The STIC Model: Six Tests of Information Confidence

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Anyone who has a smartphone or access to the Internet now faces a juggernaut of influencers promoting their ideas, products, scams, and conspiracy theories alongside invaluable help and information of all kinds. Seemingly, the often unwanted "guests" on our screens are like snowflakes in that they are all quite different and in need of evaluation before allowing them to be captured on our outstretched tongue.

Tools such as the CRAP Test, have been used to help teens sort out what to believe. At the same time, professional fact checkers try to help all gain some perspective in a crazy world of ideas. However, several of the available tools were developed mostly to test information sources as part of academic research papers or reports in the K-12 arena and lack a broader view of the current world of information.

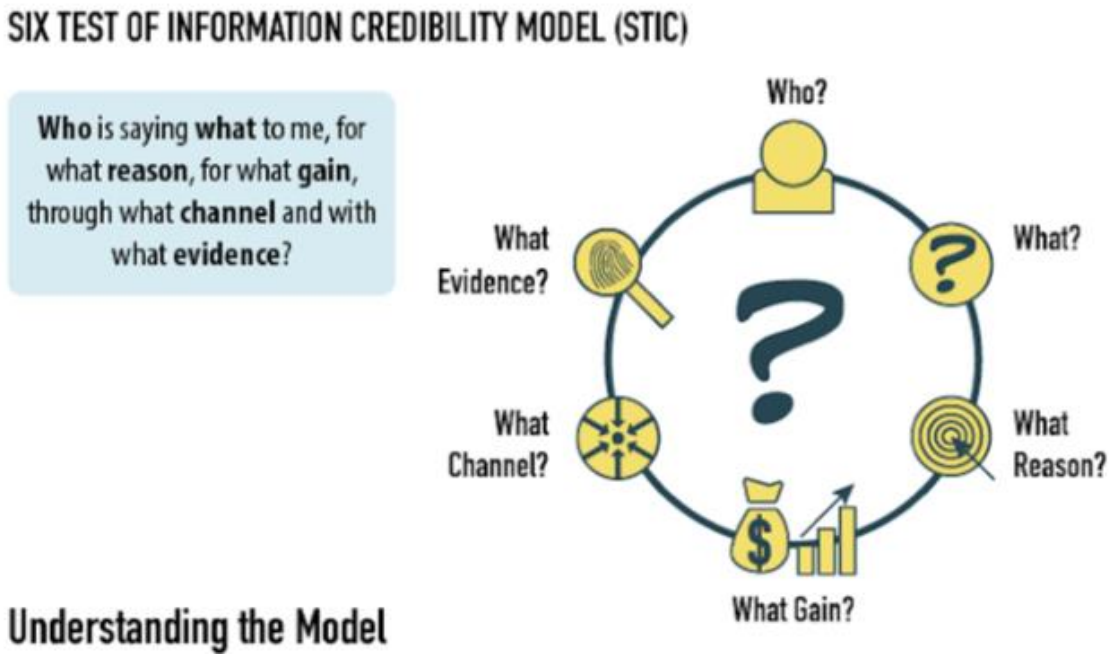
While writing a book aimed at teenagers of any age entitled *Create by Design*, I created a number of strategies for teenagers that might improve their learning skills and their design thinking ability. Naturally, the topic of judging information quality presented itself fairly early. Looking around, I decided to take a bit of a different approach that might assist teens in making judgements about any type of information they were encountering no matter where or when encountered and across all channels of communication they are subjected to. Thus, I posed the major question to my readers:

Should this information be allowed to STIC (stick) in my brain or should I flush it?

Hopefully, a more robust tool would encourage all people, young or old, to come into command of their own strategies for deciding what to trust, believe, and act upon. The current division of communities into opposing core beliefs that divide societies, governments, and even families present a challenge so very apparent in today's media. This creates a new fear and wonderment about the direction we are headed whether home, community, province, nation, or transborder. It all seems to present a formidable challenge with a major sense of urgency to solve.

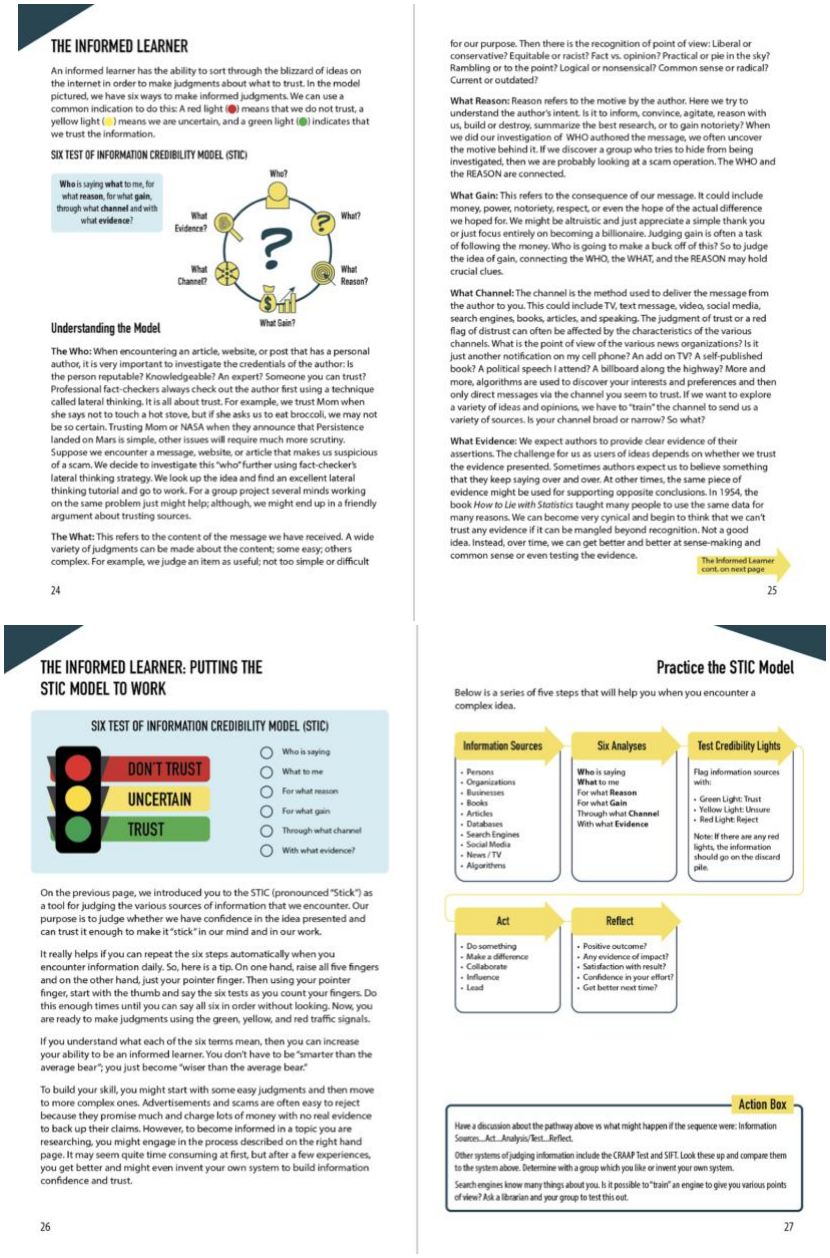
So, let's examine the STIC model to see whether pieces, parts, or the whole might be a tool for us as individuals but also worth teaching to young and old.

There are six tests that can be made individually, mixed up, or as a whole. Put up six fingers to help you and others remember those six: WHO is telling me WHAT, for what REASON, for what GAIN, through what CHANNEL, and with what EVIDENCE?



Next, there are three tests after our investigation that help us decide our level of confidence: The regular traffic light: red means don't trust, yellow is uncertain, and green means trust.

It would also be helpful if the reader could access the actual pages of the entire book and in particular the four pages that are titled The Informed Learner where the actual STIC Model is presented. Pictures of these pages are provided below and may be too small to read, but the reader can access the entire book with the Informed Learner pages at page 13 and 14. The entire book is at: Create by Design Booklet and permission is granted to use pages of the book with your own students.



THE INFORMED LEARNER

An informed learner has the ability to sort through the blizzard of ideas on the internet in order to make judgments about what to trust. In the model pictured, we have six ways to make informed judgments. We can use a common indication to do this: A red light means that we do not trust, a yellow light means we are uncertain, and a green light indicates that we trust the information.

SIX TEST OF INFORMATION CREDIBILITY MODEL (STIC)

Who is saying **what** to me, for what **reason**, for what **gain**, through what **channel** and with what **evidence**?

Understanding the Model

The Who: When encountering an article, website, or post that has a personal author, it is very important to investigate the credentials of the author: Is the person reputable? Knowledgeable? An expert? Someone you can trust? Professional fact-checkers always check out the author first using a technique called lateral thinking. It is all about trust. For example, we trust Mom when she says not to touch a hot stove, but if she asks us to eat broccoli, we may not be so certain. Trusting Mom or NASA when they announce that Persistence landed on Mars is simple, other issues will require much more scrutiny. Suppose we encounter a message, website, or article that makes us suspicious of a scam. We decide to investigate this "who" further using fact-checker's lateral thinking strategy. We look up the idea and find an excellent lateral thinking tutorial and go to work. For a group project several minds working on the same problem just might help; although, we might end up in a friendly argument about trusting sources.

The What: This refers to the content of the message we have received. A wide variety of judgments can be made about the content; some easy; others complex. For example, we judge an item as useful; not too simple or difficult

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for our purpose. Then there is the recognition of point of view: Liberal or conservative? Equitable or racist? Fact vs. opinion? Practical or pie in the sky? Rambling or to the point? Logical or nonsensical? Common sense or radical? Current or outdated?

What Reason: Reason refers to the motive by the author. Here we try to understand the author's intent. Is it to inform, convince, agitate, reason with us, build or destroy, summarize the best research, or to gain notoriety? When we did our investigation of WHO authored the message, we often uncover the motive behind it. If we discover a group who tries to hide from being investigated, then we are probably looking at a scam operation. The WHO and the REASON are connected.

What Gain: This refers to the consequence of our message. It could include money, power, notoriety, respect, or even the hope of the actual difference we hoped for. We might be altruistic and just appreciate a simple thank you or just focus entirely on becoming a billionaire. Judging gain is often a task of following the money. Who is going to make a buck off of this? So to judge the idea of gain, connecting the WHO, the WHAT, and the REASON may hold crucial clues.

What Channel: The channel is the method used to deliver the message from the author to you. This could include TV, text message, video, social media, search engines, books, articles, and speaking. The judgment of trust or a red flag of distrust can often be affected by the characteristics of the various channels. What is the point of view of the various news organizations? Is it just another notification on my cell phone? An add on TV? A self-published book? A political speech I attend? A billboard along the highway? More and more, algorithms are used to discover your interests and preferences and then only direct messages via the channel you seem to trust. If we want to explore a variety of ideas and opinions, we have to "train" the channel to send us a variety of sources. Is your channel broad or narrow? So what?

What Evidence: We expect authors to provide clear evidence of their assertions. The challenge for us as users of ideas depends on whether we trust the evidence presented. Sometimes authors expect us to believe something that they keep saying over and over. At other times, the same piece of evidence might be used for supporting opposite conclusions. In 1954, the book *How to Lie with Statistics* taught many people to use the same data for many reasons. We can become very cynical and begin to think that we can't trust any evidence if it can be mangled beyond recognition. Not a good idea. Instead, over time, we can get better and better at sense-making and common sense or even testing the evidence.

The Informed Learner cont. on next page

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THE INFORMED LEARNER: PUTTING THE STIC MODEL TO WORK

SIX TEST OF INFORMATION CREDIBILITY MODEL (STIC)

On the previous page, we introduced you to the STIC (pronounced "Stick") as a tool for judging the various sources of information that we encounter. Our purpose is to judge whether we have confidence in the idea presented and can trust it enough to make it "stick" in our mind and in our work.

It really helps if you can repeat the six steps automatically when you encounter information daily. So, here is a tip. On one hand, raise all five fingers and on the other hand, just your pointer finger. Then using your pointer finger, start with the thumb and say the six tests as you count your fingers. Do this enough times until you can say all six in order without looking. Now, you are ready to make judgments using the green, yellow, and red traffic signals.

If you understand what each of the six terms mean, then you can increase your ability to be an informed learner. You don't have to be "smarter than the average bear"; you just become "wiser than the average bear."

To build your skill, you might start with some easy judgments and then move to more complex ones. Advertisements and scams are often easy to reject because they promise much and charge lots of money with no real evidence to back up their claims. However, to become informed in a topic you are researching, you might engage in the process described on the right hand page. It may seem quite time consuming at first, but after a few experiences, you get better and might even invent your own system to build information confidence and trust.

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Practice the STIC Model

Below is a series of five steps that will help you when you encounter a complex idea.

Information Sources

- Persons
- Organizations
- Businesses
- Books
- Articles
- Databases
- Search Engines
- Social Media
- News / TV
- Algorithms

Six Analyses

Who is saying
What to me
For what **Reason**
For what **Gain**
Through what **Channel**
With what **Evidence**

Test Credibility Lights

Flag information sources with:

- Green Light: Trust
- Yellow Light: Unsure
- Red Light: Reject

Note: If there are any red lights, the information should go on the discard pile.

Act

- Do something
- Make a difference
- Collaborate
- Influence
- Lead

Reflect

- Positive outcome?
- Any evidence of impact?
- Satisfaction with result?
- Confidence in your effort?
- Get better next time?

Action Box

Have a discussion about the pathway above vs what might happen if the sequence were: Information Sources...Act...Analysis/Test...Reflect.

Other systems of judging information include the CRAAP Test and SIFT. Look these up and compare them to the system above. Determine with a group which you like or invent your own system.

Search engines know many things about you. Is it possible to "train" an engine to give you various points of view? Ask a librarian and your group to test this out.

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As you probably see, facing pages present the model on the left page and how to use the model ideas are on the right. Think boxes and action boxes provide some additional ideas.

A helpful video about the STIC Model was created by masters' students in my instructional design course for presentation at the International Association of School Librarians Conference in the Spring of 2022. Here is the link: IASL Presentation: Information Confidence "The STIC Model" by Dr Loertscher & His Graduate Students

In addition to the STIC Model, the readers are advised to investigate how professional fact checkers do their work. They have a method of examining the "who" part of the STIC Model using what they call lateral thinking. This means that instead of reading down through a piece of information such as a website, they try to discover across different information sources by opening new information resources that would tell us about who the person, organization, or even bot that is responsible for the content. Trust is determined based first on the reader's judgment of believability.

One good YouTube video by Civic Online Reasoning presents an excellent overview of lateral thinking: Sort Fact from Fiction Online with Lateral Reading
Lateral reading often helps address the other parts of the STIC Model such as adjusting the channel where the information is coming from, following the money when looking at gain, and judging the actual evidence authors give for their claims.

More and more, evidence is often presented as the analysis of huge data sets, clinical trials, and experiments. It is also interesting to help teens look at careers in data science: Data Science Career: (Is Becoming A Data Scientist ACTUALLY Worth It?)
However, caution is often needed after one has read the classic books *How to Lie with Statistics*. Such data analysis is often so interesting by studying political campaigns and their polling data. Opposite conclusions based on the same data set also lead some to agree with Rudy Giuliani when he reportedly said, "There are no facts; only opinions."

So, what does all this mean?

The author is suggesting that teaching the STIC Model with a heavy dose of lateral reading is a possibility for teacher librarians who really want to increase the sophistication of the inquiry skills they are currently teaching. Yes, this model may be better than or about the same as you are now teaching, but there is a greater challenge to consider here.

The author teaches an instructional design course to students enrolled in the School of Information at San Jose State University in California and, of course, has a unit about the teaching of information literacy as a part of a co-taught learning experience with classroom teachers. One of the fascinating things I observe each semester is asking the graduate students to examine a number of information literacy models out there but then using a Jamboard, challenge them in groups of three or four to create a drawing of their own information literacy model. I encourage them to be creative and my purpose is

to deepen their understanding of information literacy models rather than me giving a lecture about it. The results of this challenge are always fascinating. Using Jamboard, the groups can not only build their own model, but they can see what other groups are doing at the same time. Thus, the experience is a bit of collaborative learning with a touch of competition. Below are the four examples of models that were created in the fall semester of 2022 that you can view with their permission:

Group 3: Fall 2022
Amy, Tara, Jessie, and Megan

Who's choosing where to go?

- Choose a destination!
- Put yourself in the driver's seat
- Develop your Question.

How are you going to get where you need to go?

- Plan your route!
- How do you get where you need to go?
- Detour! - Road Closures, change course, re-evaluate
- Pit stop - Explore
- Ethical use of information.

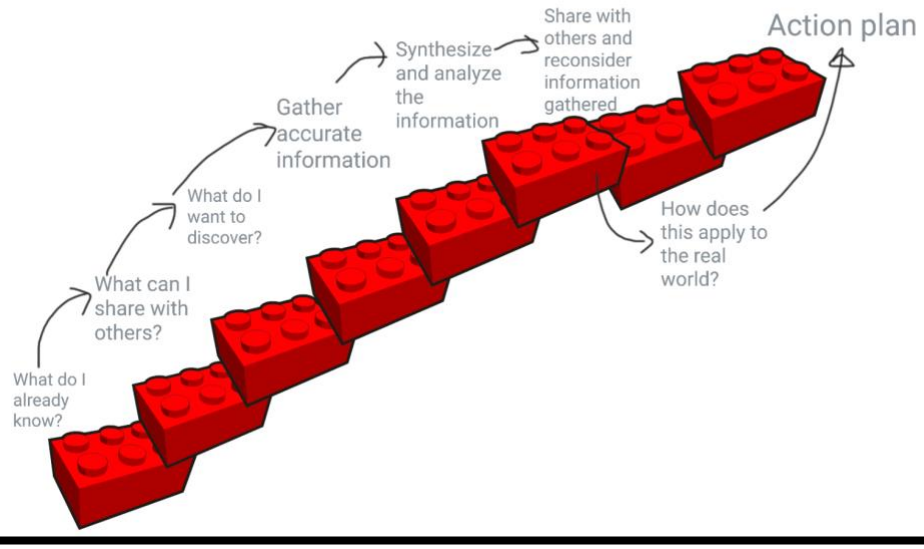
Your journey...

- Your Journey/Travel Diary
- Collaboration: who paved the road and who's coming next?
- Sharing what you learned. Communicating learning.

?

- Self Reflection
- Has your understanding grown/shifted/changed?
- Evaluate
- Did you get where you needed to go?
- Next questions?

Group 4: Fall 2022 (room 4)



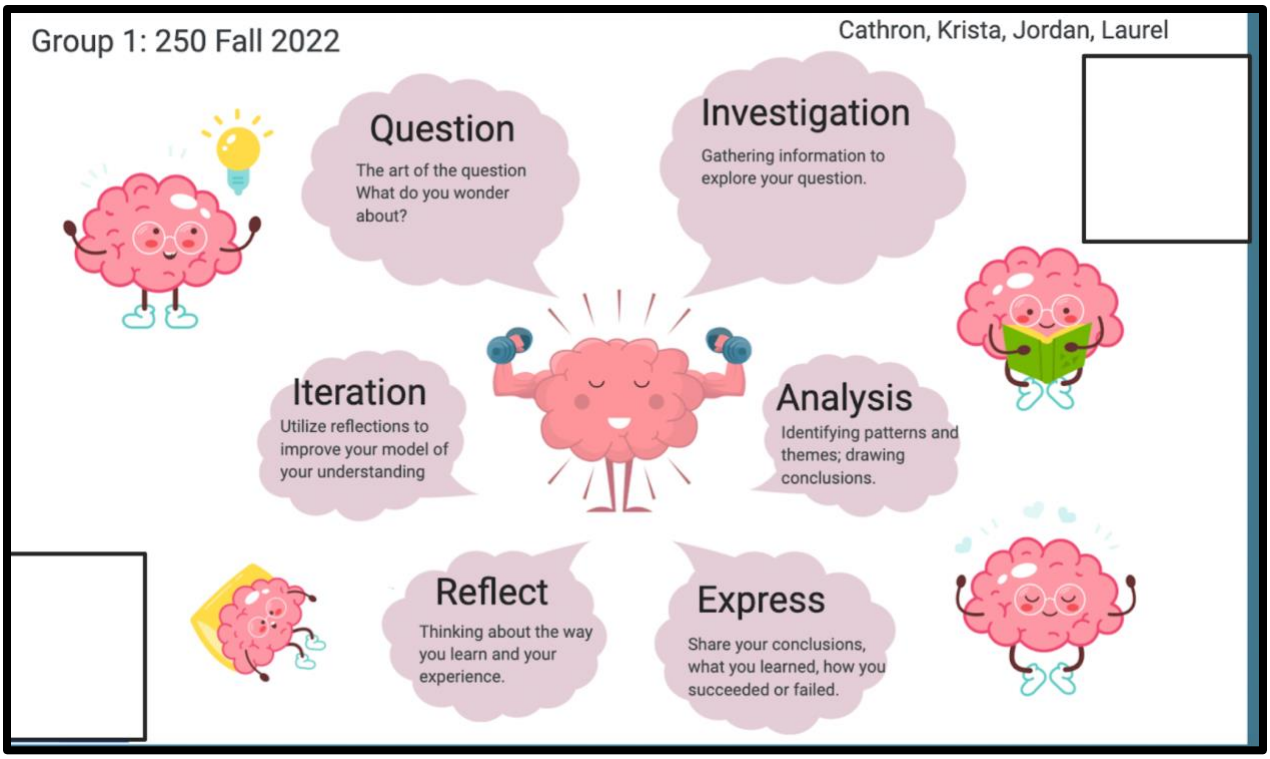
The Building Blocks of Inquiry

Frances Morovat

Victoria Ortiz

Carol Replogle-Allred

Kelly Martino



Link to Jamboard: https://jamboard.google.com/d/1GLaDJIggiNZUyXHQbLwNQgFS2LGdpSm0i1OITucLH7c/edit?usp=sharing

The Big Think

After any inquiry learning experience is complete, it is wise to conduct a BigThink or metacognitive reflection that learners do to ask the following questions:

- What did I learn?
- What did we learn?
- How did I learn?
- How did we learn?
- How can we become better at inquiry the next time we have the opportunity?

Both the teacher and the teacher librarian who conduct this reflection together need to document the percentage of learners who met or exceeded their joint expectations. Their Jamboard drawings of their inquiry process can be a part of the process objectives assessment. Content learning will require a different set of measures.

However, and that is a big however, we need to probe individual and group inquiry model drawings across time. What happens to the sophistication level of the drawings across a school year with at least three inquiry experiences? Perhaps we ought to ask the learners themselves about this question. Whether all learners have become better judges of what sticks in their brains vs. flushing would be one of the finest pieces of evidence to suggest that teacher librarians are indispensable.

Finally, if you have read this far, as a professor, I have the urge to give you an assignment. Find an article or speech in which Carol Kuhlthau describes her four-decade inquiry interviews of her students. Apply the STIC Model. Red, yellow or green light of trust? So what? And, what's next for you?

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