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Motivated dogmatism and the high ability student

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CONFRONTING DOGMATISM IN GIFTED EDUCATION



*Edited by Don Ambrose, Robert J. Sternberg, and
Bharath Sriraman*

ROUTLEDGE 

CONFRONTING DOGMATISM IN GIFTED EDUCATION

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and Bharath Sriraman*

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MOTIVATED DOGMATISM AND THE HIGH-ABILITY STUDENT

Jennifer Riedl Cross and Tracy L. Cross

THE COLLEGE OF WILLIAM AND MARY

I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail.

Maslow (1966, p. 15)

The dogmatic individual is, in many ways, a loss to humanity. Our unique ability to develop hypotheses about the world we live in and, then, to test their veracity has brought us to this astounding information age. Thinking about our problems with an ever-widening perspective, from individual to societal to global, has allowed us to improve the life conditions of nearly everyone on the planet, albeit some more than others. There is more information available to the average individual today than ever before in the history of humankind. When an individual chooses to ignore relevant available information to maintain a position, the unique ability we humans share—to think about a problem—is wasted.

From a psychological perspective, the decision to ignore information is not arbitrary. A person placing a priority on maintaining a position over considering relevant information does so for a reason. Perhaps the information, although available, is imperceptible to the individual. The message stated loud and clear to a person with impaired hearing simply will not be heard. The message stated clearly at a graduate-student vocabulary level may well be unintelligible to a child. Relevant information is lost. But the hearing impaired or the child in these examples is not considered dogmatic. The dogmatic individual can hear or understand the message, but chooses not to listen to or process it. Dogmatism is a behavior, and a behavior that is not reflexive is motivated. These motivations deserve scrutiny. Although one might imagine high intellectual ability to provide superior belief systems, there is no evidence for such a dev-

opmental anomaly. There is in fact, evidence to the contrary (e.g., Klaczynski, 1997; Klaczynski, Gordon, & Fauth, 1997; Stanovich & West, 1997) that will be discussed here.

Highly able individuals develop in a complex world made up of widely disparate influences and experiences (Bronfenbrenner, 1979; Coleman & Cross, 2005). As they mature, they are exposed to parents who may or may not be caring and responsive to their needs (Baumrind, 1971). They may grow up in dangerous environments or with schooling inadequate not only for their giftedness, but to meet any child's needs. Erikson (1968) describes the crises that face all individuals as they develop and gifted children experience all of these crises. The combinations and permutations of all factors possible to affect the lives of the developing child are seemingly infinite. As they create their worldviews and belief systems, whatever factors have been influential will have different consequences.

Considering the lack of a common definition of giftedness, individuals who bear the label will have a wide variety of exceptional abilities, but all fall under the umbrella definition of "human" and all are subject to the needs identified by Abraham Maslow (1970) for drive satisfaction. Only when the physiological needs of hunger and thirst are satisfied can a person begin to concern herself with safety needs, "security; structure, order, law, and limits; strength in the protector; and so on" (p. 18). Meeting these safety needs is a precondition for pursuing satisfaction of the needs for belongingness and love, and then of esteem (of self and from others). Integral to attaining the basic needs at all levels is another hierarchy of needs, which Maslow describes as interrelated and synergistic with the first. These are the cognitive needs, in which the "desire to know is prepotent over the desire to understand" (p. 50). A dogmatist may have satisfied her or his desire to know and understand long before a person with a more open mind. Any discussion of dogmatism must consider the motivation behind an individual's choice to inadequately process available information, particularly when that individual possesses exceptional intellectual ability.

Psychological research over the past several decades provides us with a number of perspectives on the phenomenon of dogmatism, the tendency of an individual to ignore evidence while holding firmly to a belief that may or may not be warranted. Dogmatism is a failure to engage in thinking, a premature "settling" on a belief. In this chapter, we discuss several associated avenues of research that apply to an inability or motivation leading to such a failure. The discussion is followed by suggestions for developing open minds among high-ability students.

What Dogmatism Is and Is Not

As we delve into an analysis of dogmatism, it is important to maintain perspective on just what we mean by the word. Dogmatism is a way of approaching

information, a means of forming a belief and an attitude. An attitude differs from a belief. An *attitude* is a judgment one has made, whereas a belief is information one has. A *belief* may be factual or not, but it does not include a value judgment about the item. An attitude is such a value judgment, a “general positive or negative feeling toward something” (Petty & Cacioppo, 1981, p. 7). *Values* are “concepts or beliefs . . . about desirable end states or behaviors . . . [that] transcend specific situations . . . [and] guide selection or evaluation of behaviors and events” (Bilsky & Schwartz, 1994, p. 164). Values lay the foundation for the formation of attitudes and beliefs by directing an individual’s attention toward information that serves a motivational need. Schwartz and colleagues (Bilsky & Schwartz, 1994; Schwartz, 1994; Schwartz, Sagiv, & Boehnke, 2000) describe these values as existing on opposing continua situated along two dimensions: self-enhancement versus self-transcendence and openness to change versus conservatism.

We can see an example of these value structures in Lakoff’s (1996) analysis of different political perspectives. He describes the opposing conservative and liberal value orientations that are emblematic of differing points on Schwartz’s dimensions. Lakoff’s Strict Father values strength above all else. This self-enhancement ideal is best served by conservative values. Being open to change would permit challenges to one’s power. The Nurturant Parent, who exists on the opposite end of both dimensions, is self-transcendent and open to change. These ideals are best served through empathy for others and an acceptance of differing views. The value of strength that is the focus of the Strict Father has been an important one in human history. Real dangers exist in nature and among societies, particularly those that are fearful for their power or safety. The Nurturant Parent, on the other hand, values strength, but only in the protection and nurturance of others. Both value orientations have had a prominent history in a world of two genders.

Individuals with a conservative value orientation are likely to be more dogmatic than those open to change, because an evaluation of relevant information will present challenges to one’s belief system. Conservatism—of any type and not necessarily of a political sort—holds to its beliefs and is motivated by a desire for predictability and security. A conservative may be evaluating information very carefully as it relates to those motivations, however. In examining information that would maintain a predictable and secure world, the conservative may make different assumptions than a liberal who looks at the same information as it relates to self-transcendence. These different assumptions were arrived at with deliberation of facts through different lenses. A dogmatist would not consider the facts.

Simply because a person cannot be swayed to our point of view does not make her or him dogmatic. Dogmatism is defined as “1) positiveness in assertion of opinion especially when unwarranted or arrogant[and] 2) a viewpoint or system of ideas based on insufficiently examined premises” (*Merriam-Webster Online Dictionary*, 2010). It is the notions of “unwarranted assertions” and

“insufficiently examined premises” that we can explore through the psychological lens. If belief has been obtained through a careful consideration of evidence, dogmatism is not a valid criticism. Value orientations play an important role in the development of belief, but differing values do not necessarily arise from an insufficient evaluation of evidence.

Thinking Dispositions

Stanovich (2001) describes thinking dispositions as different from cognitive ability. He cites Baron (1988) in making the argument that the emphasis on ability in our conceptions of intelligence has distorted our perception of the role dispositions play in individuals' thinking. Kuhn (personal communication, April 3, 2010) suggests that the various thinking dispositions are affective, in contrast to the actual processing of information, which is cognitive. Our processing of information is not limited by our abilities alone. We each have different “goals and epistemic values” (Stanovich, 2001, p. 247) that bring different capacities to bear on any decision making in which we engage. Research on cognition over the past several decades has exposed some of these dispositions. They have received little attention in the research on gifted students, but are highly applicable to a study of dogmatism among the highly able. What follows is a description of a few of the most relevant of these dispositions.

Tolerance of Ambiguity Through her research in authoritarianism, Frenkel-Brunswik (1949) identified an *intolerance of ambiguity*, a general personality variable found to be associated with dogmatism. Budner (1962) expanded on her work, describing intolerance of ambiguity as “a tendency to evaluate particular phenomena in a particular way ... a tendency to manifest certain modes of response irrespective of the phenomena being dealt with” (p. 31). In other words, intolerance of ambiguity—“the tendency to perceive (i.e., interpret) ambiguous situations as sources of threat”—motivates certain responses to stimuli. Ambiguous situations lack the cues necessary to be structured or categorized by the individual; they are novel, complex, or insoluble. The intolerance of ambiguity scale developed by Budner is correlated with authoritarianism, conventionalism, dogmatism about religious beliefs, and other attitudes or characteristics consistent with an extreme belief system (e.g., Jost, Glaser, Kruglanski, & Sulloway, 2003; Webster & Kruglanski, 1994).

Regardless of ability level, some individuals will prefer more or less ambiguous situations because of the threat they feel from the difficulty in comprehending them. If an individual studiously avoids a situation or opposes a position because of its ambiguity, any decisions made will have been achieved through an insufficient examination of premises. We have found no indications from empirical research that high-ability students have a greater tolerance of ambiguity than their less able peers.

Closed-Mindedness Rokeach's (1960) conception of closed- and open-mindedness is perhaps most closely aligned with a description of a dogmatic or non-dogmatic thinker. The construct of closed-mindedness was developed from his assertion that it is the *structure* of a belief system that leads one to "accept or reject ideas, people, and authority" (p. 8). In Rokeach's definition of an open mind, information is evaluated and acted on without influence from irrelevant internal (i.e., habits, perceptual cues, power needs, etc.) or external (i.e., authority figures, cultural norms, etc.) pressures. A closed mind, on the other hand, is less aware of the relevance of internal and external influence. "The more closed the system, the more is the acceptance of a particular belief assumed to depend on irrelevant internal drives and/or arbitrary reinforcements from external authority" (p. 61). Individuals who score high on Rokeach's Dogmatism Scale differ in their "ability to form new belief systems" (p. 397) from those who score low. Rokeach believed that there are dual motivations behind a closed or open mind: "the need for a cognitive framework to know and to understand and the need to ward off threatening aspects of reality" (p. 67). He saw a closed mind as protection against anxiety. A closed mind serves as "a cognitive system ... designed to shield a vulnerable mind" (p. 70). The certainty of the closed mind is protective against the doubt presented by the outside world.

In more recent research, Stanovich and West (1997) developed a measure of actively open-minded thinking. This instrument indicates openness to belief change and cognitive flexibility. Stanovich and West explore the construct in their research on critical thinking; proposing, and subsequently finding, that one cannot think critically without a willingness or ability to challenge his or her prior beliefs.

Certainty Orientation According to Sorrentino and Short (1986), all individuals have a predisposition towards achieving certainty or avoiding it. An *uncertainty-oriented* individual does not avoid information gathering, he or she avoids reaching a definite or certain conclusion. The certainty-oriented person, on the other hand, will not attempt to find more information if it will challenge her present knowledge; "... uncertainty-oriented people attend to situations that attain clarity, whereas certainty-oriented people attend to situations that maintain clarity" (p. 391). Such statements as "I know what I believe and I believe what I believe is right" (G. W. Bush; Sanger, 2001, in Jost et al., 2003, p. 353) can be interpreted as representing a certainty orientation. This orientation will affect both one's right-left beliefs and their ideological rigidity. The certainty-oriented person is likely to choose the opinions that provide the most certainty. Sorrentino and Short describe the certainty-oriented person this way:

Self-assessment, social (and physical) comparison, dissonance reduction, causal searches and attributions, possible selves, self-concept discrepancy

reduction, self-confrontation, social justice, and equity are all characteristics that this person does not have or is not susceptible to. This person is likely to be prejudiced, bigoted, opinionated, and a sexist.

(p. 400)

The opposite—open-minded, tolerant of differences, flexible—is much more ambiguous and challenging to process intellectually. The uncertainty-oriented person is identified by these characteristics. Through their open-mindedness and acceptance of ambiguity, a more complex understanding of the world is possible.

Need for Cognitive Closure In his theory of lay epistemics, Kruglanski (1989) proposes that there are individual differences in the Need for Cognitive Closure, the need to achieve an answer—any answer—to avoid confusion or ambiguity. Situations vary as well, and some situations are more favorable when closure is avoided, as in making an important decision that will mean sacrifice or hardship. Although need for closure can be affected by such situational differences as time pressure, ambient noise, or attractiveness of the task, there is a general tendency for individuals to attempt to achieve closure with similar patterns that vary individually (Webster & Kruglanski, 1994). It is difficult to maintain an open mind when one seeks closure rapidly. This construct is an elaboration of Rokeach's (1960) closed-mindedness and includes aspects of Sorrentino and Short's (1986) certainty orientation. There are times when one must achieve closure quickly, as in situations of time pressure or danger. When this is not the case, however, a high need for cognitive closure will result in dogmatism.

Need for Cognition Cacioppo and Petty (1982) found that people vary in their enjoyment of thinking; their need for cognition. Whereas subjects with a high need for cognition found a simple task unpleasant and a complex task pleasant, subjects with a low need for cognition reported the reverse. Need for cognition correlated negatively with dogmatism ($r = -.27$, $N = 104$, $p < .05$), indicating that an open mind is one with a preference for activity. An individual high in the need for cognition would tend to be the opposite of the certainty-oriented individual, with a desire to search for more information, even when it challenges his or her present beliefs.

We would hope that the intellectually gifted child has this preference for cognition, particularly if that preference has been nurtured from an early age. Need for cognition has been found to correlate with measures of fluid intelligence in an older sample (Stuart-Hamilton & McDonald, 2001). In a review of the literature on need for cognition, Cacioppo, Petty, Feinstein, Blair, and Jarvis (1996) reported that a relationship between such factors as verbal ability and school achievement covary with need for cognition, but there is no evidence that abstract reasoning shares this relationship. Different types of intellectual ability may be associated with different thinking dispositions.

There is a parallel in the gifted literature to the need for cognition. Dabrowski's (1966) Theory of Positive Disintegration is often proposed as providing the architecture for advanced development. The theory emphasizes intensity, sensitivity, and overexcitability as characteristic of the highly gifted. It is based on the premise that advanced development is possible as people strive toward what ought to be rather than focusing on what is. Overexcitabilities are inborn tendencies to respond to environment stimuli. For example, intellectual overexcitabilities are often considered characteristic of the gifted personality and described as a need to seek understanding, the truth, and to analyze and synthesize information (Dabrowski & Piechowski, 1977). However, Dabrowski's theory claims that one of the types of the five overexcitabilities (sensorimotor, sensual, imaginal, intellectual, emotional) would often exist in the highly gifted personality, not necessarily that intellectual overexcitabilities would exist. Some have argued that all five categories of overexcitabilities would exist in the highly gifted. The research on this theory, while growing, is quite limited and mixed, but it does provide a link between the field of gifted studies and cognitive psychology.

Personal Epistemology

The cognitive orientations described have been studied largely separately from research in personal epistemology. This field has not yet produced a clearly articulated model explaining a person's beliefs about knowledge and knowing (Greene, Torney-Purta, & Azevedo, 2010; Hofer & Pintrich, 1997), although interest in personal epistemology research has been steady. One branch of investigation in this area has generated a description of the development of epistemological understanding that may be useful to us in our examination of motivated dogmatism.

Perry (1970) and Kitchener and King (1990), in their early work on personal epistemology, found that college students developed their knowledge about knowing in stages, from a view of knowledge as absolute and handed down from an authority, to uncertainty, and then a more mature position of the subjectivity of knowledge. Schommer (1994) describes beliefs about knowledge and knowing as centered on "the source, certainty, and organization of knowledge, as well as the speed and control of knowledge acquisition" (p. 302). These beliefs are significantly related to myriad aspects of learning. For example, learners who believe that knowledge is fed to a passive recipient from an authority are less engaged in the learning process (Schommer, 1994). Students who believed that learning should be quick were less persistent in a difficult learning task than those who believed learning is a gradual process. Dweck and Leggett (1988) found that beliefs about ability, intelligence in particular, as either a fixed entity or as incremental and, thus, improvable, affect motivation to achieve. Epistemological beliefs have implications for adequate processing of information in decision making.

In her study of informal reasoning, Kuhn (1991) interviewed 160 subjects of varying ages, genders, and education levels about their beliefs concerning three topics: a student struggling in school, a criminal repeatedly ending up in prison, and unemployment. Subjects were asked to give their opinions concerning the scenario described and then queried about why they believe so, how they might be convinced otherwise, and how they might convince someone with a divergent opinion that they were right. Even with very little information to go on, more than half of the subjects believed very strongly they knew the cause of the problem. Some of these subjects admitted they did not have much knowledge of the topic, but maintained their level of certainty regardless. These subjects fell into the *absolutist* category and held very strongly to the opinion that they could not be swayed from that belief, even when they agreed another person might be right: "... personal commitment to [their] theory is sufficient to ensure its certainty" (p. 175). The large numbers of absolutists in Kuhn's study would be considered dogmatic. They hold unwarranted beliefs acquired through an insufficient examination of evidence.

About a third of Kuhn's subjects fell into the *multiplist* epistemological category. These subjects believed strongly that anyone's opinion could be right. The multiplist may be just as right as an expert or more so, particularly when his or her belief is based on personal experience, as in the school scenario. The multiplists base their beliefs on an "ownership" of the opinion. The multiplist has insufficiently examined the evidence persons with opposing views have used to reach a decision and has seized on her or his own opinion. Dogmatic in their own views, multiplists may not be perceived as such because of their willingness to accept differing viewpoints. The end result, however, is a belief achieved with insufficient evidence.

The remaining 20% of the subjects in Kuhn's (1991) study were categorized as *evaluative epistemologists*. This minority believed that multiple viewpoints may exist and that they can be compared to each other and evaluated to determine how valid or accurate they might be. These subjects did not maintain a high level of certainty in their beliefs and felt that they could be swayed by the arguments of others, especially experts, if sufficient evidence was provided.

Following up on this classification of thinkers, Kuhn (2003) has utilized the research on personal epistemology (see Hofer & Pintrich, 1997, for a review) to describe these categories as developmental, adding a preschool age of *realist*, in which children consider what they know to be just what they see. Table 10.1 describes these levels of epistemological understanding.

To an evaluative epistemologist, it is clear that the development of an evaluative orientation should be the objective of any schooling. A nation made up of multiplists and absolutists will be easily manipulated or, at best, poor decision makers. At this time, we know little about the developmental progression of personal epistemology. Most research on its development has been with college samples (Kitchener, King, Wood, & Davison, 1989; Schommer, 1994). From what we do know about gifted children, it is likely that many of them could

TABLE 10.1 Levels of Epistemological Understanding

<i>Level</i>	<i>Assertions</i>	<i>Knowledge</i>	<i>Critical Thinking</i>
Realist	Assertions are COPIES of an external reality.	Knowledge comes from an external source and is certain.	Critical thinking is unnecessary.
Absolutist	Assertions are FACTS that are correct or incorrect in their representation of reality.	Knowledge comes from an external source and is certain but not directly accessible, producing false beliefs.	Critical thinking is a vehicle for comparing assertions to reality and determining their truth or falsehood.
Multiplist	Assertions are OPINIONS freely chosen by and accountable only to their owners.	Knowledge is generated by human minds and therefore uncertain.	Critical thinking is irrelevant.
Evaluativist	Assertions are JUDGMENTS that can be evaluated and compared according to criteria of argument and evidence.	Knowledge is generated by human minds and is uncertain but susceptible to evaluation.	Critical thinking is valued as a vehicle that promotes sound assertions and enhances understanding.

Reprinted with permission from Kuhn, D. (2003). Understanding and valuing knowing as developmental goals. *Liberal Education*, 89(3), 16-21.

attain higher levels of epistemological development at an early age. Could we expect a gifted absolutist? Multiplist? Almost certainly.

Thinking Dispositions and High Ability

Values, attitudes, cognitive orientations, personal epistemologies—the highly able student possesses all of these. Despite their exceptional cognitive ability, a thinking disposition that does not include an open mind is limiting. A number of researchers have found that cognitive ability does not predict the ability to reason carefully. Klaczynski (1997) found that high intellectual ability did not protect adolescents from biased reasoning. Subjects preferred to look for information consistent with their own prior beliefs regardless of their intellectual ability. These findings have been repeatedly corroborated (Klaczynski & Gordon, 1996; Klaczynski et al., 1997): cognitive ability does not equate with reasoning ability or the use of heuristics in evaluating information. The gifted child may well be an absolutist. Even a high need for cognition was not sufficient to predict unbiased critical reasoning (Klaczynski et al., 1997). Stanovich and West (1997) found that the ability to evaluate an argument independently of prior belief was more reliant on one's open-mindedness than on one's cognitive ability.

Although all these studies of critical thinking (Klaczynski, 1997; Klaczynski et al., 1997; Stanovich & West, 1997) found ways in which ability was associated with the *quality* of reasoning, biases and thinking dispositions were unrelated to cognitive ability. In contrast to these results, Sá, West, and Stanovich (1999) did find a relationship between cognitive ability and the ability to ignore prior knowledge and belief when engaging in a reasoning task. The difference in this study and others is that Sá and colleagues explicitly told their subjects to ignore their prior knowledge or belief. When given these instructions, those with greater cognitive ability were better able to engage in thoughtful reasoning than their less-able peers. This is a very positive finding for those who wish to encourage more open-mindedness among high-ability students. They can be open-minded if they are taught to be.

Developing Evaluative Epistemologists Among the Highly Able

A study of the highly able, by whatever definition is chosen, is a study of individual differences. The sample is selected based on their fit with the selected criteria. The constructs described here are all similarly designed to find individual differences in ways of thinking—those who are more or less tolerant of ambiguity, closed-minded, certainty-oriented, and so forth. From the critical thinking research cited (Klaczynski, 1997; Klaczynski et al., 1997; Stanovich & West, 1997), it is evident that these variations in cognitive ability and dispositions exist in many combinations. The motivation to be open-minded may be weak when one has been encouraged through influence or experience to prefer predictability and heuristics for reasoning. How can educators encourage the opposite? Are there ways of nurturing an open mind?

We propose that it is possible to encourage open-mindedness among the highly able. Dogmatism is, again, defined as “1) positiveness in assertion of opinion ... [and] 2) a viewpoint or system of ideas based on insufficiently examined premises” (*Merriam-Webster Online Dictionary*, 2010). First and foremost, educators must teach their students *how* to sufficiently examine any premise. With these skills, it will be difficult for students to be positive in their assertions until they have fully explored the problem.

Those of us in higher education have come to know that the more we learn, the more there is to learn. Our own open-mindedness has developed through learning how to pose a research question and examine it systematically. Science and mathematics education focus on these methods, but all subjects should emphasize the methods needed for sufficiently exploring a premise. Halpern (1998) proposes the following critical-thinking skills as necessary for developing effective thinkers: (a) verbal reasoning skills, (b) argument analysis skills, (c) skills in thinking as hypothesis testing, (d) likelihood and uncertainty, and (e) decision-making and problem-solving skills. These skills should be foundational in learning about any content area.

Many of the motivating epistemic orientations described here have been proposed as protective: Budner's (1962) intolerance of ambiguity protects against the threat of complex situations; Rokeach's (1960) closed-mindedness protects one from the confusion of the outside world; Sorrentino and Short's (1986) certainty orientation protects the clarity one has achieved in a situation. These protections will not be necessary once a student has successfully learned how to analyze a situation. Developing critical thinking skills (Klaczynski, 1997; Klaczynski & Gordon, 1996) and learning how to evaluate an argument (Kuhn & Dean, 2005; Kuhn & Udell, 2003) will provide protection from the anxiety produced by complex situations; students will know how to deconstruct and analyze them.

Learning about one's own "personal theories" of knowledge (Hofer & Pintrich, 1997) is useful for challenging immature epistemological beliefs. For example, the notion of an "omniscient authority" (Schommer, 1990, 1994) and that hands down information must be dispelled if we wish to encourage a complete examination of a premise. The current focus on accountability in education fosters such immature beliefs in students, who must learn "the facts" to be successful on high-stakes tests. Educators and students alike can benefit from an understanding of their own beliefs about knowledge.

Parents and past experience will have played a substantial role in the development of open-mindedness before a student arrives in the classroom. Some students will arrive with a great willingness to explore, while others will be more inhibited, held back by fears of rejection or embarrassment. Educators should consider their students' values of self-enhancement or transcendence and openness to change or conservatism. Forcing a child who values conservatism to step outside the boundaries of tradition and conformity is likely to result in discomfort unless done with sensitivity. Educators should provide a supportive classroom, one where questioning is valued over answers, where exploration is encouraged and rewarded, where the "facts" take a back seat to the methods used to obtain them.

To be most effective in promoting open-mindedness, educators must provide a role model to their students. Modeling a high need for cognition, a tolerance for ambiguity, an uncertainty orientation, a low need for cognitive closure (except when appropriate), and an open mind will go a long way towards reducing dogmatism in their students.

Our goal as educators should be to produce evaluative epistemologists. One must be open-minded to carefully evaluate information, as Stanovich and West's (1997) research demonstrated. This open-mindedness should extend to the dogmatic you encounter. Are you sufficiently examining the evidence of their argument? Or are you relying on your own beliefs to reach that conclusion? Close examination of values may identify the source of differences of opinion. It is important to remember that dogmatism is a way of approaching information. The content of a belief system is not the source of dogmatism, regardless of how much one disagrees.

Although dogmatism has been measured as a stable trait (Rokeach, 1960), there is evidence that dogmatic behaviors are, instead, affected by situations (Kruglanski, 1989) and are motivated (e.g., Cacioppo et al., 1996; Jost et al., 2003) by the satisfaction of basic needs, including safety and cognitive needs (Maslow, 1970), and by individual values. An analysis of the thinking dispositions and personal epistemology literature suggests a path for educators who wish to encourage the development of evaluative epistemology. Providing them with the tools of evaluation will be the greatest protection educators can give the high-ability student. They require more than a hammer to deal with the complex world around us.

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