

## **Philosophers and Technologists: Vicarious and Virtual Knowledge Constructs**

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### **Abstract**

In an age of continual technological advancement, user-friendly software, and consumer demand for the latest upgraded gadget, the ethical and moral discoveries derived from a careful reading of any fictional literature by college students is struggling in the American college classroom. Easy-access information systems, coinciding with the application of some excellent study strategies--such as topic sentence, points of evidence, etc.--have produced students who not only do not enjoy the process and the adventure of reading a story, but disconnect from the possibility of their own vicarious experience by over-utilizing the methodical breakdown of the components; therefore, reducing the "process of story or epic" to one of isolated facts to be memorized in a hurry-up world: individuated components of a scientific formula.

While the upper-echelon of modern science might enjoy the heady intellectual gymnastics of creating merged intelligence, as discussed in Ray Kurzweil's *The Singularity is Near: When Humans Transcend Biology*, the non-reading college students as user-consumers continue to be unable to construct their own knowledge into applicable and meaningful forms of thinking. These forms include the critical thinking skills for ethical and moral thought for which individual immersion into literature allows --the test case of the imagination. The current trend toward utilitarian reading can be reversed through a concentrated and highly structured workshop approach that simultaneously demands personal responses to literature and creative expression by the student, so as to foster an appreciation of the telling of the human story. The arts and sciences, through a well-read population, should work together; otherwise, future moral and ethical decisions will be made upon the premise of expediency and the validity of performance, without the human-defining traits as embodied in the archetypal literatures of past and current cultures.

### **Introduction**

In the introduction to *The Two Cultures*, Stefan Collini comments upon the cultural anxiety felt by those contemporaries of the Romantic Era living through the birth pangs of the Industrial Revolution. As noted by multiple commentators, a paradigm shift of such significant import as to affect both practical day-to-day living and philosophical approaches to the established disciplines of thought occurred during and as a result of the Industrial Revolution. Encapsulated in this general anxiety were the specific fears "that calculation and measurement generally might be displacing cultivation and compassion" (Snow 1998, xi), as well as that of "religious belief and practical piety" (ibid., xi). The direct correlation to present-day social and educational anxieties, with the rapid infusion of applied science technologies in commerce, education, and leisure, is the "fissure in

types of knowledge” (ibid., x) which could damage “both individual cultivation and social well-being” (ibid., x).

Just as an agriculturally-based economy was jolted and redirected into a manufacturing-based economy, and, since then, a consumer-based economy, so the reign of the sciences through applied technology and consumerism has superseded the humanities, most notably since Snow’s lecture, with the advent of computers and software that is pervasive in most areas of life, particularly in the 21<sup>st</sup> century classroom. Although current Western social and educational systems advance the convenience and benefit of applied technology, it is this very emphasis upon speed and efficiency that may be fragmenting and confusing to students.

Consequently, within specialties within disciplines, a common approach, and a common language of definitions, must be defined by worldview and content. For instance, Collini’s apt example refers to the divergent approaches in academic disciplines to the act of writing. Generally, humanities views writing as a process; whereas, science refers to “writing up” a paper or report. In humanities, the process of writing is the product, in contrast to science where the product (experiment) has already occurred (ibid., lix).

The call for humanities to adapt, mirror, and encapsulate science and technology in content and vision was promoted in J. H. Plumb’s commentary in *The Crisis in the Humanities* (ibid., xli). Similarly, Collini recounts F. R. Leavis’ view that literature with the capital “L” was “the only possible antidote” for the life of the mind in a vicarious experience (ibid., xxxii) concerning the tawdry influences of the sciences. Interestingly

enough, true to historical tendencies, writers have adapted to mirror ideas, theories, and concerns as the human condition has morphed since Plumb and Leavis. A present-day illustration of humanities' attempt to have textual anthologies represent both art and science are the college editions in the Norton series; an example includes the 7<sup>th</sup> edition of *English Literature / Volume 2* (Abrams and Greenblatt et al. 2000). The volume contains Thomas Henry Huxley's "Science and Culture" (ibid., 1559), as well as excerpts from Charles Darwin's "The Origin of the Species" (ibid., 1679) and "The Descent of Man" (ibid., 1686) to more thoroughly embody the scope of important ideas and theory affecting modern culture. In contrast, science fiction writers are represented by Ursula K. LeGuin in "Schrodinger's Cat" (Baym et al. 2003, 2226) in *The Norton's Anthology of American Literature, Volume E*. While both of these reading texts tend to be upper-level, even the content of essay databases from which custom readers are compiled for Freshmen Composition (Dudrey, Larson, and McNeese 2004) is many times a mix of contemporary writing about social issues that utilize graphic descriptions incorporated with terminology-rich text; for example, "Future Shlock" by Neil Postman (ibid., 87), "The Human Cost of An Illiterate Society" by Jonathan Kozol (ibid., 195), "It's a Girl" by Kathleen Ackerman (ibid., 209), and "The American Way of Death" by Jessica Mitford (Nadell, Langan, and Comodromos 2002). The traditional canon of literature has become more broadly defined with a myriad of classifications and sub-genres to encompass the breadth and depth of humanity's cherished theories, visions, and beliefs--including science's influence upon them.

I do not think that the fissure lies in the scope of representation, nor the non-convergence of disciplines in humanities and science. I believe that, although a shared

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language of definitions may be difficult, the interfering and distracting background noise is the pervasive consumerism that supplies our personal acquisitions and affects our social attitudes toward the role of education in society. These social attitudes are driven by motives that do not lead to the pursuit of the pleasure in knowledge acquisition through lengthy novels and time-consuming commitment to the printed page.

It is important to outline something of a cultural perspective with regards to American higher education to grasp the scope of the arts and sciences disparity. According to an article published through “Business Wire” entitled “College Readiness Crisis Spurs Call for Changes by ACT in Nation’s Core Curriculum” dated October 14, 2004, “only 22 percent of the 1.2 million high school graduates who took the ACT Assessment in 2004 achieved scores that would deem them ready for college in all three basic academic areas--English, math, and science” (ACT, 2004); in addition, regarding “the class of 2004, only 26 percent. . .had scores indicating that they are ready to earn a ‘C’ or higher in their first college Biology course, and only 40 percent had scores indicating that they are ready to earn a ‘C’ or higher in their first college Algebra course” (ibid., 2004).

While ACT test scores have been under scrutiny as to validity as accurate indicators for college success in the past few years, they remain a driving force in admittance to competitive colleges and universities. This report on academic readiness has a direct correlation to the increase in college remedial courses offered by most institutions. In an effort to offer a higher education to the general public across various social strata, the learning curve for students’ college preparedness appears to be sluggish and somewhat delayed. Naturally, since the ACT college readiness scores are also the reading and

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comprehension scores of college-bound students, the act of reading is affected that fosters and promotes the very skills needed for college success. Gwendolyn H. Middlebrooks in *NEA Today* of November 11, 2003, identifies the foundational skills of “application, analysis, synthesis, and evaluation” as essential to “multiple high-level cognitive” thinking connectives (64).

Compiled by the American Institutes for Research, the January 2006 report entitled “The Literacy of America’s College Students” analyzed “the literacy scores for U.S. adults in 2- and 4-year colleges” (Baer, Cook, and Baldi 2006); the scores were generally classified in prose, document, and quantitative literacy categories. The research reflected the correlation between literacy and analysis in that coursework which stresses these mental exercises produces students who score much higher in prose, document, and quantitative literacy than in courses which do not require analysis and synthesis applied to “complex tasks” (ibid., 49) for problem resolution: “In contrast, students who complete remedial English classes encounter difficulties with all three domains of literacy” (ibid., 45). Similarly, ACT’s 2006 “Reading Between the Lines: What ACT Reveals About College Readiness in Reading” begins by stating

only 51 percent of 2005 ACT-tested high school graduates are ready for college-level reading--and, what’s worse, more students are on track for being ready for college-level reading in eighth and tenth grade than are actually ready by the time they reach twelfth grade. (ibid., 1)

So, approximately one-half of college-bound students are actually prepared to handle and immerse themselves in college texts; this statistic is the lowest of the past twelve years (ibid., 2). These findings appear to support Snow’s statement that the humanities has spoken in the “subdued voice of their culture” (1998, 4), while applied science has continued to speak “louder” (ibid., 5) through innovative technologies, that have

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seemingly created an emphasis upon speed and efficiency and a reduction in reflection through textual experience in culture and, thus, in education.

An obvious benefit of informed reading and the ability to follow the human story is that of definition comprehension and linguistic range within various cultural environments. An excellent example of discipline specific terminology is that of “critical thinking”. A college freshman with a limited reading background and “information on a need-to-know-basis” attitude will define critical thinking only in the realm of negativity: someone who does not have a positive view of life; whereas, the definition of analysis and intuitive insights into a story or text has not been a known or oft-used educational concept for that student. Once again, linguistic range and college success are related, not just for degree attainment, but also for the cross-disciplinary tools necessary for interested and informed decisions in the personal and global story of humanity.

In the communication triangle, while spoken communication is sometimes viewed as granted, the reading and writing components depend upon an interior voice to guide thoughts through the written composition. The aptitude with which the reader or writer processes the words defines the import of the message; hence, an integral component of communication to audience. If spoken language environments affect meaning, then students should be taught the subtle nuances of the most advantageous phrase or just the right word used to define or describe, which is often critical in idea transfer. In relation to word selection, one of the benefits of reading is that it provides an immediate database of word exposure in variety and range. A study of sixth-grade students by Rebecca L. Strange noted that the students intuitively decreased slang and increased the length of communication when writing for a teacher, as opposed to the same assignment for a

audience of peers in which they increased slang with a fewer total of words (1988). The teacher who facilitates focus upon several possible audiences for a single assignment is able to sharpen and fine-tune the students' sense that writing is a process of communication and the goal of a writer should be to communicate his message of real words to a real audience (ibid.).

The writing process is aided and enriched by the writer's reading background. The writer/reader possesses a linguistic range in vocabulary that has been established through phonemic awareness activated by the process of reading and word relationships. Word relationships and connections are experienced by readers through 1) rhyming and alliteration, 2) blending and splitting syllables, 3) phonemic segmentation, 4) performing phoneme manipulation tasks, and 5) comparing and contrasting the sound of words (Adams 1990). As a natural consequence of these by-products of reading, the reader/writer is made aware of the heightened importance of words, as they are arranged in word groups, phrases or sentences (Sensenbaugh 1996). A practical illustration for student grammar usage is the role of prepositional phrases as an integral component for description and idea expansion. The students' ability to read in word groups and then manipulate word groups on paper is essential for skill acquisition and confidence-building in reading and writing; each is necessary for the other. The direct correlation to reluctant readers and writers is that one does not develop without the other.

In relation to college academics, the multiplicity of disadvantages in uninformed or deficient reading abilities were identified by G. R. Lyon in *Testimonies to Congress, 1997-2002* by citing research from the Covington (LA) Center for Development and Learning:

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(1) inadequate understanding of the words used in the text; (2) inadequate background knowledge about the domains represented in the text; (3) a lack of familiarity with the semantic and syntactic structures that can help to predict the relationships between words; (4) a lack of knowledge about different writing conventions that are used to achieve different purposes via text (humor, explanation, dialogue, etc.); (5) a lack of verbal reasoning ability to “read between the lines”; and (6) an inability to remember verbal information.

In his article, “Writing as a Response to Reading,” Gary R. Cobine declares that “reading and writing exist only in relation to each other. . .the one act presupposes the other act.. .literally to write and read we must give and receive” (1995). Although reading/writing are an interdependent pair in the four modes of language, as evidenced in “if ability in half of a communications pair languishes, so does ability in the other half” (ibid.), the impact upon the reluctant reader/writer is that self-discovery through reading and written expression suffers, while the listening/speaking pair tends to overcompensate for the deficient pair. This is an accurate picture in the latter part of the 20th century and the opening of the 21st century with the impact of media upon students raised on film, TV, and video games. The reluctant readers/reluctant writers have not grown up devoid of language, *they simply have had their scaffolding or schema developed upon experiences and entertainment through media, which utilizes visual, auditory, and sensory in pictures*, as opposed to prior generations who built more of their scaffolding around black and white print and the reading process.

Relative to higher education, the implementation and development of critical thinking skills is an essential pathway toward the rapid idea connections and spontaneous creative thought that is also a component in the advancement toward self-motivated thought and individual creative autonomy. Whatever academic discipline or chosen career the student pursues, the necessity of rapid-fire cognitive thinking, without always

having a visual or sensory prompter, is necessary.

In 1959, C. P. Snow's commentary was based upon his philosophy that mankind would be largely unprepared for the "rapid change" which would affect all of our "likes and dislikes" (85) in all cultural realms; Snow wrote at a time before the implementation of virtual realities. Ray Kurzweil (futurist, inventor, entrepreneur), in *The Singularity is Near*, maintains that scientific technology is expanding exponentially at such a rapid rate that, in the future, no "unenhanced human" will be able to comprehend the basic functions of "machine intelligence" (2005, 28). In conjunction with both Snow and Kurzweil, if current educational outcomes remain a constant trend in the "basics" of college readiness, certainly their fears and predictions are being made manifest.

The role of college students, those who are reluctant readers and writers, seems to have a direct relationship to consumerism as users of technology. What is missing in the lives of many college students is the appreciation and creative insights that solitary reading and in-depth study provides through cognitive participation in human interactions borne of the reflective thought centered in the "life of the mind".

Kurzweil advocates that, in the coming age of the machine, humans can be enhanced with whatever knowledge or experience they desire through microscopic robots, called nanobots, fused with human biology (ibid., 28). The dilemma remains for the current culture, which is fascinated by gadgetry, speed, and access: Are detail-rich and lengthy novels, along with discipline-dense textbooks, obsolete in the educational heritage / databases of too many American college students?

Given the question, the issue becomes, when vicarious experiences can be achieved through virtual technology, why bother with the "work" of the older form of print? The

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issue is not one of previous systems or outmoded forms, but rather of a culture immersed in the speed of acquisition, whether it is knowledge or pleasure--often a ready solution and onto the next activity. Complicating this issue is today's call for American education to be completely customized to the learner--for example, in learning styles and preferences—and, therefore, standards may often become flexible and vague.

The reduction in reflective and extended vicarious contacts with prose as literature for enjoyment, that produces the benefit of critical thinking connectives, is the crux of a study by The National Center for Public Policy and Higher Education. This state-by-state assessment entitled "Measuring Up On College-Level Learning" (Miller and Ewell 2005) sought to evaluate a cohort of five states in relation to the ability of the state's higher education institutions to increase the intellectual skills of their students; data was collected from 1) licensure and grad admission tests, 2) the National Adult Literacy Survey, and 3) tests of general intellectual skills (ibid., 4). The states participating were Illinois, Kentucky, Nevada, Oklahoma, and South Carolina. Some fascinating, yet disturbing, correlations of data were that, while Kentucky, Oklahoma, and South Carolina college graduates were found deficit (from a -0.8 to a -15.0) in writing skills "for advanced practice in the form of vocational / professional licensure or graduate study" (ibid., 9), these were the same college graduates who ranged from 27.8 to 62.6 above the national benchmark in Learning Measures for Advanced Practice in Licensures or Teacher Certifications. Similarly, Oklahoma (-16.9) and South Carolina (-52.5) scored negatively in the Business Writing category, while the Problem-Solving category for four-year graduates ranged from -17.6 to 5.3 on the national scale. According to these statistics, the assessment scores in problem-solving and written skills are cause for

concern, especially considering that these graduates are the entry-level professionals in business and education.

Four of the five states required four years of composition and literature in high school prior to graduation and since this study measured the 25% (ibid., 8) of those who were in professional fields requiring licensure (teachers included), there is a significant and alarming gap in the college-educated in this study as to application of some rudimentary skills for critical thinking and concept transfer, particularly involving the printed word and analysis. These findings are primarily demonstrated through the Collegiate Learning Assessment, which “poses real world tasks that a student is asked to understand and solve”, whether it be drawing conclusions from data, or being asked to “analyze and then refute a written argument with logic and evidence” (ibid., 10).

## **Conclusion**

In summation, just as Snow observed that, as a result of the Industrial Revolution, the “poor have walked off of the land into the factories as fast as the factories could take them” (1998, 26), so this post-modern generation has walked into the college classroom as fast as colleges will admit them; hence, education has become big business with approximately 75% of American High School grads going to college within two years (The Education Trust 1999, 4). The attainment of a college education has become the product of a consumer purchase, and in so doing, the application of principles of marketing have not always had a positive effect upon students’ passion for the disciplines that require intensive reading and exposition. Too often in the realm of academic ethics, educators find themselves in the role of police, searching for author authenticity so that a

ghostwriter was not retained, a paper was not purchased, and a degree was not bought or given. While plagiarism is an ancient vice, the evidence from these studies demonstrates that currently too few of our educational practices are modeling a Constructivist approach in reading and writing skills. The student processing and scaffolding of knowledge through experience with print produces the acquired skills of vocabulary discrimination and differentiation, which, in turn, helps the student to participate in “wider cultural conversations” that demonstrate knowledge, growth, and depth (Snow 1998, lvii).

These statistics reinforce that the more subtle nuances / connotations of language are left behind in a techno-slang world; communication is often reduced to the shorthand coding of the bottom-line; analogous to the plot summaries of any study help of classical literary works. As a consequence, the interior life of the mind of American high school and college students cannot be fed upon plot summaries that tend to be the quick fix for class discussion and paper production. Critical thinking requires problem-solving based upon seemingly disjointed or incongruous information; therefore, producing a weighed conclusion through the avenue of process as product in Constructivist theory. The symbiotic relationship of reading and writing are precious and basic foundational tools for students to train themselves in the very practical, yet rewarding conduit to the life of the mind; after all, Snow refers to the pure beauty of the thinking in scientific theory and discovery (ibid., 15).

In general, I believe that we need to expect much, much more from our students, so that they will be more! We need to raise the daily expectations, not water down, not summarize, not apologize for the length of a text or the subject. But none of these personal expectations will have any import without the collective roar of humanities to

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demand more than basic literacy skills from “educated” Americans, the institutions that educate them, and the states that fund the institutions.

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