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Developing Critical Thinking with Rhetorical Pedagogy

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Abstract: The development of critical thinking skills is emphasized as a fundamental attribute of successful graduates (Ritchhart & Perkins, 2005; Willingham, 2008). Some critical thinking textbooks inform students to “see beyond the rhetoric to the core idea being stated” (Moore and Parker, 2009, p. 21); however, other scholars have begun to suggest that rhetoric is intrinsically interrelated to critical thinking and plays a pivotal role in everyday interactions (Saki, 2016). This paper explores the later.

Keywords: Critical thinking, education, informal logic, neuroscience, pedagogy, psychology, rhetoric

1. Introduction to critical thinking

The development of critical thinking through educational means is often assumed to be a goal that is both significant and necessary and is particularly marketed as a fundamental attribute of successful graduates (Ritchhart & Perkins, 2005; Willingham, 2010). Yet, there is no consensus within the literature as to how to describe the construct of critical thinking precisely, nor the best way to teach or assess it. Hence, the development of the critical thinking tradition is ongoing.

The modern critical thinking tradition is often thought to derive from the work of John Dewey, who refers to it as ‘reflective thinking’ and describes it as being active and persistent and involving careful consideration (Dewey, 1909). Throughout the mid-20th century, there was a growing desire to cultivate critical thinking through education. In the late 80s, Robert Ennis argues that critical thinking is a learned skill which is focused on deciding what to do or what to believe (Ennis, 1993). Meanwhile, Harvey Siegel describes education that intends to develop critical thinking as “a complex business which must seek to foster a host of attitudes, emotions, dispositions, habits and character traits as well as a wide variety of reasoning skills” (Siegel, 1988, p. 39).

Around the same time, we find Matthew Lipman integrating the idea of contextual sensitivity within the concept of critical thinking (Lipman, 1991). This notion is also reinforced by Stephen Brookfield (1997), who argues that the process of critical thinking is socially constructed and contextual by nature. With regard to the different sorts of things humans do and experience, Alec Fisher and Michael Scriven provide the following definition: “Critical thinking is skilled and active interpretation and evaluation of observations and communications, information and argumentation” (1997, p. 21).

Near the end of the millennia, it became clear to researchers within the field that there were considerably diverse understandings of the concept of ‘critical thinking.’ Striving to address these discrepancies, a landmark study was conducted using the Delphi method, a qualitative research methodology that involves structuring group communication between an interactive panel of experts for the purpose of achieving consensus. While absolute consensus was not necessarily achieved, some elements are worth noting. In particular, the Executive

Summary of the Delphi Report (Facione, 1990) claims that critical thinking involves two features—cognitive skills and affective dispositions—which are both developed to produce ‘good’ critical thinkers. The report also claims that it is those dispositions that “are the basis of a rational and democratic society” (p. 2).

While the definitions contributed by leading thinkers and researchers in the field may approach the concept in different ways, there are some commonalities to acknowledge. In his introduction to *Studies in Critical Thinking*, Fisher (2019) helps to compile these shared understandings. He notes that the critical thinking tradition is focused on improving thinking—both our own and others. However, there is no widespread assumption that only one correct way of thinking exists; rather, there are ways that are more desirable than others. The idea of critical thinking is such that it involves various intellectual standards, including a proficiency in ‘reasoning’ ability. It is characterized as a type of thinking that is challenging and non-routine, and it can be contrasted with thinking that is merely passive or unreflective. It is generally conceived of as a skillful practice that requires interpretation and evaluation of information from various sources, analysis of explicit and implicit assumptions, exploration of pertinent questions, and consideration of implications. One other recurring notion within the field, which Fisher does not explicitly mention in his summary, is the idea that the dispositions of a critical thinker are foundational to contributing as a democratic citizen (Brookfield, 1997; Glaser, 1985; Pinto & Portelli, 2009; Saki, 2016; Ten Dam & Volman, 2004).

I will later return to several aspects of the aforementioned descriptions of critical thinking. My aim, hereinafter, is to explore critiques of prevalent approaches to educating for critical thinking and to challenge them from the perspective of research in psychology and neuroscience. I will conclude by arguing for the inclusion of a rhetorical pedagogy in any effort that seeks to foster critical thinking attitudes and abilities. I should emphasize, however, that I am not trying to entirely dismiss other approaches, but merely arguing that the common approaches to teaching critical thinking, specifically, argument analysis via informal logic, remain deficient.

2. Challenges to common pedagogical approaches

Many instructors realized that formal logic did not possess the tools needed to handle naturally expressed arguments. A desire to provide students with a practical skill became a driving force behind the informal logic movement, and a strong tendency to identify critical thinking skills with argument analysis skills turned informal logic into a common approach for developing critical thinking (Govier, 1989). As a result, many textbooks focusing on logic and argumentation have been advertised as critical thinking texts. However, there has been a growing concern surrounding the prevalence of equating an ability to think critically with an ability to analyze and evaluate arguments.

Trudy Govier (1989) insists that, although argument analysis is an important component in being able to think critically, it is simply one component, and so critical thinking cannot be reductively defined in this way. Part of her reasoning is that discourse that is not argumentative still requires critical analysis. She argues that there is a need to critically examine modern communication institutions, their various forms and their selection processes. Further, she points to the fact that thinking involves an array of interior phenomena and is not necessarily expressed in language—expressions and their logical structure are thus not the only things that warrant our

critical attention. To identify critical thinking as an ability to criticize discursive arguments implies that it need not and cannot attend to other subject matter.

Yet, Govier (1989) reminds us that our intellectual and social lives are ridden with plurality, with fluid and non-discursive elements. It is no surprise, then, that pedagogical problems and frustrations arise when trying to analyze natural argumentation as a means of teaching critical thinking, “given the irregular and context-dependent character of natural language, the contestable quality of assumptions and principles that people appeal to in real argumentation, and the uncertainties and difficulties inherent in the topics and problems people argue about” (Govier, 1989, p. 119). Govier’s solution to this is that, in cases where informal logic or argument analysis courses are marketed as ‘critical thinking’ courses, the content ought to be broadened to increase the scope and practicality.

Still, in many contemporary critical thinking courses it remains typical for content to focus almost entirely on the formation and analysis of pre-recorded, often written, discourse. The broadening that Govier (1989) argues for is rooted in the idea that there is a clear difference between written, auditory, and face-to-face contexts, and this poses considerable pedagogical challenges. Critical thinking courses should be able to enhance students’ abilities to do such thinking spontaneously, in real time. Pre-recorded discourse contains asserted propositions whose influences can be slowly, carefully analyzed. When shifting to a face-to-face context outside of the classroom, students need to be quick to attend to social and political factors, such as, power hierarchies, tone of voice, perceived sex, etc. Moreover, keeping in mind that propositional content is not the only thing that merits our critical attention, the transfer of skills for analyzing written or spoken discourse over to analyzing something like visual imagery or gestures is not straightforward.

Govier (1989) is not the only critic of such common approaches to educating for critical thinking. Lidija Radulović and Milan Stančić (2017) argue that the prevalent method is generally “a decontextualized activity, reduced to practicing individual intellectual skills” (p. 9), and so, they are interested in exploring an alternative approach. They consider a meta-analysis (Abrami et al., 2015) that encompassed 648 research studies examining the effects of various methods and techniques aimed at developing critical thinking. Two methods were found to be especially appropriate: providing environments for discussion (whole-class and smaller group discussions) and providing opportunities for solving authentic life problems (particularly through role play). These methods are quite different than those typically used when approaching education for critical thinking as written argument analysis, which is common in many informal logic practices.

Radulović and Stančić (2017) note that several programs aimed at teaching for critical thinking are largely derived from a focus on cognitive systems, and thereby may neglect the affective dimensions of education. Alternatively, these researchers claim that emotions are intrinsic to critical thinking. Critical thinking, as they understand it, is not simply a set of cognitive processes that can be removed from particular contexts, the interests of various actors, or their accepted values. Teaching for critical thinking, then, cannot be reduced to individuals merely acquiring some cognitive skill(s). Instead, Radulović and Stančić promote the notion of and teaching for ‘critical competencies’, which they argue includes not only knowledge and skills, but also the willingness to use such knowledge and skills. They maintain that such critical competencies are “developed not just through individual reasoning but, above all, through the exchange of ideas in order for reality to be perceived from different perspectives, to be revealed and, based on that, changed along with the others” (Radulović and Stančić, 2017, p. 19). Their

account greatly emphasizes the role of social contexts and the willingness to engage their critical thinking knowledge and skills within those contexts.

Govier (1989), working from a philosophical perspective, points out that critical thinking cannot be reductively defined as argument analysis and should not be approached with an overreliance on written discourse. Also coming from philosophy backgrounds, Radulović and Stančić (2017) encourage us to question the prevalent means of educating for critical thinking as a decontextualized, individualized, and purely cognitive process. In a similar fashion, Brookfield (2012), an educational scholar, argues that critical thinking is a socially constructed process and contextual in nature, and that teaching for critical thinking should reflect that. Moreover, he considers the notion that it is wholly cognitive to be mistaken, and urges us to “understand that our emotional reactions are the inevitable accompaniment of undertaking any kind of intellectual inquiry that is really challenging” (Brookfield, 2012, p. 135). These positions regarding critical thinking are not only held by theorists and researchers in philosophy and education, they are also backed up by the fields of psychology and neuroscience.

3. Research in psychology and neuroscience

Paul Thagard (2011) argues that the standard approach to teaching critical thinking via informal logic is rooted in a misconception about inference and argument; specifically, that all human inferences are based on arguments. Like Govier, he challenges the prevalent assumption that developing skills merely in argument construction and analysis would enhance human inference and build critical thinkers. Thagard defines human inference as the process of forming mental representations, for instance, beliefs and decisions, and refers to research in psychology and neuroscience to claim that this process is quite different from verbal argument. Specifically, it is not considered serial or narrowly cognitive, but rather, it is multimodal, parallel, and involves as much emotion as it does cognition.

Thagard (2011) does still believe that the study of argument can be useful, but he argues that the field of critical thinking should incorporate more research in psychology than studies in informal logic. Following this belief, he expands on human inference by explaining that, “here ‘parallel’ means that the brain carries out many processes simultaneously, ‘multimodal’ means that the representations used by the brain include non-linguistic ones such as visual images, and ‘emotional’ means neural processes that integrate evaluations with physiological perceptions” (Thagard, 2011, p. 154). So, all human inference—including argument—assembles various sources of data into a comprehensible entity via parallel processes. This data can present itself in different kinds of modalities, such as, sight, sound, smell, taste, touch, or kinesthetic sensations (Groarke, 1996). Emotions then attribute values to different mental representations, which is essential to making decisions and judging beliefs as worth forming.

Based on this idea of the parallel, multimodal, and emotional process of making inferences, Thagard (2011) argues that we should seriously consider what sorts of implications this has for the education of critical thinking. He insists that it would better improve our abilities to make decisions and form beliefs if we attended to psychological processes rather than by studying logical fallacies, since, he says, only a few fallacies are relevant to the thinking errors that humans actually commit. To defend his position, he considers two inferential error tendencies, that is, patterns of thinking that people are naturally inclined to, but which commonly result in false beliefs and actions that conflict with an individual’s best interests. The first is identified as ‘motivated interest’: “selective recruitment and assessment of evidence based on

unconscious processes that are driven by emotional considerations of goals rather than purely cognitive reasoning” (Thagard, 2011, p. 156). He argues that instances like climate change skepticism are driven by emotional coherence rather than fallacious argumentation. So, in such cases, a psychological conception of motivated inference is more relevant to the study of critical thinking than a logical interpretation of argument structure. The second error tendency he draws our attention to is labelled ‘fear-driven inference,’ whereby an individual may believe something *because*, rather than *despite*, their fears that it could be true. This psychological error is also less suited for analysis that is based on argument since it is the result of parallel and emotional complex mental processes. Thagard hopes that teaching for critical thinking might be enhanced by promoting awareness that many inferences are rooted in emotions and not in arguments; they often emanate from systems of interconnected values more than sentence structures.

Taking this idea further, neurobiological research has revealed that the brain’s evolutionary plasticity which enables learning is directly dependent on socially enabled and emotionally driven experiences. Immordino-Yang et al. (2019) maintain that a developmental, biopsychosocial look at academic learning suggests that it is contingent on emotional experiences and social relationships that are culturally situated. These researchers argue that the information deficit afforded by the fact that our development is not wholly specified by our genetics is what makes our inclination towards socially mediated learning possible and necessary. Thus, they insist that this provides a vital opportunity, as well as an ethical responsibility, for educational practice to facilitate high-quality active engagement with emotionally based content and socially transmitted ideas.

Brain science has uncovered networks of connectivity that facilitate various modes of activity essential to thinking and learning. Three major networks jointly support a range of mental capacities, for instance, the regulation of emotion, social perspective-taking, intrinsic motivation, etc. (Immordino-Yang et al., 2019). The outwardly focused Executive Control Network is involved in self-regulation and self-management skills. The capacities supported by this brain network include the facilitating of attention and other activities of critical thinking, like keeping certain information in mind, shifting to different approaches when needed, and focusing on goal-oriented tasks. The inwardly focused and meaning-oriented Default Mode Network is also recruited heavily in tasks that are associated with critical thinking, such as interpretive, internally directed, and reflective thought. Lastly, the Salience Network further supports the process of critical thinking by enabling people to switch readily between the Executive Control Network and the Default Mode Network, since individuals cannot simultaneously attend to internal bodily signals and external cues from the environment. Immordino-Yang et al. (2019) argue that an optimal learning environment would integrate scholarly activities in a manner that reflects the functioning of these three key brain networks.

Immordino-Yang et al. (2019) also provide suggestions for productive educational approaches. They claim that students in early adolescence and early adulthood should be provided with opportunities to explore and apply their learning in their everyday lives. Effective learning environments and pedagogical approaches should capture and capitalize on “the dynamic *interdependence* of multiple systems and capacities *in context*” (Immordino-Yang et al., 2019, p. 195). In terms of psychology and neurobiology, the authors note how our social, emotional, and cognitive capacities are entirely intertwined, and all three major brain networks appear to contribute to such capacities. Further, Immordino-Yang et al. highlight that these capacities “are not different or dissociable things but quantitatively different dimensions of one thing: the situated, embodied, and embrained human mind” (p. 195). Hence, the best

instructional approaches will leverage the mind's multiple dimensions in an effort to improve students' skills and dispositions.

Immordino-Yang et al., (2019) reflect on the unfortunate fact that it is uncommon for brain science to translate directly into educational practice. However, it may be the case that an instructional approach to educating for critical thinking, which includes a consideration of context and encourages social and emotional competencies, would allow for this translation of research into the classroom. Enter: rhetorical pedagogy.

4. Rhetorical pedagogy for teaching critical thinking

Rhetoric has been routinely redefined throughout history; however, it predominantly carries somewhat of a bad reputation associated with two key ideas. Mohamed Saki (2016) describes how, in one sense, “the persuasion sought by rhetoric is not achieved through rational choice and thinking but obtained thanks to manipulation and deceit... at the expense of rationality,” and in another sense, “rhetoric means verbosity, linguistic posturing, ornamental but empty speech” (p. 138). This false dichotomy that entices us to conclude a disparaging account of rhetoric dates back millennia to the debate between Plato and Aristotle. However, it is important to recognize that, while it may sometimes be the case, not all desires to achieve a persuasive end involve ill-intended deceit or other forms of manipulation. Actually, some scholars consider rhetoric to be of significant value.

Saki insists that rhetoric can be an effective tool for developing critical literacy and suggests that critical thinking and rhetoric are intrinsically interrelated. He emphasizes that rhetoric is of particular importance to us because of the philosophical and democratic challenges we face in our ever-changing world. He highlights that we are constantly flooded with vast amounts of information, frequent manipulation, and increasingly agonistic exchanges. Everyday, we encounter distinct and even conflicting information, and as spectators we are invited to make decisions about what to trust and adopt. Rhetoric can aid in this feat because it is able to function as an effective tool for fostering a critical literacy that can “help us be discerning, self-reflexive, independent subjects” (Saki, 2016, p. 137-138). Further, the critical literacy afforded by rhetoric can help us to be ethically accountable for what we do with words, images, gestures, online media, etc. This critical literacy allows us to defend against deceit and delusion because it challenges us to recognize how different perspectives are rhetorically situated, which may be particularly important for debates with the most severe implications.

Along with Saki (2016), I am concerned with rhetoric's critical dimension and the way it can form our awareness of human communicative functions. Ancient Greeks recognized rhetoric as having an immensely practical nature and being central to democratic society. Training in this discipline prepared citizens to develop the necessary critical skills needed to “participate actively in deliberation and decision-making relative to public affairs... and... to deal with... immediate issues they were confronted with” (Saki, 2016, p. 140). As such, it provided a vigorous means for developing responsibility and autonomy—and this is the very reason why Saki argues that it warrants being at the core of critical thinking. Rhetoric is vital in helping to reveal the different ways people reason from one position to another, and as a result, has the capacity to foster the skills associated with critical thinking that defend us from manipulations and delusions.

Rhetoric, like critical thinking, develops the ability to make informed and rational decisions about what to do and believe regarding various social, political, and ethical matters. For Saki (2016), they are actually intertwined and jointly enhance responsibility and autonomy

because they “cultivate and reinforce our capacities to think for ourselves instead of being directed or having our ideas and representations of the world imposed on us” (p. 142). So, not only is rhetoric relevant, but it is also crucial to both formulating and evaluating thoughts and behaviours. Indeed, there is an expanding body of research seeking to develop a deeper understanding of how our social nature is rhetorically manufactured, and this has grown into an influential facet of interdisciplinary scholarship.

According to many scholars, critical thinking is the result of training, and Saki (2016) maintains that it requires a discipline like rhetoric to provide us with various tools that can enhance our ability to think critically across a variety of situations. He argues that tools like rhetorical analysis demonstrate that people are almost always involved in some sort of rhetorical engagement; “they always draw on different rhetorical devices and strategies, either consciously or unwittingly, to make their points and to have the audience(s) share their views and beliefs” (p. 141). Lauren McGuire (2010) is another scholar who explores the possibility of educating for critical thinking via direct instruction in rhetorical analysis.

Michael Burke (2013) also considers the value of rhetoric as being more than mere persuasion—it is about education too. Further, he believes it to be a crucial pedagogical means of forming an intellectually critical citizenry. Burke maintains that the demands of modern teaching and learning can benefit from a resurgence of the pedagogy of ancient Greek and Roman rhetoricians. That is, “rhetorical means of learning...add...to the toolkit of critical thinking, critical writing and critical speaking” (Burke, 2013, p. 4). Rhetoric involves not only learning and implementing new tools and techniques; it also involves making information explicit and then utilizing it in an intentional manner.

Burke (2013) promotes Cicero’s notion that rhetoric has a trilateral function: to persuade, to please and to teach. He argues that classical rhetoric offers several effective learning methods and activities. He notes that, beyond Aristotle’s appeals to logos, ethos, and pathos, key rhetorical notions like *kairos* and *dissoi logoi* can also be embedded in instructional exercises aimed at developing critical thinking. *Kairos* involves a consideration of “the time, the place, the issue, the speaker, the audience, the audience’s relationship to both the speaker and the issue, the speaker’s relationship to the issue, etc.,” all of which may require our critical reflection (Burke, 2013, p. 6-7). For instance, Professor John C. Bean employs this notion in his efforts to incorporate critical thinking, writing, and active learning in the classroom. Other scholars emphasize the notion of *dissoi logoi* in their attempts to get students to think critically, which involves countervailing arguments—confirmation and refutation. Examples include Peter Elbow (1973), who uses a game of believing and doubting to get students to argue for and against a particular standpoint, and Angelo and Cross (1993), who get students to apply a pro and con grid to controversial theses and to develop argument and dialogue scripts for role play.

Some critical thinking textbooks inform students to “see beyond the rhetoric to the core idea being stated” (Moore & Parker, 2009, p. 21). Though, while many textbooks describe critical thinking as involving a wide range of attitudes and abilities, Burke (2013) argues that what it essentially involves is rhetorical pedagogy rooted in ancient educational models:

For example, the ability to identify positions, arguments and conclusions has Aristotle’s notion of enthymemic reasoning from his *Art of Rhetoric* embedded in it. The ability to evaluate evidence from alternative points of view, weighing opposing arguments fairly as you go, entails Protagoras’... notion of the *dissoi logoi*, as well as the processes that take place in the first two canons of [Cicero’s] rhetoric: invention and arrangement. Presenting

a point of view in a clear, well-reasoned, structured and convincing way contains strong elements of the third canon of ‘style’ blended with Aristotle’s rhetorical notion of logos. Lastly, the skill to be able to reflect on an issue in a structured and logical way, while being open for the detection of fallacies and persuasive devices, comes close to Aristotle’s ideas on both rhetorical and syllogistic reasoning. (Burke, 2013, p. 11)

However, Burke cautions against unquestionably following any of the ancient models, and instead encourages educators to “blend and extend them, bringing in the relevant topics and using the appropriate technologies that are of our own time” (p. 10). In support of his position, I also envision an approach to teaching critical thinking whereby students develop transferrable skills through the creation and analysis of multimodal and digital rhetoric.

5. Final Considerations

Considering the ideas presented by Saki and Burke, we see that there are many overlapping themes between rhetoric and critical thinking. Like critical thinking, Saki (2016) reminds us that “rhetoric has a history of constant reframing, redefining, and updating” (p. 138). Both critical thinking and rhetoric are context-bound and inherently social, can be considered means of acquiring autonomy and responsibility, and require a consideration of different points of view. Fisher (2019) notes that, when considering critical thinking, many people emphasize that “one often has to be imaginative and creative about other possibilities, alternative considerations, different options and so on” (p. 28), the same of which can be said about rhetoric.

If we refer to the earlier descriptions of critical thinking, we see even more overlap. Dewey (1909) describes critical thinking in a way that resembles rhetoric, that is, active and involving careful consideration. Siegel (1988) emphasizes that critical thinking education should seek to foster, among other things, habits and character traits. This notion is related to the role of ethos in rhetoric, that is, a speaker’s character and credibility. The Delphi Report (Facione, 1990) highlights that critical thinking dispositions are foundational to a democratic society, and likewise, training in rhetoric was crucial to the democracy of ancient Greece (Saki, 2016). The Fisher and Scriven (1997) definition grants an active interpretation and evaluation of observations and various means of communication, which moves beyond the prevalent approach of focusing on primarily written discourse and opens space for multimodal rhetoric, and therefore, rhetorical pedagogy. So, it seems that Saki is justified in saying that critical thinking and rhetoric are intrinsically interrelated, and Burke’s claim that critical thinking is basically just rhetorical pedagogy is worthy of consideration. These two notions are complementary, perhaps even mutually reinforcing, such that fostering rhetorical skill can aid in the process of developing critical thinking dispositions and abilities, and likewise, critical thinking can be used to enhance rhetorical skill.

If we return to Thagard’s (2011) claim that the field of critical thinking should be more informed by research in psychology, we have additional reason to integrate the study of rhetoric in critical thinking courses. Brent Dean Robbins (2000) argues that the disciplines of rhetoric and psychology are not only deeply related to each other, but also depend on one another; for instance, there is a need to consider the psychology of an audience so as to tailor a rhetorical approach to appeal to the audience’s needs. Even still, Thagard reminds us that we need to make room for the multimodal nature of our brain networks, which include non-verbal representations like visual images. Drawing on semiotics and rhetorical analysis, visual rhetoric allows for such

considerations. An examination of the rhetorical appeal to pathos also allows for a consideration of emotions, which, as Thagard notes, attribute values to both verbal and non-verbal mental representations and are vital for making decisions and judging beliefs. Michael Gilbert (2004) also argues repeatedly for “the simple human fact that affective and rhetorical components will occur in every dissensual interaction” (p. 248). Hence, any approach to teaching critical thinking for both mundane and serious human interaction ought to have a consideration of affective and rhetorical elements.

Immordino-Yang et al. (2019) argue that an optimal learning environment would integrate scholarly activities in a manner that reflects the functioning of the three key brain networks previously discussed. Rhetorical pedagogy provides a more effective approach than the informal logic approach at reflecting these brain networks, because it allows for the consideration of “the dynamic interdependence of multiple systems and capacities in context” (Immordino-Yang et al., 2019, p. 195). This pedagogical approach permits for the emotional, social, and cognitive capacities to be intertwined, for example, through a joint consideration of rhetorical appeals to pathos, ethos, and logos, respectively. Thagard (2011) highlights that people’s biases depend on a multitude of factors, such as mood, personality, and evidence, which again tie into these rhetorical appeals. Besides the more recent introduction of critical questions in informal logic, particularly those that consider positive and negative values, there is little room for the exploration of dynamic emotions. Moreover, other than scant research by scholars like Leo Groarke (1996) and Ian Dove (2016), there has been minimal work done regarding the use of informal logic to address visual arguments and rhetoric. As such, the instructional approach being promoted here is a more effective strategy for leveraging the mind’s multiple dimensions in an effort to improve students’ skills and dispositions—more effective than a strictly informal logic or argument analysis approach.

It is important to reemphasize that I am not suggesting the analysis of written or other pre-recorded arguments is not relevant or useful for developing skills in critical thinking. Verbal arguments are an important part of communication and thus demand our critical attention. Instead, I am arguing that using only argument analysis and evaluation via the informal logic approach is not enough to build the attitudes and abilities students need to think critically ‘on their feet’ within their daily actions and interactions. Now, informal logic schemes do better than formal logic to help students think critically about natural argumentation; the incorporation of critical questions allows for somewhat of a rhetorical element through the consideration of context, and thus does better in this regard. Still, the pre-structured nature of the critical questions can restrict a deep investigation into the plurality of human experience. And again, the focus on pre-recorded discourse will provide little in the way of skills needed to handle face-to-face communication, where students are expected to quickly interpret, make judgements and respond in real-time. Moreover, such exercises do not provide experience with analyzing non-discursive content, for instance, images or film.

Critical thinking skills and dispositions are important to have in the 21st century—perhaps in a democracy, but more importantly, as a human being experiencing a socially shared reality. In recognizing their overlapping characteristics, I argue that we need to pay closer attention to how rhetoric and critical thinking can reinforce each other. Further, we should treat critical thinking as being of the same primordial importance rhetoric was thought to be in Ancient Greece. We need to dedicate the same sort of strategic approach, and begin early, to acquire the necessary knowledge, attitudes, and skills needed to manage urgent and practical issues with which students will be confronted. Providing a flexible approach that permits a

consideration of the plurality of human experience allows for a richer investigation into the relevant contexts for which the attitudes and abilities are being cultivated.

Brookfield (1997) argues that we can explore critical thinking with regard to both process and purpose; however, these two elements are inevitably intertwined. Hence, in the process of deciding what content and pedagogical approaches are effective in teaching for critical thinking, it is useful to consider the perceived purpose of developing this construct. Radulović and Stančić (2017) suggest that the purpose may range from enabling students to meet the demands of the job market, to empowering them to participate in a democracy, to educating them for changing a society. As far as the process is concerned, it appears the more effective pedagogical approaches to teaching for critical thinking are multidimensional. This would allow instruction to attend to the multiple dimensions of and “the range of ways that whole people in the real world think and feel” (Immordino-Yang et al., 2019, p. 195). It is for this reason that I am promoting the incorporation of rhetorical pedagogy into the classroom, which provides a richer environment to think critically about context and to consider our social nature and the emotional roots of our inferences.

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