THOUGHT LEADERSHIP

How to Develop Independent Thinkers Who Can Effectively Navigate the Online World

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We live in a world overflowing with information. Yet it's becoming increasingly difficult to know what to believe or rely upon as being true. How can we pass along the essential knowledge and skills the current generation of learners must acquire to thrive and stay ahead? It's a question on the minds of many of us who have spent large parts of our lives as teachers. And the answers are not always obvious.

As we search for solutions, we know they don't lie in declaring a specific set of facts and sources to be unimpeachable. Instead, we need to educate and prepare the current generation of learners to navigate this tsunami of information. This will require them to learn new skills and adopt different ways of thinking.

More information and Moore's law

Today's unprecedented increase in information has been driven by the rapid advancement of technology and the proliferation of digital tools. Moore's Law predicted that the number of transistors on a microchip would double approximately every two years. This observation has largely held true and is closely linked to the current proliferation of data and information. Remarkably 90 percent of the world's data has been created in the last two years. The internet, digital platforms and mobile technologies make it possible to instantaneously access information from a huge variety of sources, including news websites, academic journals, social media, blogs, and online forums.

This explosion of ideas, words, and data has the potential to democratize knowledge, allowing people from diverse backgrounds to learn, make more informed decisions, and attain social mobility.

Information Overload and Cognitive Fatigue

However, this volume of information is also overwhelming, making it difficult for individuals to focus on what's important and identify credible sources. As the political scientist Herbert Simon once said, "a wealth of information creates a poverty of attention." Of course, technology can help; for example, advanced algorithms can help filter and prioritize information, and adaptive learning platforms can help learners focus on where they need improvement. But when many people are faced with information overload, cognitive fatigue sets in. That makes it easier to accept the information most readily available or emotionally appealing rather than to rigorously evaluate its accuracy. Moreover, confirmation bias compounds the problem: people tend to consciously and unconsciously favor information that confirms their preexisting beliefs. During the COVID-19

pandemic, for example, misinformation spread rapidly, causing confusion, mistrust, and even death as people chose not to get vaccinated.

The consequences are far-reaching and have the potential to erode trust in institutions - including those involved in education. When people are frequently exposed to conflicting information, they may become skeptical of all sources, including legitimate ones. This inclines them to trust only what they personally believe to be true. More worryingly, they don't just ignore counterarguments but disagree vehemently with those who raise contrary views. And, as we are seeing on a daily basis, this has the potential to polarize society, leading to social division and political fragmentation.

Three key skills for independent thinking

Taking on this division requires teaching students how to critically evaluate information, recognize bias, and verify sources. This mission should be a priority in the curriculum of every educational institution. As Carleton College professors Amna Khalid and Jeffrey Snyder wrote in a *Chronicle of Higher Education* essay: "The Purpose of a University Isn't Truth. It's Inquiry."

"With 90% of the world's data created in the last two years, the challenge is not just finding information, but finding trustworthy information."

But what about digital natives - those who have grown up immersed in technology? They are more streetwise than other generations, having lived in this online environment all their lives. And yet that very familiarity can make them even more vulnerable to dubious sources. A report by the Stanford History Education Group back in 2016 showed a worrying inability of students to reason about information they see on the Internet. When students were asked to evaluate the credibility of websites, the researchers found, high production values, links to reputable news organizations, and polished "About" pages were all it took to convince them a site was trustworthy.

Amid all these challenges, educators, and anybody seeking to be an informed consumer of knowledge, should focus on three crucial tools for independent thinking: the ability to curate, authenticate, and interpret information.

- **Curation** involves selecting and organizing information that is relevant and valuable from the vast sea of data available. Effective curation helps us focus on quality over quantity, ensuring that the most pertinent information is highlighted. This requires individuals to have a very clear understanding of the objective and context, together with analytical skills and critical thinking.

- **Authentication** requires verifying the accuracy and credibility of information sources. With the rise of fake news and unreliable content, being able to distinguish between trustworthy and untrustworthy sources is essential. The key skills here include knowing how to evaluate different sources of information and taking a more skeptical approach to the information you see.

- **Interpretation** involves understanding and making sense of the curated and authenticated information. Interpretation includes placing information in context, understanding its implications, and making informed decisions based on that understanding. Skills that will help here are attention to detail, analysis, and, once again, critical thinking.

In an information-rich age, the role of teacher may seem less important than it used to be. In fact,

nothing could be further from the truth. Teachers must take the lead by using their subject expertise to become trusted curators of knowledge. They can act as authentic agents, guiding students through the vast sea of information, helping them discern credible sources from unreliable ones, and fostering critical thinking.

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