

Decision making and cognitive bias

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Decision making with the brain in mind

Schools have an enormous amount of data to use to inform their strategic plans and next step. Data is a necessary and smart starting point but is not the whole solution. The other risk in decision making is to make all decisions from our own head and not draw on the collective expertise of the team. We are all geniuses in our own head but we make better decisions by collaborating with a diverse group. Look to the ten windows before you make a decision.

<p>WHAT I KNOW What is in my head?</p>	<p>WORLD'S BEST PRACTICE Who is doing it well?</p>
<p>WORLD VIEWS What are our individual beliefs and agendas? Mine for cognitive bias.</p>	<p>RESEARCH What does the research say? Is it brain-wise?</p>
<p>POOLED TEAM EXPERTISE Draw out the expertise but beware of group think.</p>	<p>IMPACT Identify the consequences of the possible decision options.</p>
<p>PURPOSE What outcome do you want? Keep the why in mind. What are the critical criteria to make the decision?</p>	<p>INTERNAL DATA What internal data and evidence do we have?</p>
<p>PROBLEM OF PRACTICE What are the real issues that block progress?</p>	<p>ENABLERS OF PRACTICE What are the enablers to excel success?</p>

Table 1: Look through the ten windows before you make a decision.

How to use the 10 windows

It is important that everyone understands that decisions are made on what is best for the school, the students (client) and the quality of the pedagogy. Otherwise it is human nature to instinctively defend our ground when a pending decision makes us anxious or we are in a position for potential change or loss. The brain easily goes into agitate mode when change or loss is expected. Having a decision making model will calm the brain stem and give staff something to anchor into. Even if others do not like or agree with the decision being made, they are more likely to accept it if they know who and how the decision was made. The following explains a clear criteria and model guideline.

Criteria: What is the best decision for the school and student outcomes (Not, what is the best decision for individual agendas or specific roles or the loudest voice).

How: Open a discussion to explore the ten windows. Use deBono's thinking hats or a SWOT analysis to ensure all perspectives are covered. Normalise debate. Listen to all the voices. Make the best decision based on which is this best solution which is not always consensus. Be mindful that consensus sometimes puts everything in a melting pot and averages thoughts! Sound decision making does not take the three yellow opinions and one blue opinion to make a green decision. It is about having an open discussion, in such a way that the truths are revealed. Some teams will benefit by allowing time to read the evidence and explore perspectives with a dedicated decision making meeting being scheduled in a couple of weeks.

Unity: The team need to understand that debate is healthy inside a room and that everyone is not going to agree with a decision all the time. However, once a decision is made everyone needs to support it actively outside the room and be able to explain how and why the decision was made. One strategy is to talk through what phrases and words can be used to take the message out into the school community.

Rules of engagement

The strategic plan outlining the vision, values and goals of the school will guide decisions and therefore there needs to be some 'givens' or 'non-negotiables' as various department heads and teachers go about their work. However, outside these terms of engagement, teachers need to be given some sense of autonomy in how they go about their pedagogy. Thriving schools, have a clear vision, everyone can discuss the strategic plan and priorities and they have 8-12 shared common practices in every classroom. Every child deserves the best teacher so this can only be a possibility if the school has a core of shared, high yield practices. Thus, decision making requires a balance of autonomy and rules of engagement.

Who: Decision making aligns with a person's accountability

Mode 1: Strategic decision – CEO makes (policy, safety, alignment to vision)

Mode 2: Tactical decisions – Senior leadership makes (Most decisions)

Mode 3: Operational decisions – All staff, or a department, or expert team (Front line decisions) Often the coal face staff have significant deep knowledge that can contribute to decision making and make or break the implementation of a new change.

What can Neuroscience tell us about decision making?

Reference: Dr. Judi Newman Published Thesis, (2022)

The primitive brain	Meaning	Relationship to research question
Humans are loyal to one group	Humans tend to bond and commit with the most familiar group they align with. People who strongly identify with a group will act to benefit their group, consider them their in-group or tribe and discriminate against other groups (Van Vugt & Hart, 2004). A strong sense of belonging triggers the release of dopamine and serotonin, making it a neurologically rewarding experience (Cooney Harvath, 2019). Humans have a tendency to break off into cliques especially when conflict arises (Nicholson, 1998).	If the group loyalty bias is not navigated well by the senior leadership team, then there is a risk of a them and us culture (Fullan, 2009) resulting in in-group and out-group mindsets. Be mindful of group think. This is when we accept a decision because we thought everyone else thought it was the way to go. Groups make worse decisions than individuals.
Humans like to categories	When living off the land in Palaeolithic times, humans had to know what berries to eat and what berries not to eat. They categorise everything to order their world, in order to make faster and better decisions (Nicholson, 1998).	Nicholson, (1998), says that managers tend to sort others into winners and loser groups within three weeks, after starting at a company so leaders need to be aware of not creating in-groups and out-groups
Humans avoid criticism and praise	The tendency to avoid direct conflict and instead adopt indirect means is deeply ingrained in our primordial instincts (Stebbins, 2017). Humans avoid being criticised or blamed as they try to maintain a competent reputation and look good. (Stebbins, 2017). This impression management may cloud decision making.	Leaders need to be mindful of the emotional mind field that performance reviews embody and understand that individuals will want to look competent in front of the boss.
Trust and communication decline in large groups	Professor Robyn Dunbar (1990), an evolutionary psychologist studied primates and argued that the size of the neocortex correlates and inhibits the number of relationships that an organism has the capacity to process, the maximum being 150. Later studies questioned these findings but they have since been partially replicated.	If schools are over 150 in size, the principal needs to grow other leaders around them to distribute their leadership to maximise communication of key messages from decision making.
Followers are attracted to leaders who have strength	Nicholson, 1998; Swarn, contends that followers are attracted to leaders who are highly confident. This can be beneficial however be aware of the white coat syndrome. Leaders haven't got all the answers and need to collaborate to seek ideas from others.	A team looks to the leader as a source of strength, certainty and calm, especially in times of uncertainty and anxiety. Balance this strength with humility and stay open to learning . Be curious.
The brain is a dopamine machine	The release of dopamine is addictive so the behaviour that caused the release of this brain chemical is likely to be repeated (Medina, 2008).	Leaders can inspire others through behaviours that give a dopamine hit.
Humans think in expectation and we all have cognitive bias.	As information comes into the brain from our senses, it links to existing wiring first because this process uses much less fuel compared to learning something new which calls on the	Leaders need to be aware of their own cognitive bias in decision making.

	process of dendrite growth. Therefore, humans have inherent cognitive bias.	
The brain is quick to use the first solution to save fuel.	The PFC is a breaking system that allows 1/1000 of a second pause to allow for more reasoned decision making rather than jumping in with the first instinctive response.	Slow down your thinking to respond rather than react.
The brain does not make the best decisions when stressed.	Dr. Jill Bolte, (2006) a Neuroscientist, shows that it takes 90 seconds for the stress chemicals to be flushed out of our system at a biological level after we experience an emotional event. Time to calm the brain stem is beneficial for reasoned decision making.	A leader remains calm and composed for rational decision making. They know how to create settings that trigger others into contribute state.
Emotion and cognition can not be separated.	Emotion cannot be separated from decision making. Humans were not designed to be clinical about decisions. How we feel about something will either inhibit or enable our willingness to buy, take action or participate.	Understand that the way we fill about something or someone will affect our decisions.

Cognitive bias

Cognitive bias is a systematic non-conscious error in thinking that leads an individual to misinterpret or distort information (Kahneman, 2011). There are over 300 documented cognitive bias but the biases that impact the most on a personal social interaction are listed below.

Cognitive bias	Type description
Confirmation bias	When you only look for information that confirms your existing beliefs.
Cherry picking	When only a specific piece of information is selected to explain your reasoning and you ignore the rest.
Black and white	Think only in terms of one extreme or another, as in all bad or all good. When you argue either or, when really it is the grey, not the black and white that might be relevant.
Straw man	Attacking an opposing argument in order to strengthen your own argument. The straw man is a deco. Destroying an opposing argument does not necessarily prove your own theory.
Personalizing	Arguing against an issue because you don't like the person or the person who is delivering the message.
Projecting	Arguing against something because it unconsciously reflects something you fear yourself but may in fact be quite reasonable for another person.
White coat syndrome	Being anxious and shaping your response differently around a professional or someone in authority.
Popularity bias	Appealing to emotion based on what is popular to other people. Thinking if everyone likes it, it must be good or right.
Gender bias	Distorted thinking based on if someone is male or female. For example, thinking only males can be good doctors.
Poising the well	Being so committed to a position that you are blind to reason, no matter what facts are presented.

Incentive bias	When extrinsic rewards are provided as a motivator and they have the opposite effect. For example, offering a gold coin for every 20 rats that are caught and the families start to breed the rats at home to collect more coins.
Herd mentality	Also called group bias. When people blindly go along with what others are doing without questioning the decision.
Loss aversion	A tendency to fear losses more than an opportunity to see an opportunity for gain.
Framing	When someone makes a decision based on how the information was presented to them.
Anchoring bias	Taking pre-existing data as a reference point for all subsequent data which can skew decision making. When we rely on the first information we are given.
IKEA effect	We place more value on things we help create.
Hyperbolic discounting	A tendency to value immediate rewards over long term rewards.
Self-serving bias	Blaming external factors for personal errors.
Illusory truth effect	We are more likely to believe misinformation when it is repeated.
Dunning Kruger Effect	We think we are better than we really are.
Availability heuristic	Tend to think that things that happened recently are more likely to happen again.
Bounded rationality	Explains why people are satisfied with good enough.
Cognitive dissonance	Hard to change someone's beliefs.
Decision bias	Why we make worse decisions at the end of the day.
Affect heuristic	When we rely on current emotions to make decisions.
Halo effect	When we apply a positive importance based on a positive attitude in another area. For example, she made an excellent decision around this so today her decision must be great too.
Lego effect	Humans are hard wired to add rather than take away when problem solving.

Kahneman, (2011) et al.