

Research Skills Coaching

Institute for Advanced Membrane Technology (IAMT)
Prof. Dr. Andrea Iris Schäfer



RSC 7: WHAT IS SUCCESS?

A few years ago, I was telling a PhD student what needed to be done to attain success. The response was 'What if I don't want to be successful?', I was stunned. Here I was, trying to coach someone to success, who did not want to be successful. After many years of reflection, I concluded that maybe the definition of success was different. So, what really is success? When browsing several dictionaries one can find 'An accomplishment of an aim or purpose', 'the attainment of fame, wealth, or social status', 'the good or bad outcome of an undertaking', 'the result of hard work or luck', or even 'there is a thin line between success and failure'. Obviously, there are differences between personal and professional career definitions. The personal may be about getting rich, being happy, finding the right life partner, having children, status and visibility in a community, culture or religion. Much of this is determined by conditions at birth, conditioning in our family and culture and opportunities. In research skill coaching, the aim is to look at the professional career. This means asking the question 'What is it that I really want?'. I just want to complete my degree, I just want to finish my PhD, a job, and an income. Does this make us truly happy and satisfied?

Often, I challenge team members to think about what would make them really happy when they retire. It is a faraway point, but poignant and well worth thinking about.

'If you carefully consider what you want to be said of you in the funeral experience you will find your definition of success' (Steven Covey)

Time and again I have suffered the envy of near-career colleagues who did not achieve what they had maybe hoped for. Their dissatisfaction became a destructive force for others and inspired me to think carefully about what would make me feel satisfied. A few decades of working life pass quickly and may end abruptly through illness, death or war. What will make me proud? What will I regret, and often it is regrets about what we didn't do? What kind of old person would I like to be?

• **NEED VERSUS WANT:** if we get wealth we want more, if we have food we want more, if we publish papers we want more, if we get research funding we want more. This seems to be a common human drive, but it prevents us from being happy and satisfied. I think one needs to differentiate between basic needs and wants. The basic human needs for survival are 'Food, water, clothing, sleep, and shelter'.

Most of those reading about success will have those basic needs met. Maybe more interesting are the human needs for well-being at work (adapted from Crystal Wiedemann), which probably also applies to life as a whole.



The **physical** need covers income and safety, free of discrimination, bullying and other dangers. While one would assume this to be the case in an academic environment, short-term contracts, job insecurity, discrimination, exclusion and mobbing (at all levels) are pretty common practices. This can distract tremendously not only from getting things done, but also cause illness and end careers. This is an issue that organizations have not dealt with well so far, possibly because no one knows what to do. The **relationship** need as a social being requires peer friendship and support, a caring supervisor and a nurturing environment. It is likely that this varies for different individuals, any particular environment can be very nurturing for some and utterly toxic for others. One can imagine the classic 'boys club' or a highly ambitious lab that makes the career of some, but results in destroying the confidence of others. Here success is about finding the right place, while also fostering inclusive environments. The **competence** need is about skills, self-efficacy and mastery that ultimately translates into performance and productivity. What does it take to develop competence? 'clear expectations, appropriate training, and sufficient feedback'. In other words, a supervisor who really cares, takes the time to state

expectations, provides training opportunities and give feedback and a person with the ability to accept critical feedback. The autonomy need means that we can make our own choices, follow our will, maybe control and independence, 'flexibility to decide how best to accomplish our work and the inclusion in decisions'. In academia this autonomy varies greatly, typically it grows with experience, in a balance between 'sink or swim' and micromanagement. Premature independence can destroy as much as excessive and manipulative dependence. The self-expression need is about being heard, about being authentic and being our true self with our unique gifts and abilities. We all desire to be the fullest, truest versions of ourselves. This means a need to align ourselves with our work, personal growth and values. Probably the hardest task of all – and the quest is lifelong - is to figure out what we really want and who we really are. This is the secret of motivation! The **meaning** need requires that we belong, we are part of something greater like a community. It is about connection and being valued as a member of an organization or team. Excluding others is an extremely damaging and dehumanizing act and we all know that this can be a common group dynamic. Be mindful when this happens, to yourself and others and have the courage to speak up. There is an incredibly powerful concept in Africa called Ubuntu, explained very well but one of the wisest Elders of our time, Desmond Tutu; 'the belief in a universal bond of sharing that connects all humanity' and 'A person is a person through other persons. You are not human because you think, but because you engage in relationship'. People are made for complimentarity with very differing skills and this applies to research labs. The purpose need means that we have a feeling to make an impact or feel a greater purpose. In research the question of how our work will change the world, save lives or contribute to environmental change is important. We matter by furthering the greater good in our individual small ways. This can be frustrating when progress is slow, maybe our ambition is larger than feasible, the time is not yet ready, yet the vision is important to pursue. This shows the very many facets of success and the many options every individual has.

- SETTING AND ACHIEVING GOALS: Practically meeting our needs requires specific goals. In research this starts with obtaining the required qualifications (e.g. bachelor, master, PhD), the necessary position, funding, and time and again setting new goals. The format can vary greatly, some have a specific goal of fame, research group size, status and power, number of graduated students, H-index, being invited to give a talk, influence, popularity, or developing a particular product. The impact is measured in many different ways, as is excellence. Simple goals can be ticked once achieved, more complex goals may take longer and are achieved on arduous roads. To return to 'just wanting to finish the PhD'; when one pursues the research with passion and a personal vision, then the PhD, the publications, the indicators of success are an inevitable side effect. Sometimes we forget this when we pursue H-index and publication numbers. A goal can be much greater, developing a personal mission statement or vision is a good means to elucidate what a suitable goal is to feel truly successful in the end.
- OVERCOMING FEAR AND TAKING RISKS: Setting high goals is risky. Failure and not looking good are likely. Of start-up firms, 95% are reported to fail. Taking a difficult exam, setting out to do truly challenging research or applying for an important position means risking failure. Sometimes applying for highly competitive funding or a promotion is bound to fail. Good people take the risk before being 100% ready, this means facing the fears and doing it anyway. Not everyone who competes in the Olympics can win a gold medal, and clearly, even those not winning any medal are part of the most successful athletes. Sometimes luck is part of the game and if one does not make the decision to play, risk humiliation, loss of face and failure, one cannot win. Evaluating which risks are worthy needs to be evaluated carefully. Many entrepreneurs have had to risk losing every possession in order to make it. Sometimes taking this risk consciously means that we give it our all to succeed, simply because we want it so much. It doesn't always work out, but to be in the game one has to play. If we fail, then what?
- SUCCESS VERSUS FAILURE: Failure is part of success! It is hard, it is demotivating, and it takes time to process, but the secret is to get back up again after setbacks and try again with refined skill and strengthened determination. It helps to analyse what went wrong, if anything can be learnt or if was it just bad luck, circumstance, or timing.

'Success is going from failure to failure without losing enthusiasm' (Winston Churchill) There are many judges involved in evaluating success. Inevitably teachers need to evaluate (and grade) the work of students, experts are often relied on to evaluate PhD theses, publications, funding applications, appointments or promotions. Feedback ought to be available to improve and this intention should not be forgotten. With job or funding applications feedback is usually sparse, for reasons of the time requirements and, sometimes, bias. It is important to work out strategies that build resilience. What is a failure in research? An experiment did not work as hoped, a manuscript was rejected, or a funding application was unsuccessful. Often a lot of hopes are associated with attempts, a particular fellowship would allow obtaining a permanent position or professorship, or a certain result is required to complete a PhD. Failure is always there to teach us, it may be a pointer that a new skill is required, that life wants us in a different place or that we need to train our resilience further. Typically, if one really wants something, one needs to go through a series of trials and tribulations. It helps shape our determination and character. This is especially true for the PhD. After all, the rocky road is usually more interesting, cherish the rocks and obstacles and embrace them, as hard and disheartening as this can be. With time the obstacles may get higher, but your skill in overcoming them is a lot better. It still hurts, from my experience the first time I experienced a tough knock-back I cried for two weeks. At some later point a similar knock-back left me depressed for a couple of days. Now I take a deep breath and sigh loudly, before carrying on. So is life. It helps that some failures turned into major successes at another time and in another place. This develops trust that everything happens for a reason and we simply need to give our best and persevere.

• **EFFORT AND SACRIFICE:** Climbing the mountain of success is effort. A rocky road is slower than a smooth path and inherently more interesting. In an ideal world, effort yields results and is rewarded. However, the only certainty is no effort no gain, while effort may still require being in the right place at the right time. Opportunities tend to present themselves, yet one has to recognize these and take the risks, be that investing a lot of time without having certainty of success, moving across continents or accepting a new position that for many reasons may just not work out as hoped.

'Success is 1% inspiration, 99% perspiration'
(Thomas Edison)

In terms of sacrifice, the first is certainly hard work in the form of time and sweat. Effort means willpower, focused direction of attention, defining specifications carefully, systematic elimination of factors that contribute to failure and good organization. It helps to have good role models in the form of real-life people or in the form of biographies of inspirational leaders. Most important perhaps is to seek advice from those who have achieved what you wish to attain, rather than from peers who have tried but failed - as comforting as this may be. The elders play an important role and previous generations often have had much greater obstacles to navigate. What is the advice of the elders?

An interesting resource is provided by Malcolm Gladwell's Outliers which stated that 10000 hours of practice are required to achieve the level of mastery associated with being a world-class expert – in anything. There are no 'naturals' who don't need to put in the work, no 'grinds' who work harder than everyone else and never make it. 'The people at the top don't work just harder or even much harder than everyone else. They work much, much harder. A master is a successful instrument player, athlete, programmer, and expert. This magic number is what one could apply to the completion of a PhD. How many hours does one need to invest in a successful PhD? In research, the curiosity, the just wanting to find out, and not letting go before you figure out provides the necessary degree of obsession and drive.

◆ DISCIPLINE VERSUS PROCRASTINATION: Putting the effort without a guarantee of success is draining, yet necessary. This requires discipline and invites procrastination. I can't, I don't want to, I don't know if I can, it won't be good enough anyhow, I'll do it tomorrow, I'll fail anyhow − these are all justifications of the 'inner monkey' that tries to distract and procrastinate (see Tim Urban). 'Feeling the fear and doing it anyway' (see Susan Jeffers), delaying gratification and ending a particular effort when you are in flow (rather than stuck) are good strategies. If the above concept is true, anyone can put 10000 hours to master a particular skill, assuming some basic talent. This is encouraging, while this huge number can be overwhelming and is best broken down into stages, smaller tasks. A good to-do list of achievements over the course of a PhD, or even daily tasks that can be ticked off regularly, will make it easier to keep the spirits up. It is a good strategy to get the most unpleasant task done first. Performance is a measure of success and it is defined as work per unit of time, getting the work done in a reasonable timeframe is

inevitable and efficiency matters. Being mindful of excuses, blaming others or circumstances, surrounding yourself with losers to stay comfortable or waiting for the perfect conditions (that never come) are red flags. Don't give up and practice 'learned optimism' (Martin Seligman) and the power of doing things now to get things done. There is a tremendous amount of literature (and in the meantime videos for those with a lesser affinity for books) available to help develop skills, the journey is rewarding. If your actions result in conflict, deal with it rather than shying away. One cannot go through life pleasing everyone all the time.

Success is possible despite the circumstances and it rarely is a result of the red carpet being rolled out upfront. Clearly, it helps to be part of the right networks, have access to power and resources to get things done, but privilege can be a hindrance as it can reduce the required hunger or toomuch light bling clear vision. Success is good, celebrating success is worthwhile and yet success can also fuel envy. The much talked about tall poppy syndrome (TPS) is used to describe a social phenomenon in which a person with genuine merit is resented, criticized, attacked, or cut down because of their talents or achievements elevating them above their peers. The sayings that 'tall trees catch a lot of wind' or it is lonely at the top are equally real. Do not let it deter you from achieving your life mission and pursue your dreams, take it as an affirmation of success or a compliment. It is a reasonably lowly goal in life to bring down others.

Most success takes sacrifice and often real success requires that we abstain from taking credit (ouch, says the ego!). Often success is something we receive, not of our making, but we were in the right place at the right time and had everything that was required. For me one of the biggest inpirations of success is Sidney Loeb (1917–2008). As a chemical engineer, he 'invented' reverse osmosis membranes as we know them and he patented his invention. 'Loeb received \$14,000 for an invention that led to a multi-billion dollar industry'. Obviously he did not get rich, he did not win the Nobel prize (in my opinion ahuge oversight), yet look at the tremendous impact. A few years ago another elder in our field told me the story of Loeb presenting this invention at a conference and no one believed him that such a thin polymer membrane could resist the high pressure required for seawater desalination. It did and the rest is history. What would our world be without reverse osmosis membranes?! Failure and success are indeed very close. Loeb attended conferences (I think last time I saw him he was 90) and truly enjoyed science. One can only be proud and grateful that people with such gifts exist.

References

- 1. https://blog.aifsabroad.com/2023/10/13/successful-people-define-success (accessed 16 Nov 2024)
- 2. https://en.wikipedia.org/wiki/Success (accessed 16 Nov 2024)
- 3. Crystal Wiedemann https://www.linkedin.com/pulse/7-universal-human-needs-holistic-wellbeing-work-wiedemann-ph-d-/ (accessed 16 Nov 2024)
- 4. Desmond Tutu: Who we are: human uniqueness and the African spirit of Ubuntu, https://www.youtube.com/watch?v=2ttr9mk6Uig (accessed 18 Nov 2024)
- 5. Carol S. Dweck (2006) Mindset: The New Psychology of Success, Random House, ISBN 10: 1400062756
- 6. Malcolm Gladwell (2008) Outliers: The story of success, Penguin Books, ISBN 978-0-141-03625-0
- 7. Tim Urban: Inside the mind of a master procrastinator, https://www.ted.com/talks/tim urban inside the mind of a master procrastinator (accessed 18 Nov 2024)
- 8. Susan Jeffers (1988) Feel The Fear And Do It Anyway: How to Turn Your Fear and Indecision into Confidence and Action, Ballantine Books, ISBN 9780449902929
- 9. Martin Seligman (2006) Learned Optimism: How to Change Your Mind and Your Life, Knopf Doubleday Publishing Group, ISBN 978-1400078394
- 10.https://en.wikipedia.org/wiki/Sidney Loeb (accessed 18 Nov 2024)