Considering a 'Change'
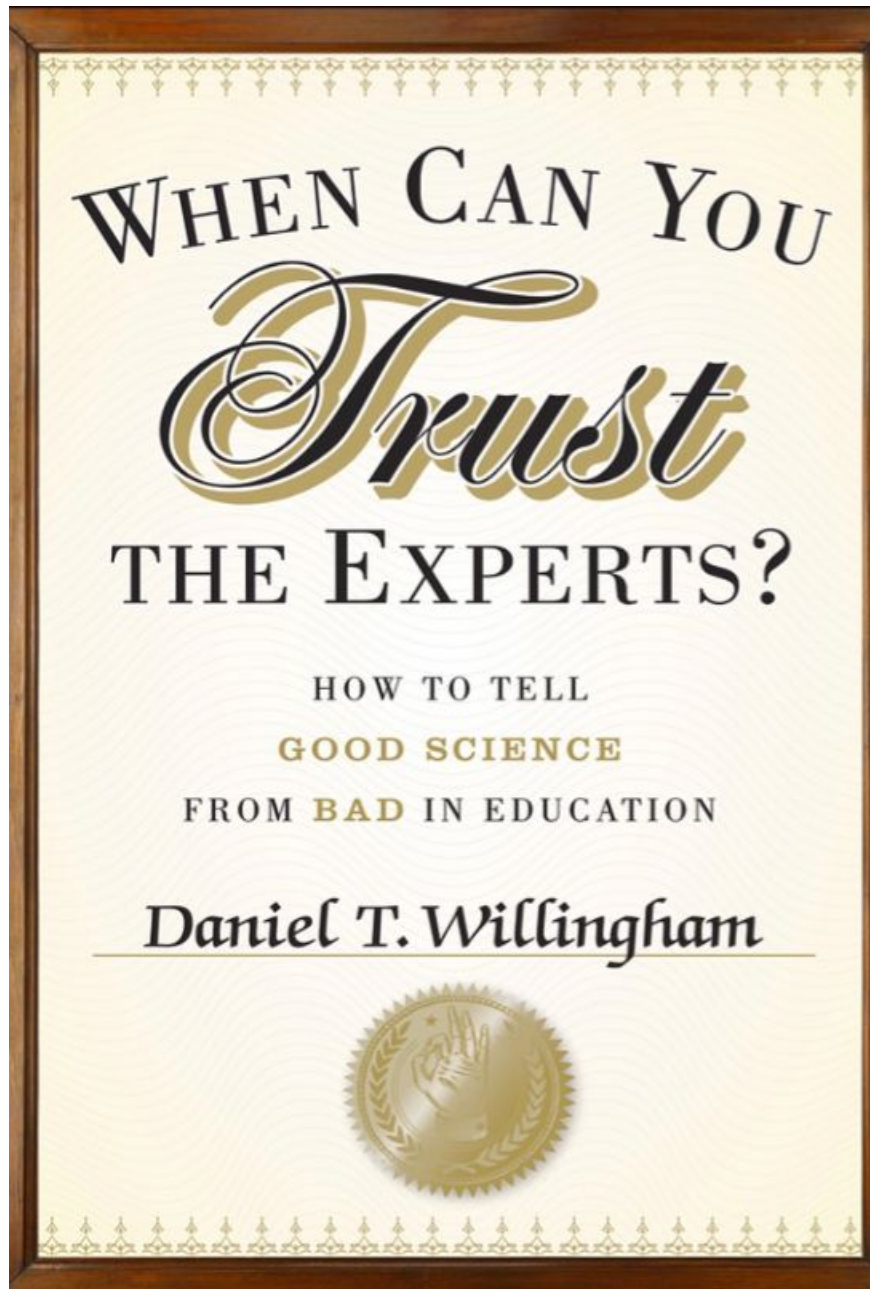
Evaluating evidence and deciding whether a 'Change' is right for your school

A guide based upon the book:

Introduction

In late 2018 I was fortunate enough to have the opportunity to read Daniel Willingham's book, [*When Can You Trust the Experts*](), and subsequently interview Dan for the [*Education Research Reading Room Podcast*]() *(www.ollielovell.com/errr/danielwillingham).* I found the book to be an incredibly enlightening and invaluable resource, particularly for school leaders, but also for anyone trying to evaluate research evidence, and determine whether a potential educational 'Change' at their school is likely to have a positive impact. A Change could be anything from bringing in a uniform policy to commencing an intensive tutoring project, or banning the use of mobile phones. I felt that wider knowledge of the book, and the key lessons therein, would help to empower school leaders to make better decisions when it comes to prioritising different initiatives, and deciding which ones to move forwards with. As such, this document can be thought of as a summary of the key lessons that I took from Dan's book, along with some additions from my own experience in education. This document is best read after listening to the podcast. I hope that school leaders find this a helpful, or at the very least thought provoking, document. I would be grateful for any feedback regarding how it's been helpful in your own context, or ways that you've modified it in order to make it more effective.

In this guide

Section 1: What gets in the way of good decision making?

Before we get too deep into the evidence analysis process, it is important to consider the filter through which all subsequent information is going to flow. That filter is our minds and, being human, we are susceptible to multiple biases that are likely to hamper objective analysis of information. In this section we consider three such factors: cognitive biases; our values and beliefs with respect to the purpose of education; and peripheral cues.

Cognitive Biases

'Cognitive bias' is the term given to a thought pattern or process that systematically leads to an error of judgment. Many readers will already be familiar with cognitive biases, and a detailed analysis is beyond the scope of this document. It's recommended, however, that you review the below pictured diagram and select three biases that you've seen influence decision making in a school context before. If you're reading this document as a group, you may like to take five minutes to consider the graphic, then have a discussion about the biases that each individual chose.
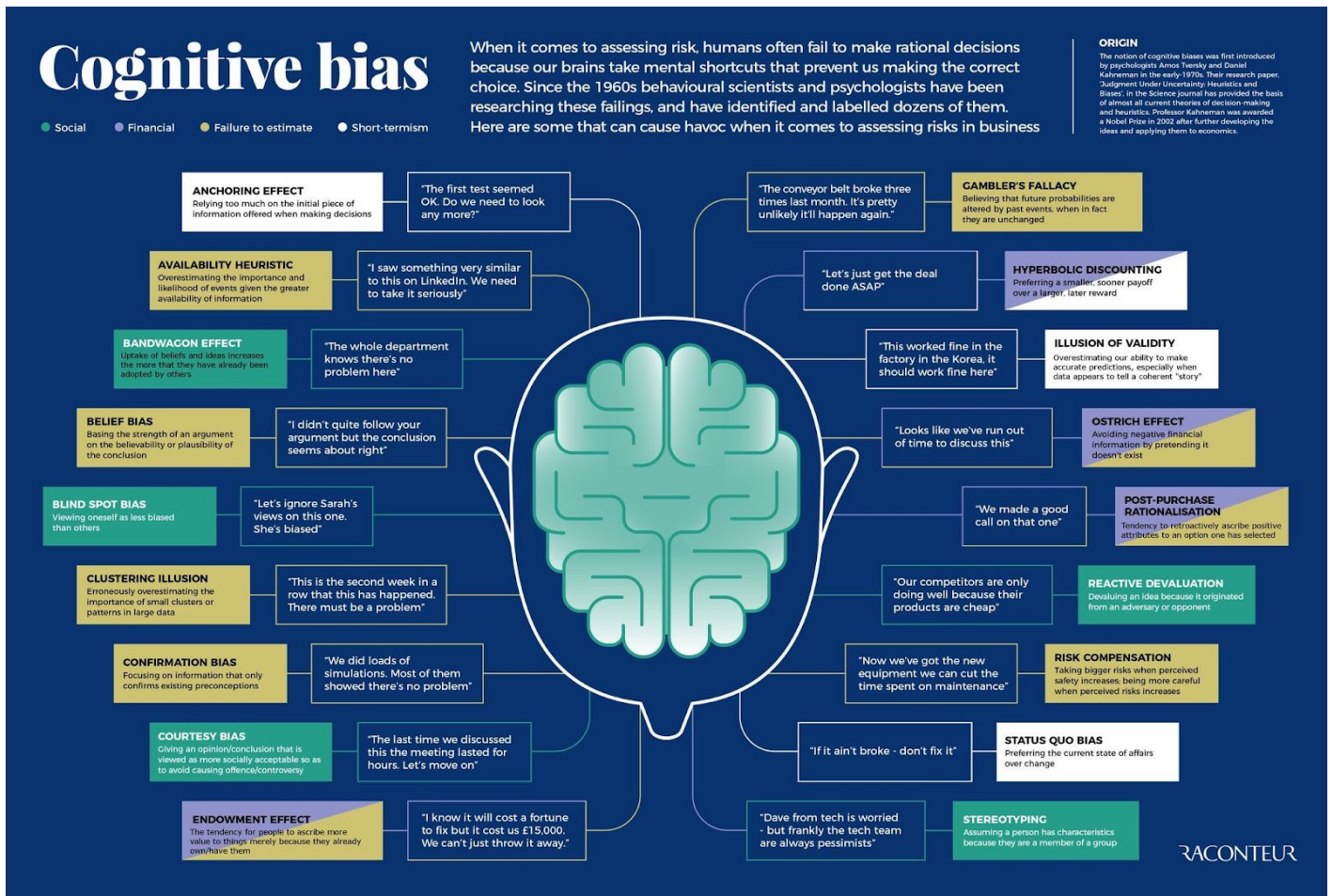(view an enlarged version at: http://tiny.cc/cogbiasinfographic)

Image source: https://www.raconteur.net/infographics/cognitive-bias

Our Values and beliefs regarding the purpose of education

In order to evaluate whether or not it is worthwhile to undertake a Change within your school, it is necessary to base that analysis on a set of criteria. A point that is often missed when developing criteria is that criteria themselves are based upon values. This is one of the primary reasons why consensus in educational research seems more elusive than consensus in other fields, such as medicine. As Willingham notes:

> *"In medicine, there is a single goal, shared by every patient and every doctor: good health, the definition of which is uncontroversial. In education, there is much greater diversity of goals"*
>
> (pg. 376)

As such, it may be helpful for us to take a moment to explicitly consider the values that may unconsciously underline our decision making. The following table summarises a collection of perceived purposes of school, as outlined by a number of prominent educational authors.
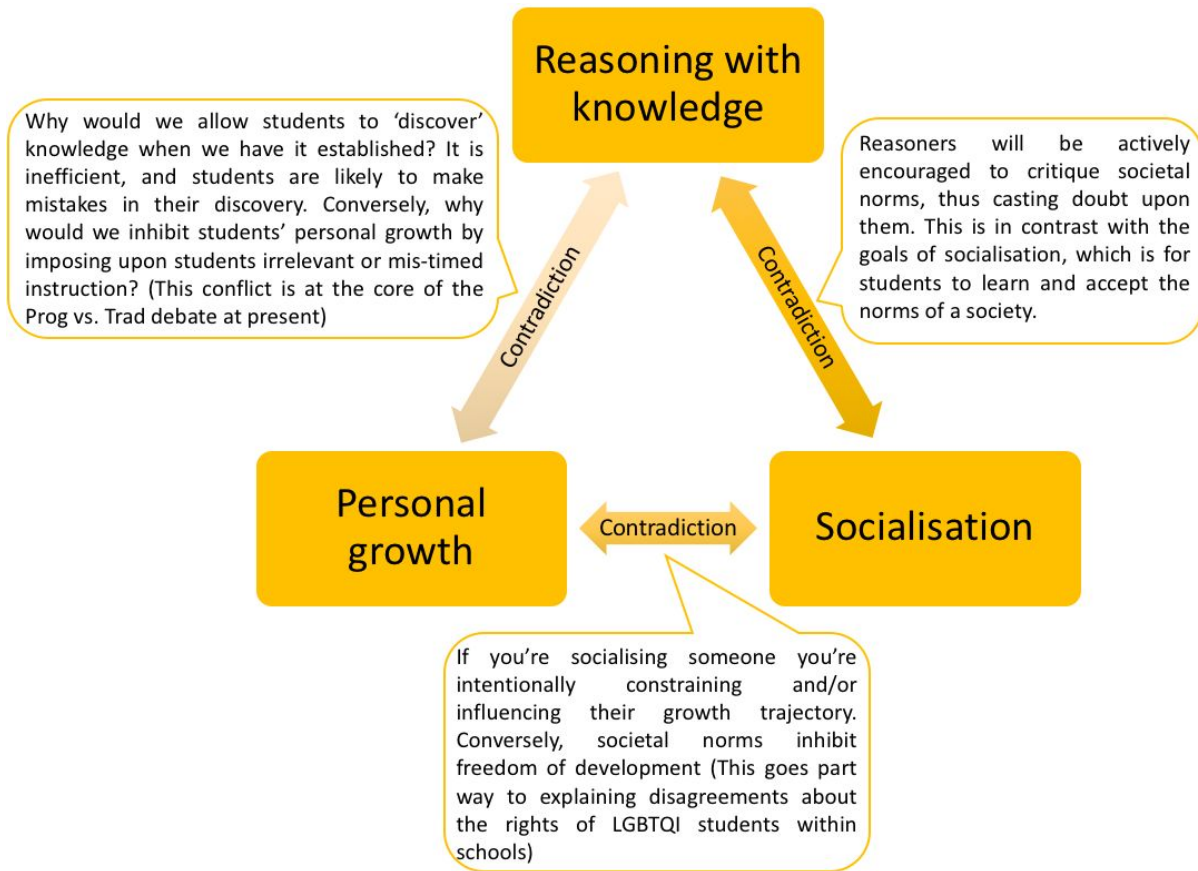
		Author			
		Daniel Willingham - When Can You Trust the Experts	Kieran Egan - The Educated Mind*	Dylan Wiliam - Leadership for Teacher Learning (pg. 8)	Michael Stephen Schiro - Curriculum Theory
Four categories of school/teacher purpose	1. Reasoning with knowledge: Convey reason-based knowledge to students.	Meta-belief=Enlightenment: The best way to understand the world is through reason.	Plato and the Truth about Reality: free the individual from conventional beliefs, prejudices, and stereotypes. Reflect on ideas, establish truth, be critical	Transmission of culture— passing on the "great things that have been thought and said" from one generation to the next	Teachers as Scholar Academics: perpetuate the existence of one's discipline both by guaranteeing that future members of the discipline will exist.
	2. Personal Growth: Allow students to discover both knowledge, and themselves.	Meta-belief=Romantic: The best way to understand the world is through personal experience.	Rosseau and Nature's Guidance: Teachers are facilitators rather than authorities, Skill focus rather than knowledge, Focus on natural development of a child.	Personal empowerment— enabling young people to take greater control over their lives	Teachers as Learner Centred: stimulate the growth of people by designing experiences from which people can make meaning.
	3. Socialisation: Socialise students into society such that they can contribute to it.		Socialisation: Students should acquire the beliefs, values, and norms of our society. This will help them be good contributors, and workers, and lead to societal stability.	Preparation for citizenship— preparing young people to take an active role in society and to make a difference in the world. Preparation for work— ensuring that young people are able to find fulfilling and rewarding employment	Teachers for Social Efficiency: Educators as unbiased agents of their client whose vested interests are other than their own.
	4. Social Reconstruction: Re-construct society into a better form of itself.				Teachers for Social Reconstruction: Try to reconstruct the culture in such a way that its members will attain maximum satisfaction of their material and spiritual needs. (working for the downtrodden)

* Note: In Egan's book he highlights a fifth, to him fourth, purpose category. This is essentially the premise of Egan's book, suggesting that we need an alternate purpose that is more all encompassing and less fraught with internal contradictions. More on this in a bit.

> *Which of the four categories do you best fit within? (it may be a combination of more than one)*

> *Which of the four categories do your colleagues, and your school, best fit within?*

If you are finding that different individuals or interest groups within your school appear to have conflicting views about a potential Change, it's quite likely that this stems from differing views on the purpose of education. This is compounded by the fact that these differing conceived purposes of education not only pull us in different directions, but often directly contradict each other. For example, Kieran Egan, in his book *The Educated Mind,* highlights the following contradictions:

Reasoning with knowledge

Why would we allow students to 'discover' knowledge when we have it established? It is inefficient, and students are likely to make mistakes in their discovery. Conversely, why would we inhibit students' personal growth by imposing upon students irrelevant or mis-timed instruction? (This conflict is at the core of the Prog vs. Trad debate at present)

Reasoners will be actively encouraged to critique societal norms, thus casting doubt upon them. This is in contrast with the goals of socialisation, which is for students to learn and accept the norms of a society.

Contradiction

Contradiction

Personal growth

Contradiction

Socialisation

If you're socialising someone you're intentionally constraining and/or influencing their growth trajectory. Conversely, societal norms inhibit freedom of development (This goes part way to explaining disagreements about the rights of LGBTQI students within schools)

Contradictions between three different purposes of schooling, as highlighted by Kieran Egan in The Educated Mind (This diagram also draws upon input from Thomas Firth, personal correspondence)

One of the ways to circumvent such challenges is to establish a shared vision for the purpose of your school or educational institution. Willingham, perhaps tongue in cheek, suggests a *Do-It-Yourself school mission statement*, pictured right (pg. 205)

Examining your values as an individual, and as a school community, builds a strong foundation for subsequent decision making regarding undertaking a potential Change.

It is, of course, the case that many schools will not want to put themselves into any one box of 'socialisation', or 'personal growth', and may want to consider to what extent a potential Change adds balance to their curriculum offerings. As an activity, you may like to look at the mission statement from your own school, or from other schools that you know, and consider which of the four categories of school are encapsulated within that statement.

Insert name of your school or district

Choose one
- will strive for
- will promote
- will provide

Choose two
- high standards
- a caring environment
- a learning community
- a child-centered sensibility

so that each student

Choose one
- acquires
- develops

the skills and knowledge to

Choose two
- be a responsible and productive citizen.
- be a life-long learner.
- be college- or career-ready.
- achieve his or her full potential.

A final word from Willingham, highlighting just how complicated this areas is, and how values may not always be as they seem:

> *'Apparently schools are bad because 100 years ago evil corporations duped them into prepping workers for factories. And the solution is to emphasize cooperative, creative work, because that's what present-day, non-evil corporations say is needed for jobs of the future. Got it.'*
> (tweet, @DTWillingham, March 21, 2018)

Peripheral Cues

Peripheral cues are things that aren't directly related to the effective evaluation of a Change, but often unconsciously and counter-productively influence decision making. Peripheral cues play on our cognitive biases, or on our values. Here are some examples of peripheral cues (note: A 'Persuader' is someone trying to convince you to undertake a Change, or someone speaking about the benefits of a given Change more generally):

- If you're partial to the 'reasoning with knowledge' purpose of education, you might find yourself nodding along when someone uses phrases such as 'research based', 'the evidence shows', or 'best practice'.
- If you're subscribe more to the 'personal growth' approach you might be more influenced by phrases such as 'unleash learning', 'unlock potential', 'natural learning', and agreeing with the Persuader when they speak of the dangers of 'one size fits all', 'cookie cutter', or 'industrial models' of schooling.
- Supporters of the 'socialisation' purpose will likely be influenced by Persuaders speaking of the importance of 'tradition' and 'stability', and
- People with an affinity for 'social reconstruction' will likely feel drawn in by a Persuader who relates issues within education to issues rooted in the structure of our society, such as 'systemic oppression', 'patriarchy', or 'capitalism'.

Further peripheral cues can be less to do with not what someone says, but more to do with their characteristics. As humans, we are likely to find someone more convincing if they: have written a book, appear confident, are attractive, come from an organisation whose name has a ring to it, are tall, have the same name as you, have the same ear size as you, and a whole host of other factors[1].

Section 1 has introduced the idea that decision making does not occur in a vacuum, and that it's important for us to identify our goals, as well other external factors that influence us, when evaluating a potential Change.

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[1] For more detail on such influencers, see the book *Change of Heart* by Nick Cooney.

Section 2: Considering and Planning for a Change

This section will guide you through the nitty gritty of evaluating a potential change. A Change proposal could come from multiple sources: an external 'Persuader' who comes to your school and tries to sell you a process or product; a staff member with a new idea; yourself; or a host of other sources. The questions in Section 2 will help you to evaluate the value, feasibility, likely costs and benefits, of such a change.

Strip It: The Change Statement

If we do X, then there is a Y percent chance that Z will happen.

Construct a sentence in the above form as the basis for your change. Constructing such a statement allows us to strip away the peripheral cues of a claim and get to its heart. If a Persuader comes to your school, you may like to ask them to simplify their proposal into a Change statement in the form presented above. This provides a solid basis for critical analysis of their arguments, as is supported by the questions on the following pages. Listen to the podcast for more on the rationale behind this.

Flip It: Considering an alternative

If we don't do X, then there's a U percent chance that V will happen.

It's important to consider the outcomes if we don't undertake a change. This is akin to considering a change from a different viewpoint. Consider the following two statements:

Our program, Literacy Winners, guarantees that over 90% of your students will leave school completely fluent in reading and writing.

Vs.

Our program, Literacy Winners, guarantees that up to 10% of your students could leave school unable to read or write fluently.

Further, 'Flip It' can highlight the likely consequences of inaction. The example that Willingham gives to illustrate this point is as follows:

Years ago, a dentist told my father that his teeth were in terrible shape. He took about five minutes frightening my dad with all the details, and then another five describing an elaborate set of measures he might take to delay the inevitable, ending with, "Now if I do all that, I think you can keep your teeth for another ten years." So Dad asked, "Okay, what if I don't do any of that stuff. How long would my teeth last?" The dentist was taken aback that anyone would consider such a plan, but Dad persevered, and finally squeezed an answer out of him: "I don't know. Ten years, maybe?" (pg. 259)

Examining the evidence

Up until this point we have considered how that biases, values, and peripheral cues can influence decision making, and we have 'stripped' and 'flipped' the claims made by a Persuader. If you have made it this far with a potential Change initiative, the following questions will allow you to consider in more detail the evidence for a Change, and whether or not it is likely to work, and be achievable, in your own context.

Key considerations

- Deal Breaker
  - Is this Change something that we already know not to work, just dressed up in new technical-sounding language? (If 'Yes', stop right there, you've hit a dead end!)

- Reliability of the evidence: *You should be able to confirm each of these statements with a 'Yes'*
  - The studies cited as evidence for the efficacy of this Change relate to the actual Change itself, not to the basic scientific assumptions of the Change (Yes/No)[2]
  - If a Persuader is involved, this Persuader can readily provide supporting evidence for their claims, and can comprehensively answer questions relating to that evidence when prompted (Yes/No)
  - The findings presented in the evidence cited do not contradict the collective experience of our team (Yes/No)
  - The context in which the evidence was collected was sufficiently similar to ours that this Change is likely to have a similar impact in our context (Yes/No)

- Warning signs
  - If the Change were successful, this would constitute a 'breakthrough' (Yes→ warning sign. *Note: This point is discussed in more detail in the podcast with Willingham*)
  - This theory is strongly associated with a single individual or 'guru' (Yes→ warning sign)
  - The evidence for this change is not peer-reviewed (Yes→ warning sign)
  - We are overly relying upon testimonials as evidence for this change (Yes→ warning sign)
  - The Change is so far removed from our students' immediate environment that it seems unlikely that it will impact upon what happens in the minds of students. (Yes→ warning sign)

Willingham addresses the final question presented above with the following figure (pg. 268).

FIGURE 5.4: The chain of influence in education. This description is not meant to be comprehensive. Many factors are omitted, and there are more mutual influences.

Student thought ◄—— Teacher ◄—— Principal ◄—— District ◄—— State

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[2] Willingham (pg. 332) offers an example to illustrate this point. A condensed version is: The Dore program claims to help people with Autism. The program asserts that the cerebellum, a part of the brain, is implicated in Autism (1). They add that the cerebellum is also know to support balance and skill acquisition (2), and that exercise is known to improve cerebellum function (3). Thus, they claim that exercise can help people with Autism (4). Proponents of the Dore program provide lots of scientific evidence to support claims 1, 2, and 3, however, they then make a jump to point 4, and have no evidence to support this final claim. Thus, evidence is provided, but it's linked to the basic scientific assumptions, but not the actual Change itself.

Template: Planning for a change

If you've examined the evidence and it seems to stack up, you can now move on to planning for the change, how you'll measure success, and considering whether or not you have the required resources to successfully implement it. The following template is designed to walk you through the initial stages of this change planning process. It could act, for example, as a template that is used when proposals are brought to a school's leadership team for consideration.

Title of this proposed Change: _____

Considering Outcomes and mechanisms

- The outcome we're hoping to influence is _____
- The way that this outcome is linked to our school's values is _____
  _____
  _____
  _____

- Strip it: Our plan is summarised in the following sentence:
    - If we _____,
      there's a _____ percent chance of _____
      _____ ,

- Flip it: The outcome of not undertaking our change is summarised by:
    - 'If we don't _____,
      then there's a _____ percent chance that _____
      _____ ,

- The mechanism by which X is theorised to influence Z is[3] _____
  _____
  _____
  _____

- The key research supporting this is _____
  _____
  _____
  _____
  _____

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[3] This section is designed as a space for you to step through the theory of change of your initiative. If the proposed Change is to introduce retrieval practice at the start of all classes, you could write something like: 'Retrieval practice will increase the retention of key background knowledge for students. If maintained over time, this will increase

Planning your resource management

- Our school currently has the following priorities: _____
  _____
  _____.
  We are already managing these priorities well, thus, taking on this additional Change will
  not mean that we have so many priorities that nothing is a priority.
    - *Or:* In order to undertake this change we will need to give up or reduce the following
      actions and activities (be explicit, which things, and by how much): _____
      _____
      _____
      _____
      _____

- Here is a brief outline of the time and resources we think that it will take to prepare for,
  implement, measure, and evaluate the change:
    - Main person driving this change: _____
    - Time commitment per _____ : _____
    - Other people required to be involved, and the time required from each of them is as
      follows: _____
      _____
    - Cost of the change will be approx. _____, which will be primarily spent on
      _____

- On an attached sheet (or, at this link/email: _____), we have
  entered any key events or milestones associated with this change into the school calendar for
  next year, and ensured that it does not cause any major clashes.

Measuring the change, and considering unintended consequences

- The way that we will be able to see the change (in other words, the metric[4] under consideration) is _____
- We've measured our key metric/s before we start the Change, and the level is _____ _____
- We're also going to measure _____ (It probably won't be helped by the Change, but you never know.)
- The Change could have some negative effects. We're most suspicious that it might negatively influence _____. To be confident about whether or not it does, we're also going to measure _____
- Here's how often we plan to collect measurements, and the circumstances under which we'll do so _____ _____
- Our plan to keep these data organised is _____ _____

Embed or Omit?

- The date by which we expect to see some benefit of the change is _____
- The size of the expected benefit is _____
- If we don't see the expected benefit by this date, our plan is to[5]

  _____

  _____
  _____
  _____

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[4] It may be hard to define an explicit metric to be measured. In such a case, it may be helpful to broaden this discussion to more qualitative indicators. For an exploration of how to do this well you may like to explore the section entitled 'How Will We Know If It's Working?', commencing on page 219 of Dylan Wiliam's *Leadership for Teacher Learning*.

[5] Many initiatives will have an associated 'implementation dip'. In the words of Tom Sherrington 'Big changes sometimes take a lot of effort to get right, and if you evaluate too soon you're not evaluating the change, only the early implementation phase'. See his 'implementation dip' here: https://teacherhead.com/2017/05/12/school-leadership-in-12-slides/ (slide 9)

Final words

This document was designed to summarise some key takeaways from Daniel Willingham's *When Can You Trust the Experts*. Hopefully it has helped readers to consider their biases and values, evaluate whether or not a Change is evidence based, examine whether it is a good match for their school, and whether or not they have the resources to effectively implement it, and monitor its success.

The above has taken quite a clinical approach. Given this it is important to add that not all initiatives in schools will be evidence based, or even evidence informed, and that there is an important place for innovation and experimentation, especially in the classrooms of individual teachers, that's based solely on personal experience and individual initiative.

It's hoped that this guide, and the questions herein, provide a deeper and more robust framework for teachers and school leaders to consider a possible Change, and to guard against the fads and fraudsters who seem to so frequently lead us astray.

For a more in-depth exploration of the content above, please see the full book *When Can You Trust the Experts,* by Daniel Willingham.

Ollie Lovell, January 2019.