that will benefit individuals and their input to the team.

1. **Show what impressive performance looks like.** Firstly, the team must know what their goals are and why they are important. The leader must provide a benchmark of excellent performance that are in

the grasp of individuals but stretched. Performance is objectively measurable and consistently applied so that each member has an achievable target with a clear time frame to avoid confusion and guessing. Goals are set by SMART criteria, that is, they are specific, measurable, achievable, relevant, and time framed.

2. **Encourage continuous learning.** The leader supports and provides opportunities for continuous development of the team. He or she values learning and the application of knowledge to achieve goals. A culture of curiosity and passion for growth exists. The leader demonstrates and inspires reflection and deeper questioning. A healthy and open sharing of ideas and debate stimulate creativity and teamwork.
3. **Provide training.** Training that is specific and functional pushes the stages of learning from unconscious incompetence to conscious competence. In the process, trainees become aware of what they don't know and gain the motivation to acquire the skills and resources required to build their competence. Skills development can be targeted vertically, that is, to deepen the person's competence in a specific area, or horizontally, meaning to broaden a person's skill across multiple areas.
4. **Give regular feedback.** When a person receives constructive and nonjudgmental feedback, they are more willing and able to reflect and explore the considerations of their performance. As a result, their awareness increases of where their development gaps and issues are. Regular feedback is a major stimulus of growth.
5. **Individual and group coaching.** Coaching is a non-directive approach to explore a person's experiences, beliefs, and performance through questioning and listening. Done in individual and group formats, it is another effective way to encourage reflection, creativity, and new perspectives. The coaching style allows the coachee to formulate and try out their ideas to resolve issues or improve growth. As it is self-created, the main strength of coaching is that it empowers the coachee and plants the seeds of self-sufficiency and strength. The primary presupposition in coaching is that the coachee possesses the potential and resources to find and implement their own solutions.
6. **Recognize remarkable results.** An important quality of human thinking and behavior is that it is modeled on observed examples and past experiences. Reinforce the excitement and memory of good results by recognizing and celebrating successes of individuals and teams. The positive feelings trigger the reward system of the brain and

energize people to strive to achieve even more by anticipating the same positivity.

7. **Lead by example.** As I have mentioned, imitation is a key human process. From childhood, we observe others and do what they do if we perceive it to be desirable or rewarding. Make sure to be the leader who shows others what and how things should be done. Having clear expectations is a strong driver of goal-directed performance. By behaving in a specific way, leaders demonstrate commitment and persistence to their values and goals. It is not just empty words or window-dressing but a dedication to what is right, just, and valued.
8. **Set clear goals and expectations.** Adjoining to what I have emphasized before, having clear goals and expectations is a blueprint for success. It means that employees know what to do, why they are doing something, and how to do it. Their goals are SMART – specific, measurable, achievable, relevant, and time-bound. No one is in the dark. They know what they need to achieve. The leader is there as their guide and provider of resources and structure to enable them to perform.
9. **Apply consistent standards for evaluation.** Also touched on before, goals must be measurable and feedback regular. Assess everyone in consistent and objective ways. Be constructive instead of critical. Provide practical examples. Engage with empathy and positive regard. However, be firm (and clear) in your expectations. Someone who understands how their input contributes to achieving the team and organizational vision is more committed and motivated to work together.

These are nine guidelines of strategies to counter the negative effects of the Dunning-Kruger effect and ensure everyone on your team is aware of their competencies and its limitations. A team that is self-aware and clear on expectations will pull in the same direction with a lot more power than separately.

So, in this chapter, we have looked at the occurrence of the Dunning-Kruger effect and impostor syndrome and the effects it has on people's personal and work life. Both are natural phenomena of the learning and experiential development processes, but the leader has a deciding effect to determine whether the influence is negative or positive. With surprisingly straightforward actions, the leader can raise awareness and empower team members to understand where they are at and what they need to do to meet expectations and continue to grow consistently.

ⁱ Kavis, M. (2015, October 21). The four stages of cloud competence. *Forbes*. Retrieved from <https://www.forbes.com/sites/mikekavis/2015/10/21/the-four-stages-of-cloud-competence>

ⁱⁱ Dunning, D., & Kruger, J. (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*, 77(6), 1124-1134. doi:10.1037/0022-3514.77.6.1121

ⁱⁱⁱ Pafitanis, G., Nikkhah, D., & Myers, S. (2020). The Dunning–Kruger effect: Revisiting “the valley of despair” in the evolution of competency and proficiency in reconstructive microsurgery. *Journal of Plastic, Reconstructive, & Aesthetic Surgery*, 73(4), 783-808. doi: 10.1016/j.bjps.2019.11.062

^{iv} Clance, P. R., & Imes, S. A. (1978). The imposter phenomenon in high achieving women: Dynamics and therapeutic intervention. *Psychotherapy: Theory, Research & Practice*, 15(3), 241-247. doi:10.1037/h0086006.

^v Young, V. (2011). *The secret thoughts of successful women: Why capable people suffer from the impostor syndrome and how to thrive in spite of it*. New York: Crown Business.

© GSJ