Critical thinking

Center for Catholic Studies, Seton Hall University

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Critical thinking

Center for Catholic Studies, Seton Hall University

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“CRITICAL THINKING”

2012 Summer Seminar
Center for Catholic Studies
Seton Hall University
Center for Catholic Studies
Seton Hall University
Faculty Summer Seminar 2012
Sponsored by the Center for Catholic Studies and the Center for Vocation and Servant Leadership

2-Day Schedule
10:00 AM – 3:00 PM

Tuesday
May 22
Bishop Dougherty Student Center, Chancellor’s Suite

Wednesday
May 23

What is Critical Thinking?
Facilitator: Richard Grallo, Ph.D.

Among the Core Proficiencies fostered by Seton Hall University is “critical thinking.” While it is a key proficiency in and of itself, it is also crucial to an understanding of the other proficiencies as well: oral communication, reading/writing, numeracy, information fluency.

This seminar will treat:
1) the components of critical thinking: actions, events, operations
2) how these coalesce into a process
3) how these relate to teaching
4) the role of critical thinking in personal development
5) judgment and decision making
6) the role of belief
7) critical thinking in an era of assessment.

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* Participating faculty will be expected to discuss certain texts and to write a short paper about the topic from their own perspective and discipline. These articles will be collected and published online. Articles will be expected four weeks from the end of the seminar.
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Critical Thinking as a Reverential Act

Justin M. Anderson

It is not uncommon today to find people who regard the marriage between critical thinking and theology with an air of suspicion. Even where the nuptials are welcomed, it remains the kind of marriage announcement which is quick to raise eyebrows. One finds oneself holding one’s breath. This is all too wrongheaded and usually hinges on a double error. On the one hand, theology is confused with the act of faith. On the other, faith itself is seen as something which nullifies thinking rather than encourages it. Certainly this is neither the Christian idea of theology nor faith.

First, theology is not identical to the act of faith. Theology is the scientific reflection on the data of revelation as revelation. Because theology accepts “revelation as revelation” it does build on the act of faith, but insofar as it is a “scientific reflection” theology likewise demands critical thinking according to the principles and methods proper to theological reflection. Theology, then, not only permits critical thinking, it obliges it.

Yet, even if theology were reducible to an act of faith alone, neither would this be sufficient to exclude critical thinking. The act of faith itself does not dismiss such critical thinking. Faith, on a Christian account, is itself “thinking with assent” (cum assensione cogitare).1 The pre-eminent Christian theologian Thomas Aquinas notes that the assent of faith kindles the desire to know rather than stamps it out. “Now, the knowledge of faith does not bring rest to desire but rather sets it aflame, since every man desires to see what he believes.”2 This “thinking with assent” directs itself towards understanding. This is precisely what Anselm of Canterbury captured in his famed dictum “I believe so that I may understand” (credo ut intelligam).3 Nor does this dynamic of faith take place only in a theological/religious context. Aristotle recognized that in the beginning every student must give her assent to the teacher, else learning itself be thwarted. “The one who wishes to learn must believe” (δεῖ γὰρ πιστεύειν τὸν μανθάνοντα).4 In the process of coming to know, faith and thinking are dramatically interwoven.

Both theology and faith, then, are not only open to critical thinking, but even demand it in order that theology may be fully itself and faith may reach its culmination in knowledge. Hence, theology and faith necessitate critical thinking.

But what of critical thinking itself? Might critical thinking, in turn, demand a certain “theological” dimension? Does theology have anything important to say about the practice of critical thinking? It seems that critical thinking lends itself as open to two particular “theological” aspects.5

Critical thinking might be thought of as a set of skills of the mind, skills which enable one to be attentive to the world around her, to properly evaluate and measure up various data, events, or processes transpiring in that world, and determine, depending on the situation, what if any response need be given. Yet, as anyone with experience in attempting to think critically will attest to, this process is fraught with difficulties. There are a thousand things which might aspire against the would-be critical reasoner. Even after having applied the process to the best of her ability the question can still loom in the air: “Could I have gotten it wrong?” or “Might I have missed something?” Even the best critical reasoners are not immune to such possibilities. All of this serves to highlight the intrinsic value of humility in any critical reasoner. Every critical thinker must always remain open to the idea that “I have missed something.” Humility, then, is not a virtue which a successful critical thinker can do without.
But this humility, it might be argued, need not be a distinctively “theological” virtue. Perhaps, but it seems that this line of thought will lead us to a further conclusion. For just as humility must reside in a person, it just as surely requires an object. In other words, one cannot be humble in isolation: one is always humble before something. A sailor might be humble before the sea, or a scientist before his microscope, but humility always has an object before which it bows. And the theological dimension of critical thinking is broached when one asks the question “Before what is the critical thinker humble?” The answer is the same as that which the critical thinker aims: the truth. Integral for a good critical thinker is the virtue of humility, more specifically a humility before the truth. Thus specified, this humility before the truth is a certainly a theological dimension of critical thinking, for under its auspice the practice of critical thinking is clearly seen as a reverential act towards the truth. Indeed, to exclude the critical reasoner’s reverence for the truth is to obliterate the very heart of her humility. To obliterate the very heart of her humility is to do nothing else than to end the process of thinking critically. It is, then, not without cause that John Henry Newman once wrote that it is an error common as it is fatal to think that “…truth is to be approached without homage.”

Works Cited


1. Thomas Aquinas, Summa Theologiae, I-IIa IIae q. 2, a. 1, c. Therein, Aquinas spends the entirety of the article discussing the various ways “to think” maybe understood and which of those ways properly applies to the act of faith. Also see Josef Pieper’s enlightening discussion of the same in his tract on Faith. Josef Pieper, Faith, Hope, Love, pp. 50–53.

2.”Cognitio autem fidei non quietat desiderium, sed magis ipsum accendit: quia unusquisque desiderat videre quod credit.” Thomas Aquinas, Summa Contra Gentiles, III, 40, 5.

3. Anselm of Canterbury, Proslogion, I.


5. In this, I shall be staying particularly close to my own field of moral theology. For, insofar as critical thinking is a human action, it falls closest to the domain of moral theology which itself is concerned with human, voluntary action.

Critical Thinking and Information Fluency: Not Such Strange Bedfellows

Beth Bloom

Cognitive processes necessary for information fluency (IF) require essential critical thinking (CT) skills. The following discussion illustrates the interconnection of both cognitive processes.

If it is a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." Peter Facione (2006) describes CT skills as the ability to interpret, analyze, evaluate, infer, explain, and self-regulate (or monitor cognitive activities, elements used in those activities, or the results deduced). Such abilities are also essential elements in the information seeking process. Among the vital CT elements elucidated by Facione, one could argue that inference, by itself, most closely mirrors the IF process. His definition of inference is complex and, when taken apart, can be directly compared with stages in the IF process.

For example, the first part of the definition, “to identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses” cannot occur in IF without the identification and securing of elements needed to determine the nature and scope of the research question, without which there can be no hypothesis. Indeed one must evaluate the research problem and define the parameters of study—the specificity or generality of the research question in the context of a meritorious research project, the acceptability of the terms and types of language used to define the problem (thesauri, buzzwords, or keywords). “Conjectures and hypotheses,” translated into IF terms, require determination of the research question; i.e., does the topic hold a valid place in the canon of information in that field, what is the extent and level of scholarly research on this topic, where might the information be found, and in what formats?

The remaining part of Facione’s definition, “the consideration of relevant information and educating consequences flowing from data, …” parallels the concluding part of the research processes, where clarity and synthesis are necessary for the final product. At this juncture, the scholar has determined where to go to find needed materials and how to utilize such search techniques as choosing the right search terms, understanding the advantages of advanced search, and using advanced search techniques.

Emotion plays a large part in both the CT and IF processes. One of the most important scholars in the field of information science is Carol Kuhlthau, who itemizes seven stages in the information seeking process: 1) initial task, 2) initiation, 3) selection, 4) exploration, 5) formulation, 6) collection, and 7) presentation. Her research has shown that each stage elicits strong reactions. She posits, “uncertainty and anxiety can be expected in the early stages of the information search process.” Where scholars are uncertain during initiation (stages 1 and 2), they are optimistic during selection (stage 3), but again become uncertain, perhaps confused, frustrated, and filled with self-doubt as they enter stage 4 (exploration). If the researcher allows him or herself more time to explore and think about the project, such exploration will yield synthesis, clarity and, consequently, formulation (stage 5). Interest in the research project increases in proportion to the degree of clarity attained, along with confidence during collection and presentation (stages 6 and 7).

In that both characterize uncertainty followed by optimism, there is an uncanny resemblance between Kuhlthau’s stages 1-3 of the research process and Richard Grallo’s Factual- and Value-oriented CT as process of which there are also seven facets: A) reflective question of fact as psychological act; B) reflective question of fact as formulation; C) collecting information for judgment; D) weighing information for judgment; E) reflective insight; F) judgment of fact [or value]; G) judgment of fact [or value] as formulation.
Kuhlthau’s **stages 4** (exploration: confusion, frustration and doubt) and **5** (formulation and clarity), most clearly parallel Grallo’s Deliberative CT as decision making process. A) deliberative question as psychological act; B) deliberative question as formulation; C) listing of pros and cons; D) weighing pros and cons; E) deliberative insight; F) decision; G) decision in action.

A further example of the strong relationship between IF and CT arises upon direct observation of students doing on-line research. Facione presents a set of 8 cognitive heuristics that affect critical thinking. These heuristics often affect students’ common research behaviors, as well. The following compare each heuristic (H) with its concomitant observed research behavior (RB):

**H1**) Availability (that thing’s happening again); RB The tendency to go to one search engine, without evaluating whether others might be better, because it is convenient.

**H2**) Affect (immediate gut reaction); RB The tendency to choose sources without proper evaluation and examination because our gut tells us it is good.

**H3**) Association (a word reminding one of another); RB The tendency to choose a source due to misapprehension.

**H4**) Simulation (works when you imagine how something will turn out); RB The tendency to decide that a source is good based on insufficient criteria.

**H5**) Satisficing (find something that’s good enough so we think we’re done); RB Quality is not as important as the fact that the first few items listed are good enough.

**H6**) Averse to risk and loss (decisions made based on what we are worried about losing rather than what we are too afraid not to gain); RB The tendency to go to safe resources, regardless of quality.

**H7**) Anchoring with adjustment (relative judgment of the quality of one thing against another). RB If one cannot find information on a chosen topic, anything will do.

**H8**) Illusion of control (overestimation of the influence our actions have on events). RB “If I praise the teacher, I will get a good grade.”

The aforementioned definitions, descriptions of stages, and comparison of CT heuristics with IF behaviors all illustrate a solid and complementary relationship between both cognitive processes. Whether IF is a subset of CT or the reverse, clearly, both processes are vital to anyone involved in searching for the right information—or for the right decision.

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3. Facione, p. 5.
5. Kuhlthau, C. C. *Ibid.* Uncertainly principle: “The affective symptoms of uncertainty, confusion, and frustration are associated with vague, unclear thoughts about a topic or question. As knowledge states shift to more clearly focused thoughts, a parallel shift occurs in feelings of increased confidence. Uncertainty due to a lack of understanding, a gap in meaning, or a limited construction initiates the process of information seeking.”
8. Based on this author’s study of undergraduate students on-line research behavior, funded by a grant from Google.
Approaching Critical Thinking

Mark Couch

I found the seminar on critical thinking led by Professor Grallo interesting and instructive, and certainly think the topic deserves discussion. Too many people today use the term “critical thinking” in ways that are vague and at cross-purposes with how others use the term. In this respect, I thought Professor Grallo’s discussion made a number of useful observations. I want to focus here on one aspect of his discussion that I think is important for approaching the subject in the right manner.

In his talk, Professor Grallo described the “elements” of critical thinking and what they are. Following Bernard Lonergan, he noted that in identifying these elements: “the aim is not to set forth a list of abstract properties of human knowledge but to assist in . . . effecting a personal appropriation of the concrete, dynamic structure immanent in . . . cognitional activities.” These notions were themselves related to the judgment forming and problem solving abilities of individuals. It was clear from his account that the approach focused on understanding the psychological processes (“cognitive acts, events”) with which critical thinking takes place. It should be said that such a focus on individuals’ psychological processes seems a natural place to start, in light of the fact that our concern is the subject of critical thinking.

But it is important here to be careful about the elements of analysis used—whether natural or not. While it is no doubt true that psychological processes are going on whenever an individual thinks, this does not imply it is these psychological processes themselves individuals need to understand to learn critical thinking. I worry that focusing on the character of these processes mislocates the relevant elements to consider. I would suggest, instead, that the core elements individuals need to understand are the principles and criteria upon which our judgments and problem solving are based. These principles and criteria can be characterized in general terms, and irrespective of the psychological processes individuals undergo. Knowledge of the principles and criteria does not depend upon knowledge of the processes themselves.

Consider an example from mathematics to support this. Presumably, we would all agree that Euclid’s development of geometry was an instance of critical thinking. Learning to give geometrical proofs requires complex mathematical reasoning. Notice, though, that whether Euclid was good at geometry is independent of any particular theory or knowledge he had about his own psychological processes. What Euclid was concerned with were the principles underlying geometrical reasoning, not his psychological states. Given the poor development of psychology in antiquity, in fact, it’s very likely the Greeks had implausible views about their psychological processes in any case (e.g., Aristotle wrongly believed the brain was for cooling blood). This fact did not prevent Euclid from having good critical thinking abilities. Furthermore, even today students are taught geometry without focusing on the psychological processes they undergo. (Does anyone recall reading a chapter on psychology in their geometry textbooks?) Indeed, it is common for instructors of mathematics to proceed without describing students’ psychological processes or the precise “cognitive acts” involved, focusing on the general principles and criteria for reasoning in geometry, algebra, and elsewhere.

It seems to me a similar point applies to critical thinking that occurs in other areas. It is not an individual’s psychological processes that are important to understand, but the principles and criteria for forming judgments and effective problem solving that matter. The principles and criteria are those which the correct performance of our critical activities are based upon. The principles will vary with the type of critical thinking being performed, whether this concerns making inductive arguments, deductive arguments, causal reasoning, or something else. To illustrate this, suppose a historian makes the
inductive claim that “All wars are caused by struggles over economic resources.” It’s not clear to me that focusing on the psychological processes such an individual goes through in making this claim will help us decide whether it is well supported. Describing the steps the individual goes through tells us how they think, not how they should think. What we are interested in is merely whether the individual has satisfied the principles for good inductive reasoning (e.g., Do the number of instances of wars offered support the general claim? Are the instances representative?). Given this, it seems to me that what we should be focusing on concerning critical thinking are the principles involved and how they can be applied in different areas. This type of approach is used in mathematics and elsewhere and represents a useful approach to understanding the subject.1 The elements of this approach were mentioned in various places in Grallo’s discussion, to be sure, but with an admixture of other elements whose role seems to me secondary. These elements were also discussed in Professor Facione’s article on critical thinking, with his talk of the “skills” individuals need to learn to be good critical thinkers.2 I would just remark it is the skills and the criteria for their correct performance that matter, and not any sort of description of the accompanying psychological processes that occur. There is a role for getting clear about an individual’s psychological processes in the broader context of these issues, but this is a separate matter.

Professor Grallo can be forgiven for thinking that an individual’s psychological processes are more important for understanding the subject than they are (he is, after all, a Professor of Applied Psychology). But I would suggest that approaching the subject from the right direction requires a slightly different approach, more focused on principles and criteria and less on the details of our thought processes. This is an approach that has been well developed over the years, and can be found at work in several areas throughout the university.

2. From Grallo presentation slides.
What is Critical Thinking

James Daly

My interest in and beliefs about critical thinking were the reasons why I participated in the Faculty Summer Seminar 2012 “What is Critical Thinking?” facilitated by Richard Grallo. Having had the opportunity to attend other events sponsored by the Center for Catholic Studies I had reason to believe the sessions would be academically of high quality, and professionally useful, and I was not disappointed. While I have been aware of the importance of critical thinking in teaching and learning, Professor Grallo provided a concise explanation of the concept, specific approaches for moving others (and ourselves) towards consciously employing it and recommendations for increasingly infusing it into our practice. The seminar model itself promoted critical thinking. Of particular value was the consideration of the role of questioning, ways of framing and of examining claims to truth, and the recognition of critical thinking as a process (to be taught, learned, practiced and improved).

To paraphrase Justice Stewart’s famous non-definition definition of pornography, if asked I would previously have said that I may not know how to define critical thinking, but I know it when I see it. In over 39 years of teaching, from middle and high school through university work, I regularly saw students engaged in activity and behaviors that I would classify as providing evidence of critical thinking. Perhaps even more importantly, in my teaching and in my observation of life around me, I saw evidence of a lack of critical thinking. Indeed the popular current phrase, “what were they thinking?” provides a cultural foundation that demonstrates the range of decisions made that regularly reflect a lack of critical thinking. Prior to this seminar I was aware of, and regularly taught about, the importance of critical thinking. As we encounter personal, political and global actions resulting in unanticipated consequences the need for a focus on critical thinking seems evident. Beyond anecdote, what do we know about the need for and the state of critical thinking? In an era often characterized as producing an information overload, how can individuals and societies navigate conflicting claims to truth?

The contention is raised that more people are connecting to the Internet to conduct their own research, producing as well as consuming information from countless websites. There may well be a danger of becoming dependent on this method. There is so much information to be considered, often instantaneously, without knowing the validity of the content or the risk of misinformation, (http://en.wikipedia.org/wiki/Informationoverload). Potential consequences include unwillingness, indeed an inability to deal with a wide range of divergent views. Bishop (2008) warns that in American society people have been self-isolating themselves into similar minded communities. They read papers and consume media reflecting their perspectives and worldviews, choosing not to engage in conversations with others or on topics with which they disagree. If this contention captures a cultural phenomenon correctly, there are significant consequences. Can a republic exist where citizens choose not to deal with conflict or differences? In the one institution dedicated to preparing individuals for citizenship, the public schools, this trend is also evident. Hess (2009) provides a rich history of the inability of schools to promote discussion, deliberation and questioning— all of which were presented by Professor Grallo as elements of critical thinking. Hess builds on the work of scholars highlighting the success of censorship (self and official) in restricting both what can be addressed in schools and how it can be addressed. She highlights what her research reports to be an inability (for a range of reasons) of teachers to deal with substantive issues in an arena where questioning, probing and citing evidence are expectations. The knowledge, skills and dispositions for critical thinking embedded within these areas were cited in the seminar.
Joel Spring (2011) and Diane Ravitch (2010) offer intriguing analyses of national and international organizations whose efforts build upon a civically challenged, professionally constrained public school system. Their work, in the context of high stakes testing, common core standards, international testing and largely unexamined claims based on commercially produced testing instruments offers some compelling contentions. To the extent that their observations are accurate, critical thinking in the public schools is in danger. Historically, and increasingly in the future, the focus on easily assessed skills and knowledge present challenges to those who would promote critical thinking. An arena in which schools are seen as primarily preparing the young to compete economically with threatening international regions and nations provides additional barriers to building a culture where critical thinking is promoted, taught and practiced.

Attempting to promote critical thinking in my field benefits from a scholarship that identifies it as a need. There is a long tradition of scholars examining American public schools and calling for intellectual and academic integrity. Many provide a critique of the constraints put on teachers in efforts to engage learners in addressing issues and topics on which there is disagreement (Beale, 1936; Lynd, 1939; Nelson, 2003; Daly, 2001). The fundamental approaches behind such critiques call for considering judgments, providing evidence and reasons, and using questioning as a framework for reflection – all cited by Grallo on the first day of the seminar. His identification of insight as a desired outcome, and his framing of the nature of bias as a barrier were useful.

In my own practice here at the university, I anticipate that the experiences throughout the seminar will influence my teaching and assessing. As a teacher educator, I attempt to model and profess that certain pedagogical approaches promote critical thinking. Professor Grallo’s definitional work will be useful in continuing to do so. His analysis and representation of the cognitive process, the recognition of intention, and the goal (insight) fit within the university classroom. Creating settings where this can occur is an objective worthy of on-going work. The focus on questions is appropriate – both for building critical thinking skills among students and for providing them with a framework to use in their own classrooms in the future.

Works Cited


Infusion of Critical Thinking Methods into Service Learning

Irene de Masi
Cathy Maher

The transformation from student to Doctor of Physical Therapy, an autonomous healthcare practitioner, requires development and emergence of critical thinking. Professional consensus within the Physical Therapy community concurs that critical thinking is a key generic ability (May et al 1995) that must be cultivated to promote application and integration of knowledge and skill for contemporary practice. Yet confusion exists among physical therapy educators as to what critical thinking is and how this key skill can be fostered to develop competent doctors of physical therapy. As faculty in the Department of Physical Therapy, the workshop “What is Critical Thinking,” facilitated by Dr. Richard Grallo was very intriguing to explore critical thinking in the wider context.

Course timing was perfect given that the Service Learning Seminar had just been completed by the 3rd year Doctor of Physical Therapy (DPT) students and, as co-instructors, we were assessing student outcomes related to core professional values with emphasis on social responsibility, advocacy and pro-bono service. We noticed students expressing components of a critical thinking construct within their final self-reflection that we had not recognized in previous student writings. Students’ final self-reflection noted not just the professional core values but elements of a critical thinking process. Their themes revolved around their experiences, their doubts, hesitations, challenges and struggles to find answers. Insights were evident in their writings as they identified new potentials to influence others whom they served. Their reflections led us to see a shift towards enhanced critical thinking and prompted us to question, “What promoted this shift”?

Based on Facione’s 2006 Update on Critical Thinking, we discussed and reflected on the definition of critical thinking, the requirement of a critical thinker to use judgment and the two supportive systems for decision making. These two systems tools; intuitive (System I) and reflective (System 2) are vital in the decision making process (Facione, 2006). If we are attempting to provide learning experiences for students that promote their critical thinking, did this service learning seminar offer opportunities for either or both systems of thinking?

We have noticed a trend in our graduate students’ approach to seeking answers, what we call their drive to problem solving. Their drive appears linked to the shift toward the information age where access to information is immediate. Students thrive on a “quick key stroke” to find a “superficial answer” as their connection to the world and, a way to process and problem solve, not as an exploration or as thoughtful analysis, integration, persistence and reflection to seek solutions. To us this is a bias toward System I thinking and not the analytical process required for System II thinking that is required in contemporary health care practice. This immediate gratification does not lead students to further questioning or inquiry. Rather it halts the creative thought process as students have little realization that there were original “anchoring” questions that framed the information and evidence they found.

This method of thinking has very little “reflective effort” and there is little “drive” to reflect. This is easily visible in early writings as the student is often at a loss and/or uncomfortable with the reflective process. From our perspective the current educational models do not demand thoughtful reflection. As a result there is little opportunity for development and confidence in System II thinking. Instead the use of technology and the emersion of information has in fact pushed them away from System II and made them become more comfortable with System I thinking.
Upon reflection it appears that the service learning seminar provides an environment that promotes the opportunity for students to engage in ongoing System II critical thinking and decision making. This system relies on all aspects of reflection, for, in and on action and is useful when seeking to make a judgment in unfamiliar situations. This decision making requires purposeful careful analysis, explanations and self-correction, i.e. the “critical thinking” or “problem-focused reflective thinking” (Facione, 2006) that must be developed in our doctoral students.

From our discussions we noted that what is unique about the service learning coursework is that it follows the GEM Reframed: General Intentional Structure (GIS) model. It begins within the familiar classroom to help link the service learning model to the mission and vision of program and university, profession and greater community. Students then move from the familiarity of the class environment to the community and become collaborators with community partners. As professors we limit our direct supervisory role and promote an engaged, self-directed learning approach. Students experience a novel environment, observe children/adolescents with special needs, brainstorm with community partners and engage in discussion about the type of activities to design a unique fitness day. They have weekly exposure, engaging children/adolescents in their classroom environment to gain an understanding of their unique needs. Student must make begin to question their preconceived biases and assumption about individuals with special needs. They must now confront and reflect on those notions in context of collecting information through observation and collaborations that allows them to be open to questions, questioning and insight. It is this environmental construct that fosters the student along the continuum of insights from the individual need of the child to making decisions based on fact and value that directly leads to designing and implementing a planned fitness day. This learning process is ultimately transformative for both them and others.

How the stage is set in this service learning seminar appears to follow the construct for comprehensive learning as defined by Grallo. It is experientially based. The environment may be entirely foreign for some students and is filled with ambiguity as it deals with individuals with special needs. Unlike the customary and predictable experience on campus this course puts students in an anxiety producing situation and for some students, there is resistance to this unfamiliar environment. As faculty we had sought to push the students into this unfamiliar environment where chaos reigns and ambiguity exist. While recognizing the need for students to be offered this type of learning challenge, we did not equate this as an important component of the critical thinking process.

At some point along this semester, the student within their own time, becomes engaged in this active decision making process, whether it is for one child, or one creative idea. Throughout this process students’ questions move from generic to specific and relevant. This progression of questioning propels them to a higher level of decision making that they must explain, defend and effectively communicate to their collaborators. Their reflective writings coincide with this transition as the student can now finally not worry about their own fears about making a judgment. Perhaps it is the notion of a stalled personality getting a “jump start” that begins a trajectory toward insight.

Through Dr. Grallo’s workshop and discussion we understand that some students are initially resistant to this type of unstructured course, perhaps because of aspects of their personality functions. As a result they may not be willing to take a chance, to deal with the confusion of an unstructured environment for learning, resistance because of a fear of the unknown. That is why time is an important factor for the process of critical thinking to emerge. Allocating a full semester allows students to move through these levels of questioning, insights and judgment. The experience of the service learning model produces that “personal commitment,” moving from just being aware that others have special needs to a commitment that as a doctor of physical therapy they are engaged in improving the lives of others.
Lastly, what makes this service learning opportunity unique is that the students are not being evaluated for performance techniques in a structured formal process as required in all other academic and clinical courses. They are being asked to create something in the construct of a confusing and often ambiguous environment. For our students this may be the first time they are in an uncomfortable situation. They cannot just regurgitate the information. They have to really put all their prior knowledge into either a “circular” or up the chain/trajectory model. At the end of the course we can truly demonstrate that they have taken the first steps required to be a critical thinker. The student gains knowledge of results in the critical thinking process.

In summary, as faculty we see the value of assisting students to formulate guided questions to reflect for, in and on action to promote System II thinking. Application and integration of knowledge requires insight. Insight, the integrator of knowledge, is not under volitional control (Grallo 2012). However, critical thinking is volitional and serves as the driver for the emergence of insight. To facilitate this process, to gain new insight, anchoring questions must be formulated. These reflective questions of fact, value and decision are the foundational elements to support purposeful judgment and decisions (Grallo 2012). This requires us to provide environments for students to be initially uncomfortable, even anxious, as they move from a biased System I thinking process. We must recognize the time necessary to allow insight to blossom.

With the above we have sought to answer the following questions: Under what conditions could critical thinking be enhanced? How those conditions were promoted this semester? For the Service Learning course we teach, we believe that we must continue to examine the process of critical thinking in order to foster and enhance our students’ development as well as our own.
I Think, Therefore I Write, Therefore I Think:
*The Symbiotic Relationship between Critical Thinking and Academic Prose*

George Faithful

“I think, therefore I am,” thought Réné Descartes. Then he wrote down that thought. Thinking and our own awareness of our thinking are proof of our existence. But merely existing provides little satisfaction. As part of the critical thinking process, writing provides the key for our intellects to thrive and grow.

The written word is a tool for memory. By recording my present thoughts for future reference, I expand my mind. My brain borrows space on the blank page, filling it with every manner of thought, from the most raw, unprocessed data, those odd puzzle pieces that do not yet fit into any particular rubric, to the most refined of solutions to complex problems. We write them down so that we will remember; and we remember so that we may perfect that material.

Indeed, writing provides the ideal context for refining ideas. The necessity of revision transcends all genres of writing. Clear ideas demand clear words. Conversely, unclear words may be symptomatic of unclear ideas. Whether on a computer screen or the printed page, our minds have the opportunity to digest ideas when we write and revise them. When I read and reread my own ideas, revising and refining them, I better understand myself and become more fully the man of the mind I have the potential to be. As Monsignor Richard Liddy pointed out during the seminar, writing represents “teaching the self.” I may talk to myself out loud, but only when I read my own writing do I truly listen. This is true of my writing about my own thoughts and it extends to my appreciation of the ideas of others.

When we analyze writings by others, we digest their ideas. Indeed, until I have framed someone else’s ideas in my own words, I cannot claim to have truly understood them. Generously receiving and faithfully expressing the ideas of others is a part of my loving them as their neighbor, even if it is in the context of my disagreeing with them. This is as true of departed neighbors-in-print as of the living. I must respond to the best version of my opponents’ arguments if I am to responsibly hone my own. Similarly, for my allies, I must fully explore all of the implications and nuances of their thought if I am to claim the fruit of their labors for my benefit. After all, this is how we Catholic intellectuals make use of the writings of the Saints.

The better I think, the better I write. The better I write, the better I think. The better I think and write, the better I am, as Newman reminds us: “To live is to change, and to be perfect is to have changed often.”
The act of critical thinking, which involves at its core making a reasoned judgment, cannot and should not be conducted in a vacuum. We argue that critical thinking can be seen as a thoroughly practical way of operating in the world in order to optimize adaptive success. This process concerns the fundamental human drive to establish satisfactory relationships with the various environments with which we humans are interdependent—the material world, the organic world, the social world, and the spiritual world. Maladaptation can be said to occur when our relationships with these environments are not satisfactory. In such instances, we experience “error,” defined as a discrepancy between the ideal state and the reality state, that is, between what we would like the relationship to be and what the relationship actually is. Human action is oriented toward the reduction of error.

Critical thinking is indispensable to our ability to navigate toward satisfactory adaptation, in light of the inescapable fact that we are error-reducing organisms.

The eminent philosopher, George Herbert Mead, outlined a “philosophy of the act,” consisting of four phases: (1) blocked impulse (or a feeling of agitation, that is, “error”); (2) perception (a scanning of the environment that makes the agitation “intelligible”); (3) manipulation (acting on the relevant environmental objects); and (4) consummation (the end of agitation). Of course, continuing agitation after manipulation would lead to a new round of perception and manipulation. This iterative process would continue until the blocked impulse is adequately addressed. Bernard Lonergan’s four phase “method”—consisting of experiencing, understanding, judging, and acting—can be interpreted through an adaptive lens. Our sense is “selective,” relevant as it is to our adaptive quest. The imperative to impose order and meaning on our sense experience (involving “perceptual” activity) is also framed by our continuing desire to minimize “error.” The judgments we make and the actions (or “manipulations”) we undertake are in the pursuit of “consummation.” The heightened subjectivity of which Lonergan speaks needs to be cast in terms of the pragmatic adaptive needs of human actors.

There are many examples of how the adaptive quest is played out in our daily lives. Consider career trajectories. At a recent conference, the first author had a chance to discuss with several participants who were formerly attorneys or human resource managers. They discussed how their careers were in transition and now they are seeking to prepare themselves for careers in the sustainability movement. In this example, there is a blocked impulse (a lack of work fulfillment) which leads to the scanning of alternative career paths, and then concrete action steps (training, networking) undertaken to achieve “consummation” (job fulfillment). This is but one illustration of how what we sense, what we seek to understand, what evaluative assessments we make, and what interventions in the world we engage in are all directed toward adaptive success. We conduct our lives in ways that are attuned to the “correction” of error (“negative feedback” in cybernetic language).

We would like to focus the remainder of the essay on how an adaptive lens can be used to assist us, as educators, to infuse critical thinking into our teaching. Ideally, we would like our students to be driven to resolve cognitive or moral puzzles that are important to them, for which they take ownership and that they pursue autonomously. Many educators are frustrated (experiencing our own kind of “error”) when this does not happen. For this group, agitation is triggered when our students engage in a critical thinking project for extrinsic reasons (e.g., to help earn three credits). The point is that we need to do a better job, in concert with our students, of identifying the adaptive hook that would make the critical thinking process meaningful and valuable for students. To root critical thinking in a personal adaptive quest is to give it intrinsic, existential, and experiential meaning. The student is embarking on a potentially exhilarating journey of self-discovery, self-understanding, and self-authorship.
But, what specifically are the kinds of “error” that critical thinking can help to correct? We can speak first of “cognitive” error, which involves an experienced gap in understanding or causal explanation. The scientific method is designed to address “cognitive” error. Beginning with the formulation of a research problem (which could be chosen for biographically bounded reasons), the investigator proceeds to scan the literature on the subject with an eye on gaps in the existing stock of knowledge. A hypothesis (or set of hypotheses) to be tested or examined could emerge from this process. This hypothesis leads to the formulation of a research design, which when implemented yields “data” that needs to be summarized and interpreted either in light of the hypothesis put forward at the outset or that ground an emerging theoretical understanding. This interpretation feeds into a consideration of future research directions. There are questions raised and judgments made at each stage of the scientific process. Also critical to the scientific method is its “public” nature, or dialogical quality. The questions raised and judgments made in connection with the selection of a research topic, the review of previous research, the choice of a research design, and the interpretation of findings should be transparent and shared with one’s scientific colleagues. The scientific investigator not only raises questions and makes judgments along the research path, but feels compelled to justify the importance of the questions and the judgments that were made. This goes to the heart of critical thinking—the process by which one (in this case, the scientific investigator) presents reasoned arguments for his/her judgments. The public nature of the scientific enterprise has two significant effects on the research process. First, the expectation, if not injunction, to present one’s reasoning to his/her colleagues elevates the quality of the research produced. Second, the critical responses to the “accounts” provided by the investigator feed into future research and also strengthen the quality of the research. The correction of cognitive error for all intents and purposes never reaches “consummation,” it is seen as the collaborative effort of a community of investigators who produce an understanding of empirical reality that is cumulative and evolutionary in nature.

As social scientists, we are concerned primarily with addressing “cognitive” error in the social domain by asking the key questions: What is the nature of the “data” that are collected? How are these data interpreted? Metaphysicians and theologians also deal with “cognitive” error by asking the same set of questions. (We cannot explore in this essay due to space limitation how cognitive error is addressed differently in other domains, including the physical, organic, and spiritual domains).

We have been focusing on cognitive error, the reduction of which refers to the pursuit of TRUTH, one of four “Ideals” put forward by Ackoff and Emory. The other three are BEAUTY, GOODNESS, and PLENTY. The pursuit of BEAUTY involves the correction of what can be called “appreciative” or “aesthetic” error. Here the concern is the formulation and presentation of arguments (as with metaphysics and theology as part of a public, transparent, collaborative dialogical process) regarding the inspirational impact of texts or other kinds of artistic productions. Regarding GOODNESS, the concern shifts to reasoned arguments about the nature of right and moral behavior. The investigator is interested here in addressing “ethical” error. Finally, with regard to PLENTY, the focus is on the generation and presentation of arguments (also shared in a public intellectual space) regarding the best way to achieve a given end. In seeking to correct “aesthetic,” “ethical,” or “technical” error, the same questions apply. What data are selected? How are they interpreted?

To conclude, we argue that the process of critical thinking takes on a different shape and form depending on whether it is directed toward the correction of “cognitive,” “aesthetic,” “ethical,” or “technical” error. The notion of “error” is rooted in a perspective that gives primacy to the adaptive nature of human action. One area of future investigation concerns the cross-relationships among the four types of critical thought. To what extent do they share basic methods of critical examination? If different or complementary, do the methods support and enhance each other? Is the pursuit of TRUTH in the pursuit of GOODNESS? Does the pursuit of metaphysical truth support or enhance the pursuit of empirical truth? The possibilities are seemingly endless.
1. For a discussion of “adaptation” see, for example, Mary E. Bredemeier and Harry C. Bredemeier, Social Forces in Education (Sherman Oaks: Alfred, 1978), Chapter 2.
Critical Thinking: Are we there yet as faculty?

Cathy Maher
Genevieve Pinto Zipp

As faculty members we have come to realize, as many of our colleagues before us have, that the path to developing critical thinking has no direct route and no foreseeable end. As we sat in the 2012 faculty summer seminar on “What is Critical Thinking?” facilitated by Dr. Grallo two words continually resonated in our minds, “chaos” and “teachable moments” with regard to the path taken to develop one’s critical thinking skills.

The word chaos describes the state of what we know and do not know about critical thinking based upon the current available evidence and our “naive idea” that as faculty our curriculum seeks to develop this elusive notion in our students. Given the current lack of clarity and inconsistency in defining critical thinking, this chaos undoubtedly will continue to exist when exploring the process by which one can develop critical thinking skills in our students. As faculty trying to develop critical thinking we must first attempt to clearly define this construct and then design learning environments that can support student’s critical thinking skills as defined.

In this seminar, much of the readings and group dialogues focused on the diverse definitions regarding critical thinking. When reflecting upon Mingers’ position posed in the readings that “critical thinking is a critique of rhetoric, with skeptical reflection of conventional wisdom, dominate view and information and knowledge” some clarity in this sea of chaos was observed. While some might argue that Mingers’ definition merely requires that one be a skeptic without regard for one’s belief we would suggest that Mingers’ definition does account for ones “beliefs” in that it requires us to reflect critically on our beliefs, not just blindly accepting them.

As we began to immerse ourselves further in the readings and reflect upon our dialogues the work of Moon, which stressed the importance of “taking time,” and “allowing time” for “thinking time” and “waiting time” revealed a great insight to us. Moon’s notions emerged as the missing piece to the puzzle! Her position that time is imperative clarified the depth of the processes involved in reflective skepticisms associated with critical thinking. Thus, from Moon’s work the notion of ensuring that faculty secure “protected time” to think and afford our students ample time to do so as well is imperative!

This idea of time lead us to remember and reflect upon the words of Tzu, a Chinese philosopher and mystic, and founder of Taoism, who said, “A scholar who cherishes the love of comfort is not fit to be deemed a scholar” (Lao Tzu, c.604-531 B.C.) and with this reflection a light bulb went off in our heads. One might ask, “Why?” Well, the answer is simple. To us Tzu words suggested that the words “comfort” and “scholar” really do not go together. It is in recognizing that we do not know all that we realize we must pursue knowledge. Our desire to ask questions surrounding the unknown create a sense of chaos in our otherwise programmed or prescribed world. Ultimately, it is this desire to question, explore, uncover, evaluate and learn that is our fuel for reflective skepticism, which is “critical thinking.” Clearly, this process undoubtedly takes time and cannot be reached without chaos.

What this realization suggested to us is that when mentoring students, we must clearly set the expectation that chaos should be expected and from this chaos one knows they are challenging themselves to be critical thinkers, reflective skeptics and thus active learner and, yes, scholars. The academic community’s definition of a scholar further clarifies Tzu words by suggesting that a scholar is not only a learned person with specialized knowledge in a specific area, but one who acts upon their knowledge gained. James Lowell (1819-1891), an American romantic poet, critique, editor and diplomat wrote, “True scholarship consists in knowing not what things exist, but what they mean; it is not memory but judgment.”
But how can we as individuals evolve into scholars and foster scholarship in our students? Within our mentorship model of teaching and learning, we believe that our approach to the process of learning must reflect our desire to develop scholars not mere researchers. So when mentoring students, we suggest that one not provide detailed direction, feedback, and rules as to how to attack a situation, but foster an environment of dialogue about the situation, how it might be addressed and defended, and thus support their critical thinking. This process creates an environment where reflective skepticism and critical thinking is the desired outcome.

So based upon the notions we explored through our readings and discussions, which suggest that critical thinking requires one to be a reflective skeptic, surrounded by a state of chaos, and requires “time,” we began to ask ourselves if our teaching support these notions. The underlying conceptual framework surrounding the idea of “teachable movements” being “any event or circumstance which leads to a positive behavioral change” was then reflected upon. Using the tenants underlying teachable moments, we support the idea that we as faculty must charge ourselves as mentors and scholars to find the true scholar within our students, recognizing that the path chosen to developing one as a scholar must be viewed not as a destination, but as a journey filled with chaos and reflective skepticism. Ensuring that teachable moments support these tenants is our role as faculty so that critical thinking can emerge and flourish in our students.

1. Liddy, R. M., Critical Thinking and the Unity of Proficiencies, p. 4.
2. Liddy, R. M., Critical Thinking and the Unity of Proficiencies, p.4.
Encouraging Critical Thinking in an Organizational Behavior Course

Elizabeth A. McCrea

“We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based.”¹ To me this means that critical thinking is an active, determined attempt to make the best decisions we as human beings can make, with a full understanding that the ideal situation of perfect information, unbiased judgment, rigorous methods, sufficient time, etc. is not possible. Even though we cannot reach the ideal of “pure” critical thinking, we can, by examining our thinking in a diagnostic way, improve our decision processes and—by extension—the outcomes of those decisions.

So what kind of person engages in critical thinking? “The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit.”² Quite a tall order, especially for a traditional undergraduate business student taking a required management course!

Students often come to the core management classes with the attitude that management is all “common sense,” that it is “easy,” that it is a “soft” course that will balance well with their “hard” finance and accounting classes. In class I attempt to counter those assumptions with questions—hoping to create in them an awareness of their knowledge gaps. For example, I ask: if management is so easy, so based in common sense, then why are there so many bad managers? Why does research show that people “quit” managers more often than they quit jobs? Why are employers constantly seeking job candidates with “good people skills,” and claiming such individuals are very hard to find?” While these questions can and do spark some curiosity in students I find they are not sufficient.

While some students are inquisitive about management and organizational behavior, many do not seek out additional information to fill in their knowledge gaps. They also don’t realize that they have personal biases and that when they are sure they have found the “right answer,” they have, in fact, simply jumped to judgment. In addition, I often find students are not able to discern the issues underlying a complex management problem, but instead focus on surface symptoms. In short, most students do not evidence critical thinking skills, at least in terms of the management field.

I am still learning how best to address this opportunity for student growth, but one approach I have found effective is experiential learning exercises. Instead of using traditional pedagogical techniques, such as lecture or discussion, I lead an activity where the outcome is likely to be inconsistent with their pre-conceived notions of what should happen. This cognitive dissonance often motivates students to more closely examine the situation, and hopefully confront their “uncritical” thinking.

For example, in Organizational Behavior students read about common decision making biases. The textbook is clear that all human beings are subject to biases and prejudices, and that these are barriers to critical thinking and effective decision making. However, students often see biases as problems other people have. Obviously they are not prejudiced! They are too smart, too open-minded, too sophisticated for that. Besides, biases and prejudices are bad, and since they are good people, they couldn’t possibly be susceptible.

One experiential exercise I have recently adopted is quite simple, but has proven very effective in demonstrating to students that they do indeed have biases and prejudices.³ During the exercise, students
were partnered, preferably with someone they do not know well. Without talking to each other, as individuals, they used a scale ranging from completely agree to completely disagree to assess a series of sixteen statements, such as: “country music is the best type of music; getting good grades is really important; it should be illegal to talk on cell phones while driving; not citing every source in a paper really isn't a big deal; regular exercise is important; public school children should be required to wear uniforms,” and so on. Then, also without talking, they estimated how their partner rated the same statements, and jotted down brief explanations of why they think their partner would agree or disagree with the assertion.

In the second step they shared their own scores and their guesses of what their partner’s ratings would be. They also briefly stated why they rated themselves and their partners as they did. They were instructed not to get into a philosophical discussion of particular statements and to avoid making value judgments about their partner’s explanations. Students were told they should not try to change someone’s mind. They were instructed, rather, to simply take turns stating their ratings and their justifications and to accept all as valid without expressing agreement or disagreement with their partner’s scores and rationales.

The written reflections and discussions that followed the exercise were quite enlightening. Many students were astounded by their abysmal ability to predict their partner’s scores. They were also taken aback when most of their explanations as to why they thought their partners would feel that way were quite superficial as compared to the partner’s own reasoning. Due to these contradictions between their original perceptions and ultimate results, most students were much more willing to concede that they are in fact subject to biases. They admitted that they needed to be aware of this human tendency when making decisions or dealing with people especially in management situations.

While an instructor can use many approaches to encourage critical thinking, assignments and exercises grounded in the students’ own experiences seem to be most effective in motivating critical thinking and reflection. Personally wrestling with experienced contradictions, real-world problems, authentic situations or professionally-grounded issues encourages students to confront their decision-making processes and provides them with a grounded opportunity to become more critical thinkers.

1. Facione, P.A., Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction, ERIC Doc. No.: ED 315 423
2. Ibid
4. Ibid
I have been lucky. It was not until I had been teaching Freshman English for over 13 years that I had my most challenging group of students. I’ll call them “The Distractinators” because they created constant distractions in class. Many of them seemed to have little interest in paying attention and some students’ behavior in class was shocking, even to their peers. I will leave the particulars to the imagination. Class discussions became nearly impossible, as were peer reviews, and other interactive tasks. Despite all of the trouble, I sensed that they were bright people. Unfortunately, they had come to me mentally shutdown, unmotivated, and disengaged. They were part of a program that provided academic challenge, small classes, opportunity for peer and student-faculty interaction, individual attention, learning communities within the classroom and with the group at large. Yet, the apparatus seemed to have little effect and they appeared to be “non-developers,” or people on a “downward developmental trajectory … not really engaged … more disagreeable than agreeable, and more moody than emotionally stable.”

Students who have developed such traits, Grallo explains, “almost without thinking increase their probability of failure or mediocrity and become more damaged in the process—in effect they become really efficient at self-destruction.” There was a kind of collective personality in operation that had, almost by a force of will, decided it would “stop growing”—hardly a profile for student success. The Distractinators, with their compulsion to misbehave and mentally shut down, ensured that no teaching, no learning and certainly no critical thinking could occur. On the horizon waited the parade of problems that often follow: inattention, poor classroom dynamics, failure to learn, cheating and plagiarism, and, growing exponentially on campuses across the country, the gradual lowering of standards and grade inflation. If they could or would not engage with issues and each other, if they refused to think, I wondered if the chasm between us could be breached to awaken in them the “drive to know?”

But first it would be necessary to look at the nature of this chasm between us, this discrepancy between the expectations of teacher and student.

This analysis begins with us: Arum and Roksa found that there is broad consensus among educators that “teaching students to think critically is the principal aim of undergraduate education.” It enables effective problem-solving as it develops and transforms the student’s personality which Grallo indicates is the very “background for complex human learning.” Therefore, critical thinking has very personal, as well as intellectual, and socio-cultural implications. While it fosters interior growth, it does not happen in a vacuum. Liddy notes “the importance of engaging with the communities within which one is located.” Students will experience crucial personal growth from engagement with each other and their professors as they begin to find they are not “threatened by problems,” but have gained a sense of self-worth as they “[continue] on the journey of self-authorship.” So much personal development is possible at the college level, but only if students are willing to ask questions, to “enter the culture of ideas and arguments…to engage in intellectual debate.” Grallo refers to the personality traits which make this possible: “openness, conscientiousness, engagement, agreeableness and emotional stability.” The disengaged student not only lacks one of these traits (engagement) but will have difficulty manifesting any of the others as well.

Benton notes that freshmen often “are not making choices that support educational success” in part because they are feeling “disillusioned, bored, apathetic, scared, and trapped.” He claims teachers who are “too busy to care about individual students” are largely to blame. However, students often come to us in this state. Arum and Roksa point to studies that demonstrate the opposite: it is peer culture that prevents them from feeling connected to the academic life of college. Studies show that today young people are far less influenced by adults (parents or teachers) than they are by their peers, and the media-driven youth culture that is, for so many of them, their only reality. The norms of this generation’s peer group dictate a passivity and sense of entitlement that is antithetical to engagement and cognitive development: they expect to be entertained or they will tune out, and they expect the largest
reward for the least effort, so they will cut corners whenever possible. We seem to be experiencing what Lonergan called a “collapse” in which a “genuine part of culture” has been “mutilated …[causing] …increasing division, incomprehension, suspicion, distrust, hostility, hatred, and violence.” How prescient those words were.

Rebekah Nathan, a professor who enrolled as a freshman to study student attitudes coming into college, uncovered symptoms of that “collapse.” She found that they practiced what she called “the art of college management,’ in which success is achieved primarily not through hard work but through ‘controlling college by shaping schedules, taming professors and limiting workload.” Unfortunately, this rings true. Students will come to me throughout the semester saying “I have to get an A in this class.” Once a bold student told me that she “would accept nothing less than an A” in my class. In another instance a student from the previous semester met with me to discuss his grade about which there was no real point of contention. He said it was his practice to meet with every teacher to see if he could negotiate a grade change – the art of college management, indeed. The research of Arum and Roksa reveals that attitudes like this are part of the “deepening consumerist orientations within higher education” also called “credentialism,” in which students see themselves as “consumers [who] focus on receiving services that will allow them, as effortlessly and comfortably as possible to attain valuable educational credentials that can be changed for later labor market success.” With this objective, engagement isn’t really necessary. They perceive themselves to be consumers, rather than scholars. This is a trajectory they have been on since adolescence. Their sense of who they are dictates their behavior. As I said, my Distractinators were bright. I saw this when we had a Socratic Seminar on Benjamin Barber’s “America Skips School” and the group, having the discussion among themselves with me purposely excluded, finally came alive. To my surprise they were complaining about their unwillingness to work to their potential, to behave in class! They seemed genuinely engaged in the discussion. They had things to say. They were working on a problem. And they were interesting to listen to! At that moment I could not identify them as disengaged at all.

However, this was not the case everyday and many times I was tempted to just stop everything and scold my Distractinators, saying: “Just who do you think you are?” And, in retrospect, perhaps that is exactly what I should have done. Then I might have gotten to the core of the problem. I doubt any in this group would have self-identified as thinkers or scholars. In the future, I will begin by addressing what Grallo says is the key to fostering critical thinking: the discrepancy, here the discrepancy between who I am expecting them to be and who they believe themselves to be. Graff reminds us that “our very ability to think depends on contrast,” here the contrast between an engaged and a disengaged student, between one who is intellectually shut down and one who experiences insights. Thus the disengaged student might see herself more clearly, so that she can imagine another way of being, and perhaps experience that “intellectual conversion” in which she might begin “to understand … the structure of [her] own consciousness” since, as Lonergan has said, we have to “be present to [ourselves] for anything to be present to [us]”.

11. Arum and Roksa. Academically Adrift, p. 3.
14. Arum and Roksa, Academically Adrift, p. 4
15. Arum and Roksa, Academically Adrift, p. 17.
The philosophy of Immanuel Kant can be divided into two systems with differing subject matter and fundamental assumptions. One system would be that of theoretical philosophy which is comprised of metaphysics and epistemology. Theoretical philosophy leaves out any positive claims about God, freedom and the soul in seeking necessary laws that ground our knowledge. The other system is that of practical philosophy which deals with ethics and politics. In this case, God, freedom and the soul are necessary elements around which we structure practical life. Kant is clear that while these two philosophical frameworks have seemingly opposing starting points, as human beings we are necessarily situated in both realms, seeking both laws that govern the world we inhabit and moments that allow for expressions of our freedom and individuality. There is, however, another way of categorizing the work of Kant, one based on method rather than subject matter and one that, instead of embracing a dialectic between different sets of guiding principles, seeks to reject one method in favor of another: the distinction between critical and uncritical philosophy. But what precisely is critical about Kant’s critical method and can that method help in conceiving the kind of critical thinking we seek from college students?

In the Preface of the “Prolegomena to Any Future Metaphysics”, Kant says that he was awoken by David Hume from his dogmatic slumber. This awakening is what calls on Kant to move to a critical method, a method to be employed in all our inquiry not merely philosophy. For Kant, this critical method is opposed to dogmatism: Critique is opposed only to dogmatism, that is to the presumption that it is possible to make progress with pure knowledge, according to principles, from concepts alone (those that are philosophical), as reason has long been in the habit of doing; and that it is possible to do this without having first investigated in what way and by what right reason has come into possession of these concepts. Dogmatism is thus the dogmatic procedure of pure reason, without previous criticism of its own powers.

To be dogmatic is to employ reason without investigating the scope of our reason, to seek to understand without trying to understand the limits of our understanding. To be critical then is to always seek an understanding of the limits of our understanding. For Kant, any answer must be concomitant with recognition of the scope of that answer. When we are dogmatic, even in the absence of a declaration that our answer applies in all cases, we lack recognition of the scope and source of our answer. Without an understanding of scope and limitations, our information cannot transcend into knowledge and our principles do not yield thinking. For Kant, the very division of philosophy into theoretical and practical spheres stems from a recognition of the limits of our reason. When seeking truths about the world our reason lacks the devices to reach definite answers about the nature of God, freedom and soul and so our theoretical investigations must put aside any positive claims. When generating laws and imperatives for individual and collective behavior, our reason is in need of God, freedom and the soul as a basis for justifying and motivating wills. This endeavor to discover these limits is the critical method for Kant, a method we must employ in all our investigations.

When it comes to critical thinking in the classroom it seems to be a similarly philosophical and undogmatic approach that we seek. Our common disdain for “regurgitating” information makes sense since students who merely seek to repeat information or know enough to answer the question on an exam lack an understanding of the scope and limit of the information they have. As our courses have titles and descriptions, it might seem that a suitable account of the scope of a set of principles is available. If a student is in an Introductory Biology course, she will have some sense of the limit and application of her biological investigations. There are, however, two issues that point to the insufficiency of this way of understanding scope. The first issue concerns practical life. Once the student leaves the confines of campus the problems presented to her will not come with titles and descriptions. Learning to think critically and examine the limits and application of knowledge is the only way to prepare citizens to identify what
knowledge and principles are called for in life. There is no other way to help our student identify that what is called for is an investigation of biology and not chemistry, or even ethics. The second issue concerns an earlier distinction, the one between content and method. Critical thinking is about method and not content. That is, the value of critical thinking comes not merely from having an answer to the scope and limit of our knowledge but also going through the process of investigating the scope and limit of our knowledge. If we are merely told of the limits of our knowing, we remain dogmatic. In his essay “What is Enlightenment?” Kant argues that enlightenment is not mere knowledge but being able to use knowledge for whatever one chooses, without the direction or imposition of another. If, as Kant suggests, the imperative of such enlightenment can be expresses, as “Have courage to make use of your own understanding!” then the activity of critical thinking, the process of seeking out the scope and limits of our knowledge, will turn out to be just as important as the knowledge itself.

1. Critique, p. xxxv-xxxvi
2. While many institutions have added professional schools, the context for these claims about critical thinking is a liberal arts education. Certainly critical thinking is necessary in the context of professional schools as well but the argument for critical thinking within a profession is a bit more complex. As all professionals will be citizens, I limit my remarks to that sphere. Practical Philosophy, 8:35
In teaching poetry to freshmen, undergraduates or even graduate students, how does one choose the poems for a particular class? Secondly, how does one go about teaching the poems that have been selected? These two questions, which are so important if poetry is going to grasped and appreciated by students, illustrate one of the countless ways that the five levels of critical thinking might be used in a practical classroom application.

A very simple example of how this application might work in short space can be demonstrated by the ways in which I have approached one of Emily Dickinson’s brief poems (P 185) about spirituality which is complicated, not simplified, by its sheer brevity and directness.

Faith is a fine invention
When Gentlemen can see -
But Microscopes are prudent
In an Emergency.
(Lns 1-4)

Suppose my aim here is to teach this poem to freshmen who, very often, have a hesitation about poetry because it has always seemed to them to be oblique, obscure, and overwrought with unfamiliar allusions and roundabout language.

The Five Levels

The level of Basic Experience can be considered their initial assignment to read the short poem as part of their homework or even in class. To move from that first reactive mode to the next level of Understanding, I might ask them to try and identify something that they might find unusual about the opening line. What is strange about Dickinson’s wording and her basic definition of “Faith,” which is contextualized religiously? In order to reduce it further, I may begin by asking them to think about their own understanding of what faith is supposed to be. Invariably, it becomes clear at some point that using the word “invention” to define the word “Faith” is rather unusual.

Regardless of how long it may take, this movement from level one to two is essential for the students to move to level three, Affirming-Denying. Without it, students will generally not be able to grasp how the remaining two lines are employed by the poet as she juxtaposes physical sight against the classic definition of Faith as a “belief in that which cannot be seen” in the physical sense. It is also important to point out here that what may appear to be obvious in this short poem to a more experienced reader is not always obvious for everyone, especially a student in their first-year college English course. Hence, the ability to make the leap from one’s basic understanding of “Faith” and “invention” outside the context of the poem, is essential to understanding how Dickinson has created a type of tension in her opening line, something I often define as the poet’s “destabilizing first line,” in that her first lines rub against most readers’ sense of language and experience. Other examples among countless others include: “I like a Look of Agony”; “Much madness is divinest sense”; and “I died for Beauty but was scare.”

If the journey can be made to level two, Affirming-Denying will allow the student to engage the text more directly. Like finding the key to the puzzle, the student is to think about the double use of sight and how the actual “invention” of the microscope, a rather new tool in the 19th Century, allows one to literally see what the naked eye cannot. Students might roam about the lines affirming possible connections, uses of wordplay, and even plausible interpretations noting, “Yes, that works” or, “No, that is not what I think she means.”
Finally, the last two levels come into the picture, Approving-Disapproving and Deciding-Refraining, respectively, as students may venture to offer an now-informed opinion as to what Dickinson might mean. I might ask: Is she suggesting that “Faith” is only useful when we can see for ourselves and much more difficult when there is “an Emergency”? Are “Faith” and science at odds in this short poem? Is she being ironic, playful, or literal in this text? Due to the limits of space, this critique does not even take into account Socratic method, discussions of metaphor and figurative language, tropes and tone, although these notions would likely enhance the application of the five-level mode and the student’s movement through it.

Conclusion – Level Five

When it comes to assessing a student’s explication of a particular poem, I am never interested in whether or not the student and I have reached the same conclusion. Rather, I am much more interested in how the student has used the textual evidence that comprises the poem to make the case for her reading. This is what shows me if the student has reached the fifth level of deciding or not deciding. In Greek, the word “Krisis,” the root of the English word “Crisis,” meant to finally choose, make a judgment, decide. Assuming the student has reached this point, she can now make a judgment about the poem. Is it effective, appealing, convincing? Does the text make her want to read more of Dickinson’s work, other poems, etc.

In the final analysis, this technique may be effectively applied to every level of the teaching of poetry. It directs the methods I use to facilitate the conversation, and simultaneously provides me with a means by which I measure the progress of the student in approaching a poetic text with an increasingly more sensitive and critical eye. The five-levels provide me with a type of microscope by which to see.

Works Cited

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