
Dialogue and Critical Thinking Online

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Abstract: Times New Roman 10 point,

1 Introduction

The exponential developments in all areas of knowledge that mark the modern and especially the contemporary world with its proliferation of digital and telecommunication innovations and advances, have led to both, the expansion in human understanding as well as the fragmentation of expertise and disciplines into multiple subject areas that often appear to be seemingly disconnected. Aristotle defined humanity as animals who talk, in the Greek sense of logos that is inquire, formulate opinions and arguments and communicate [1]. Today, the increase of mobile technologies in the form of smartphones and tablets promises unprecedented access and exchange of information and ideas along with heightened levels of continuous and constant communication. Yet, ironically, these very same developments may thwart the conversational uniqueness of humanity through the increase of shortened acronymic expressions in text messaging and various forms of social media such as Facebook and Twitter. The frenetic, fast pace of today's global world leaves increasingly less introspective space for contemplation and self-reflection, while the explosion of multimedia through the growth of images, music and videos widely distributed through the Internet, threatens to supplant the written word and diminish the enterprise of critical thinking. "Man is a social and political animal...the only animal with the gift of speech...[endowed] with a sense of good and evil, of just and unjust..." Aristotle explained in his Politics [2]. Thus conversation, and especially dialogue remains a most important aspect of human communication and expression in the ever present communal search for knowledge. The Delphic admonition of Apollo to 'Know Thyself' becomes a lifelong enterprise for Socrates, whose dialectic and unwavering search and love of wisdom entices all humans to follow his

lead and develop their own freedom and power to think for themselves [3]. The paramount importance of dialogue and discussion has become a critical necessity in today's confusingly fractured digital environment and forms a pivotal center for online learning.

The tsunami of technological advances of the 21st century has brought a tremendous revolution in education spurred by the development of the computer and the Internet. E-learning, or online education has seen an exponential growth as the student body has expanded to include increasing numbers of non-traditional students returning to further their education, gain re-certification and even change careers. This increasingly varied population of 'consumer students' demands flexibility and learner control of their personal time management which the online environment amply supplies by fulfilling the promise of anytime, anywhere, anyplace opportunities for learning. These new delivery methods open possibilities for those who would otherwise be unable to participate in the more formal and rigid schedule of daily courses offered by most higher education institutions. Lifelong learning is emphasized based on globalization and the explosion of technology which evolves continuously at an accelerating pace. Online learning promises a democratic approach to the formation of virtual learning communities that stress the importance of critical thinking skills and self-reflection. The new paradigms of teaching and learning reflect different learning styles, independence and responsibility of the learner and relevance of the material in contemporary life. In addition, the online environment also requires new pedagogies which counter-balance the isolation that often accompanies the human-computer interface and the active interaction of the class [4]. Strategies for the use of dialogue and specifically the Socratic

elenchus in the online teaching and learning environment will be further explored in this paper with reference to humanities and art history online courses, although the critical thinking skills developed through such interaction are applicable to all domains of learning.

2. Online Learning

According to the Instructional Technology Council's latest statistics, 5.5 million students in the U.S. were enrolled in at least one distance education course in 2013, an increase of 3.7% from the previous year [5]. Online learning is basically defined by the physical and sometimes temporal separation of learners, and their interactions being mediated through the computer and the Internet. The participation can be either synchronous or asynchronous or a combination of the two modalities. The addition of the Internet with its vast databases of materials greatly enhances research, interdisciplinary analyses and the creation of new ideas. Online learning which rests on the formation of virtual learning communities is based on mutual respect and collegiality in collaboration. Modern technologies enable the formation of an interactive learning environment separate from temporal and spatial constraints. Education must address the needs of the learners and provide quality programs which enable a basic understanding of the modern world coupled with critical thinking and critical scrutiny, based on logical analysis, research and synthesis skills. These critical thinking skills help promote the discovery of new approaches and solutions as well as new connections between domains. Since the beginning of the 20th century a number of new learning paradigms have been evolving, placing the learner at the center of the learning process. Learning which emphasizes the cognitive development in a variety of constructive approaches has emerged to accent critical thinking and logical argumentation coupled with increasing communication and dialogue between professor, learners and colleagues. Online pedagogies center on community building through collaboration and performance based assessment that employs the application of knowledge and discovery learning. The emphasis on learner freedom of choice and learner control of their own learning, places the responsibility for learning on the learner thus encouraging reflection on a lifelong basis.

3. Critical Thinking

According to the Webster's Unabridged Dictionary, thinking is defined as a mental action, cogitation, judgment, while the act of thinking involves using the mind to arrive at conclusions, decisions and perform any mental operations [6], while "Critical thinking is thinking that proceeds on the basis of careful evaluation of premises and evidence and comes to conclusions as objectively as possible through the consideration of all pertinent factors and the use of valid procedures from logic" [7].



Figure 1. Critical Thinking

Critical thinking skills are paramount today to enable clear and informed decision making through the systematic breaking down of information, data and assumptions, analysis and synthesis of ideas and thorough evaluation of the situation and the logical arguments it involves. This systematic method aids in defining problems and uncovering various connections between subjects. The above diagram, **Figure 1** displays some of the important aspects of critical thinking. The first step in the analysis process requires identification of the components of the problem at hand and the breakdown of information and the examination of the data pertaining to a specific problem. Often the principles, theoretical underpinnings and concepts used require close scrutiny and the discussion usually moves from the general ideas to specific situations. The application of logical methods of argumentation enables accurate inferences, evaluations and predictions. The use of real-life examples and scenarios including case-base studies and ethical dilemmas promotes holistic approaches to decision making processes and problem solving and allow for connections with prior learning thereby increasing the relevance and continuity of

learning and helps diminish the fragmentation of knowledge. Therefore, "Critical thinking is the use of those cognitive skills or strategies that increase the probability of a desirable outcome. It is used to describe thinking that is purposeful, reasoned and goal directed - the kind of thinking involved in solving problems, formulating meaningful inferences, calculating possible likelihoods, and making decisions when the thinker is using skills that are thoughtful and effective for the particular context and type of thinking task. Critical thinking also involves evaluating the thinking process - the reasoning that went into the conclusion we've arrived at, and the kinds of factors considered in making a decision. Critical thinking is sometimes called directed thinking because it focuses on a desired outcome" [8]. In the online education world, critical thinking serves multiple purposes: it enables quick analysis of information and issues, it fosters interactive participation of the learners via discussions and chats through a systematic examination of material, it stimulates ability to discover new ideas and approaches to problem solving, it helps enlarge horizons and eliminate bias, and it promotes synthesis of material and construction of new knowledge. Since the Internet has grown exponentially along with the accumulation and increase in human knowledge: "The sum total of humankind's knowledge doubled from 1750-1900. It doubled again from 1900-1950. Again from 1960-65. It has been estimated that the sum total of humankind's knowledge has doubled every five years since then....It has been further projected that by the year 2020, knowledge will double every 73 days"[9], it has become imperative for individuals to develop skills of timely and accurate information gathering and rapid evaluation of its relevance. Therefore, online courses must emphasize the development of strong critical thinking skills that enable the scrutiny of an ever expanding websites and other data, along with research skills based on constructivist learning methods [10]. Situated and distributive cognitive exercises and activities, which combine with the problem-based, collaborative construction of knowledge [11], are best suited for the electronic environment which can connect people and databases across the globe virtually instantly while at the same time accentuating meta-cognitive tasks of synthesis, reflection and evaluation. The practical application of acquired knowledge can be

assessed through performance related tasks and collaborative projects. The most important aspect of e-learning is interaction, which leads to the creation of online learning communities that diminish isolation by bringing learners together in a common venture which increases the exchange of ideas, collegiality and networking. Cooperative and collaborative projects enable distributed cognition and conflict resolution skills by engaging learners in cooperative ventures [12]. Collaboration based on fairness and mutual respect is usually accomplished through the use of group projects that help learners negotiate the exchange of ideas and task oriented team work, enable greater diversification of content and ultimately prepare learners for a more active participation in both society and democracy [13].

3. Dialogue

Turning now to dialogue, we begin with a number of important questions - what is dialogue? - does dialogue require two or more interlocutors?- should dialogue be modelled by the Socratic elenchus? - does the Socratic dialogue require a test of character leading to the self-examination of the participants? What are the necessary components of dialogue? - does dialogue include virtue along with the search for truth? - what is the connection between dialogue and critical thinking as well as self-examination and what is the difference between dialogue and debate? How can dialogue enhance critical thinking especially in an online environment in which the participants communicate via the portal and thus never physically meet? Collaboration encourages constructive approaches to the creation of meaning through dialogue: "Making meaning is creating a shared perception of events that helps us all get more of what we want, when what we want is good for all of us. Dialogue plays a key role in making meaning and thinking together. The purpose of dialogue is 'seeking mutual understanding and harmony.' Dialogue is also seen as initiating team learning so the team members gain the ability to suspend assumptions and enter into genuine 'thinking together'"[14]. Through dialogue, the necessary components of critical thinking which require the application of a methodology that includes analysis of the problem at hand and the gathering of information, extracting the important components of relevant information from the sources, the synthesizing the material thus discovered and the evaluating the validity of the

conclusion from the given premises, are jointly discussed as each interlocutor is respectfully encouraged to provide their own research and argumentation. This process is “holistic in content and integral in structure...the solution to any single existential issue necessarily involves the solution to all problems” [15]. In an environment of asynchronous discussion the questions used to initiate various applications of the critical thinking. For example in the teaching of philosophy or ethics one could begin with general questions such as what is morality, what are virtues, is there a difference between ethics and morality, how do values relate to virtues, can one learn the virtues, or as Socrates asked, can one teach them. One method of tackling these kinds of questions would be to begin with the proverbial forest, the general concept, and then dissect it into its smaller components in order to arrive at the singular tree. An alternative could be to go in the opposite direction starting with the specific example and moving on to more general concepts of how that solution to the specific example might apply to similar situations. In the domain of the history of art it is useful to introduce the student to the development of the arts throughout the ages and its connection to political and socio-economic events. Within the broader context of antiquity, Middle Ages, the Renaissance and the modern periods one can begin to explore the artistic dialogue sculptors and painters have developed with their artistic predecessors. The visual arts reveal the real and imaginary aspirations of humanity through the ages including fantastic or ephemeral subjects as well as portraiture and sacred imagery. For example, one can see a progression from the idealism of the classical Greeks to the extravagant expressionism of the Hellenistic times to the veristic portrayal of the Romans and then under the influence of the growing Christian religion the imagery returns to the archaic, abstract style that attempted to dematerialize the physical body and focus the attention on the spiritual ideal. The rediscovery of antiquity during the Renaissance once again brought the attention of the artists to the human realm and its potential for knowledge. The dialogue between the artist and the viewer sometimes was mediated and motivated by the patron who commissioned the work and who often times provided specific instructions to the artist, not only about the subject matter, but even to the details of

the appropriate colours to be used. The biggest patrons of the arts for a considerable length of time in Europe were the church and nobility. In the pre-photographic world of the 19th century portraiture was a most important aspect of the arts to record specific individuals and their influence on particular events. And yet the stoic idealized and refined world of the Renaissance gave way to the exuberance of the Baroque with its swirling diagonals sometimes sombre, sometimes brightly coloured or extremely realistic. The rapid changes that propelled the modern world into the 20th century fostered an explosion of artistic styles and artistic personalities. The study of art history can provide a model for the development of critical thinking skills which connect specific artworks with events and innovations. Discussion of mythological works can refer the student back to ancient civilizations and lead the student to examine those myths in terms of their power of reviewing and understanding the human psyche. At the same time, those myths and stories can relate to contemporary events the artist may present in allegorical terms. With the advent of Realism and later Impressionism and Post-Impressionism the artistic dialogue expanded to incorporate the dialogue between the artist and the world of nature, atmosphere, and light. The production of oil painting in portable tubes freed the artist, liberating him from the confines of the studio to roam the countryside and explore the landscape and the world of nature, as well as their own perceptions of the changes that light and the weather can inflict on the physical world. Reluctantly, the public also was swept into this dialogue to reconsider its own perceptions and reactions to the environment. The experiments of the Impressionists opened the floodgates to a myriad of new developments and inventions, thereby initiating a proliferation of the variety of expressions the visual arts can produce which continues to expand. In the study of art one must follow the basic questions -why, what, where, when, how - in order to synthesize these various aspects of a work into a coherent understanding of the purpose and effects of a particular creation. During this process of analysis one follows the steps of critical thinking by gathering information that is available about the piece and then exploring the various tangents that might connect that work with its environment and time period. Such steps and methods can be applied throughout the study of

the arts resulting in a deeper understanding of the interconnectedness of the different aspects of human behaviour and action. Successful development of such critical thinking skills can be transferred to other domains and subjects of study.

For example, upon first encountering a Bird in Space sculpture by Constantin Brancusi, one begins with the sensory and perceptual qualities of the piece. At first, one notes the streamlined shape, the high polished surface of the form which continuously reflects its surroundings, and the precarious balance of the piece on its slender leg. Upon further investigation one discovers that it is called a bird, yet it doesn't appear to indicate any of the expected features of a bird, no feathers, no wings, even no beak, perplexing and confusing the viewer and thereby encouraging further examination – now begins a process of analysis begins as one starts to research both the artist and the work. In today's online digital environment critical thinking and dialogue are beginning to merge, each strongly dependent on the other, to enable individuals to navigate the various features of the Internet and avoid the pitfalls of misinformation in order to discover the web of knowledge that is hidden within. The course management systems, like Blackboard, WebCt, Desire2Learn, Moodle and others, provide an elaborate template and depository for the course content and materials while at the same time it also allows for areas where participants can interact both synchronously via chats, and asynchronously in the discussion boards. Another feature may include email which is a more personal form of communication between participants which does not involve the whole class. To help foster active participation in the class, discussion forums are the most flexible and effective means because they allow participants to fully reflect and carefully prepare their responses as they log in at their convenience rather than at a set time. The discussion boards must be an integral part of the virtual classroom and are best utilized in conjunction with the course division into modules or units that create a specific structure for the course and may be used in assessment. Various strategies can be used to ensure successful moderation of the discussion forums and increase learner participation.

Frequent posts and log-ins sustain dialogue and increase participation – minimum requirements should be stated in the beginning of the course, the posing of engaging and motivating questions that encourage deeper analysis and prior knowledge connections promotes critical thinking and extend the relevance of the material through the discovery of relationships and implications while the stress on confidence building promotes mutual respect on the part of the participants [16]. The professor's role dramatically changes in the online environment as the professor becomes a participant alongside all other participants and adopts a role of guide, monitoring and facilitating the participation and dialogue of the class [17].

2 Conclusion

There are many creative ways of incorporating the most important skill of critical thinking into the online environment and thereby promote collaboration, analysis and synthesis of information. Probing, questioning and the Socratic dialectic can help encourage deeper reflection on the subject and new ways of integrating new learning into everyday life ensuring a successful virtual learning community development. Further study of the various tools and motivational strategies will continue to add valuable resources to the design and delivery of flexible anytime, anyplace educational opportunities to a vaster audience of learners.

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