

Could Inversion Improve Your Decision-Making?

PT psychologytoday.com/ie/blog/thoughts-on-thinking/202307/can-inversion-styled-thinking-improve-your-decision-making



Key points

- Inversion thinking asks us to mentally simulate a scenario in which our answer/solution is incorrect.
- Working backward, like reverse engineering, is a common method used in problem-solving.
- Considering what makes a hypothetical answer "bad" may help generate ideas for what might be improved.

I used to teach a Master's-level class in critical thinking and leadership, and I would start with the question, "What is good leadership all about?" There would be a noticeable pause for a while, before hands eventually rose and I would be bombarded with an array of buzzwords. I'd eventually show students my answer: "Power." Students would look confused, and I'd go on a spiel about how important power is in terms of interpersonal economics and how it's necessary to get things done. They'd continue to look confused; some would challenge the idea and a discussion would begin. This is a good start to a class.

I'd then show the next animation on my slide to reveal a preceding "em" and "ment" at the end, making the word "empowerment," and then clarify that power is indeed important, but being able to facilitate your colleagues *with power* is a core ability of a good leader. Sure, it's kind of a gimmicky exercise; but it introduces the idea of playing devil's advocate and also brings to mind a concept that seems in direct opposition to what makes a good leader (*but, empowerment requires power*). To be honest, my initial question—"What is good leadership

all about?"—isn't particularly easy. If put on the spot, I'd struggle with it. What I find helpful with questions and problems like these is to think about the inverse; for example, what makes a bad leader? Something associated with "power" might come to mind, as someone who "is in it for power" might well fit the bill for inclusion in the bad leader recipe—and this gets us thinking about all the things a good leader is not, before inevitably getting to what a good leader is.

I read an interesting article recently by James Clear, "Inversion: The Crucial Thinking Skill Nobody Ever Taught You." In this context, inversion simply implies considering the opposite of your goal; for example, instead of thinking of developing an answer that is good, think of one that is bad...and leads to failure. When you start considering what makes the hypothetical answer "bad," a rationale emerges that often facilitates idea generation regarding what might be improved. Conducting mini-thought experiments in this way—as a premortem—can be a useful way of piloting ideas.

Playing Devil's Advocate

In this manner, "inversion thinking" is very much akin to playing devil's advocate in terms of "Well, what if..." or "On the other hand..." Likewise, it's highly Socratic in its reasoning—almost like a toddler, annoyingly asking "Why?" until you reach a point where the schema's logic breaks down (i.e., or alternatively, annoying your spouse in a similar fashion). Indeed, inversion thinking asks you to mentally simulate a scenario in which your answer/solution is incorrect. Then you must reverse-engineer the thinking process and identify why and how it went wrong. Indeed, working backward, like reverse engineering, is a common method used in problem-solving (Dwyer, 2017; Halpern, 2014).

Think about being a child in school. Did you raise your hand all the time? Probably not all the time—perhaps only when you knew you were right. Maybe you didn't raise your hand at all—not because you weren't engaged; rather, because you didn't want to risk being wrong in a public setting. As a wealth of psychological research tells us regarding risk aversion, though people love being correct, they hate being wrong more (see, for example, Kahneman, 2011). Inversion thinking accounts for this in terms of infusing caution into one's thinking. For example, despite being aware of the skills, dispositions, and contexts that can positively influence critical thinking, it's just as important to consider the barriers to applying critical thinking (Dwyer, 2023). That is, *what could make this process go wrong?*

Strategies From Mathematics

Also in considering inversion thinking, I find it interesting how many of our decision-making strategies come from mathematics—interesting, but, of course, unsurprising, given that logic drives the decision-making process and that logic is itself a mathematical construct. Inversion is no different—a foundation of algebra. Inversion facilitates the thinker by simulating scenarios in which they are wrong and allows them to work backward and pre-

empty steps in the process where they can get something wrong. Using another school-based example, think about your old math class where the teacher would deduct points for not showing your work—it didn't matter if you were right or not—you still lost points. *Why?* Showing your work is good practice because it allows you to clarify your logic and, if engaged appropriately, facilitates the student in working the solution out backward as a means of double-checking their work.

Of course, using inversion is by no means a new strategy for thinking (and I don't think I'd like to see it become a new buzzword in education for this reason), as we have seen through many of these rather familiar examples. However, it may be the case that we've never really appreciated what it is or what it accomplishes for us until we look at it under the lens of collating all these example scenarios together into one methodological perspective.

I found it particularly interesting to reassess in light of the topic of critical thinking, because the concept of inversion overlaps with many tenets of critical thinking and because I think inversion might be a strategy that many people who often engage in critical thinking might take for granted, in that many people might do this without even realising it. That is, when we stop taking it for granted and put it under an evaluative microscope, inversion may (1) stress caution in thinking (i.e., focusing on loss/risk aversion and staving off undesirable outcomes), (2) facilitate useful protocols for problem-solving, (3) facilitate engagement with epistemological understanding, (4) create opportunities to engage reflective judgment, and (5) facilitate positive dispositional approaches to thought. As always, don't hesitate to make contact if you have any further examples or thoughts on associations between "inversion" and critical thinking.

References

Dwyer, C.P. (2023). An Evaluative Review of Barriers to Critical Thinking in Educational and Real-World Settings. *Journal of Intelligence: Critical Thinking in Everyday Life (Special Issue)*, doi: 10.3390/jintelligence11060105.

Dwyer, C.P. (2017). *Critical Thinking: Conceptual Perspectives and Practical Guidelines*. UK: Cambridge University Press.

Halpern, D.F. (2014). *Thought & Knowledge*. UK: Psychology Press.