

BARD HIGH SCHOOL EARLY COLLEGE
ENGAGING STUDENTS IN THE LIBERAL ARTS

BHSEC BEST PRACTICES: Teaching Critical Thinking

About Bard High School Early College

Premised on the belief that many adolescents are ready and eager for greater challenge, Bard High School Early College (BHSEC) seeks to provide bright, highly motivated, and diverse students with an intellectually engaging four-year academic program that includes a two-year college liberal arts degree. Students graduate prepared to take upper level college courses, earn a baccalaureate degree, develop successful careers, and contribute to society. First developed in 2001 as a partnership between Bard College and the New York City Department of Education, four BHSEC schools currently operate: BHSEC Manhattan, BHSEC Queens (2008), BHSEC Newark (2011), developed by Bard College and the Newark Public Schools, and, most recently, BHSEC Cleveland, opened in August 2014 in partnership with the Cleveland Metropolitan School District.

The BHSEC schools immerse students in the traditions and practices associated with a liberal arts education. Students take high school courses in the ninth and tenth grades, and then engage in a full college-level course of studies in the eleventh and twelfth grade, graduating high school with an Associate in Arts degree from Bard College. With a faculty of highly qualified scholars and artists that teach both high school and college courses, BHSEC aspires to teach higher-level thinking skills through analytic writing, focused discussion, and in-depth inquiry.

After four years at BHSEC, the majority (90%) of students graduate with a Bard College Associate in Arts degree in the liberal arts and sciences and 60 transferrable college credits. Historically, 98–100% of BHSEC Manhattan and Queens students receive a New York State Regents high school diploma. (BHSEC Newark and BHSEC Cleveland are still too new to have this historic data regarding either high school or college graduation rates for the full four-year program.) More than 97% of BHSEC students continue their studies at a four-year college and most complete their BA/BS degrees.

To help others understand the design underlying the success of Bard High School Early College schools and students, the *National Center for Restructuring Education, Schools and Teaching* at Teachers College, Columbia University undertook a study of several of BHSEC's key practices. This series of seven reports provides insights into how the key practices are implemented as well as how they could be replicated by others.

The teaching of critical thinking skills at BHSEC is the third practice to be examined. NCREST investigated this topic by conducting interviews and focus groups with BHSEC school leaders, staff and teachers; reviewing syllabi, grading rubrics, sample assignments, student work, and teaching materials; and observing a range of classrooms. A detailed report on this practice follows.

About critical thinking

BHSEC taught me critical thinking during high school. ...To me, critical thinking means asking 'why' until I reach the core of an idea. It means that I know when I understand something, and I know when I don't.

BHSEC Alumni

Every day, we strive to live up to the Bard College motto "A Place to Think" by emphasizing the critical thinking skills and habits of mind that help students to succeed academically, as well as gain a better understanding of themselves, and their place in the world.

BHSEC Manhattan Principal welcome letter

Critical thinking: to not take the world at face value but to question everything you see.

Former BHSEC Director of Research and Evaluation

Critical thinking is widely recognized as an essential skill in today's world (Abrami et al., 2008). Fostering higher order thinking among students of all ages constitutes an important educational goal (Zohar and Dori, 2003) and it is increasingly popular for schools to 'teach' thinking skills (Burke and Williams, 2008a). Although attention to teaching critical thinking in K–12 education started to increase significantly in the 1980s (Ennis, 1993), no universal definition yet exists. Some researchers refer to *critical thinking skills*; others refer to *thinking skills*; yet others refer to *cognitive strategies* (Burke and Williams 2008b). Scriven and Paul (1987) proposed that, "Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal

Table 1: Facione's framework: Critical thinking

Skills	Sub-skills
Interpretation	Categorization Decoding Significance Clarifying Meaning
Analysis	Examining Ideas Identifying Arguments Analyzing Arguments
Evaluation	Assessing Claims Assessing Arguments
Inference	Querying Evidence Conjecturing Alternatives Drawing Conclusions
Explanation	Stating Results Justifying Procedures Presenting Arguments

intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness" (p.1). Beyer noted in 2001, still true today, that, "in what they choose to discuss or to teach as thinking skills, educators today continue to exhibit both haziness and great diversity" (p. 35).

Some theorists have categorized thinking skills into detailed frameworks (e.g., Burke and Williams, 2008a). One of the most widely accepted mental constructs of thinking and learning processes used in United States education—*Bloom's Taxonomy*— establishes a progression of thinking skills from "lower level" to "higher level" that includes knowledge, comprehension, application, analysis,

synthesis and evaluation (see Eisner, 2000). An alternative framework is offered by Facione (1990), who assembled 46 experts to develop a consensus definition of critical thinking. They arrived at the list of skills and sub-skills shown in Table 1. BHSEC's approach to critical thinking is well aligned with both Bloom's and Facione's taxonomies.

Critical thinking skills are widely considered to be central to student success in college. Noted researcher David Conley, for example, conducted research to learn what college faculty expected students to know and be able to do in their courses (Conley, 2007). He found that, in addition to content knowledge,

college faculty “expect students to make inferences, interpret results, analyze conflicting explanations of phenomena, support arguments with evidence, solve complex problems that have no obvious answer, reach conclusions, offer explanations, conduct research, engage in the give-and-take of ideas, and generally think deeply about what they are being taught” (p. 6). This summary aligns well with the dimensions of critical thinking described as priorities by BHSEC faculty and staff.

Defining critical thinking at BHSEC

What does BHSEC mean by critical thinking? BHSEC emphasizes the thinking skills and habits of mind that help students to succeed academically and grow intellectually. The education provided to BHSEC students is firmly grounded in the liberal arts tradition, which aims to foster the ability to think critically and communicate proficiently (Becker, 2003). Because BHSEC students take a full schedule of college classes beginning in grade 11, they must acquire a strong foundation in critical thinking in their high school years. The BHSEC program is designed to prepare 9th and 10th graders to succeed in rigorous college courses when they enter 11th grade, Year 1 of the BHSEC college program.

While there is no single, official definition of critical thinking at BHSEC, school faculty and leaders have given considerable thought to its different dimensions, as exemplified by these responses to the question of what is meant by critical thinking at BHSEC:

Experimenting and noticing relationships and organizing those relationships into a cohesive argument...

Mathematics Faculty Member, BHSEC Manhattan

An invitation to open-ended exploratory thinking.

Social Studies Faculty Member, BHSEC Manhattan

A constant way of interacting with the world, kind of always saying, “Does this make sense? Is there a better way to do this?”

Data Specialist, Mathematics Faculty Member, BHSEC Queens

In general, when asked about critical thinking, BHSEC faculty members emphasize diving into the exploration of ideas in a deep way, usually starting with a text. Students are asked to notice patterns, to form opinions, and to make clear arguments both within subject areas and across disciplines. Students are taught critical thinking through classroom practices that emphasize writing, reading, and dialogue, intertwined in various ways.

Classroom practices

In the first school year, students enter classrooms that are often very different from what they have experienced in their middle schools. In the 9th grade, they are introduced to general and specific ways to engage in critical thinking, beginning with their first *Writing and Thinking Workshop*. Opportunities for critical thinking continue to be woven into classes at all grade levels at BHSEC as exemplified by the course syllabi students are given.

Through study of evocative novels and works of political, social and psychoanalytic theory, the Seminar asks students to think and write critically about concepts that have

revolutionized the world in the last 150 years and continue to provide the framework for contemporary debates about economics, evolution, religion, cross-cultural encounters, race, sex, and family.

Professor Cho's Sophomore Seminar I Syllabus

Students are expected to move beyond an understanding of current or historical issues and debates and to provide their thoughts and analysis on each topic studied. Homework assignments, such as Professor Matthews' response journals, require students to take and defend a position, rather than providing only a surface level description of the material.

The goal of [weekly] response journals is to develop your own independent thoughts, ideas and questions about the material we are wrestling with. This can take many forms, from that of a two-column response journal, to writing paragraph or short essay entries. The common denominator however is that you go beyond the passive activity of merely taking notes, and instead generate your own position vis-à-vis the readings and themes of our course.

Professor Matthews' First Year Seminar Syllabus

Writing: A well-established tradition at Bard College and BHSEC emphasizes using writing as a tool for thinking critically. Each BHSEC school year begins with an intensive Writing and Thinking Workshop, described in the box below. The educational practices used in these workshops serve as the basis of much of BHSEC's instruction related to critical thinking.

Writing and Thinking Workshops

Like a musician practicing scales, a ballet dancer at the barre, or an athlete stretching before a workout, the student in Writing and Thinking warms-up his or her mind through specific techniques that teach listening, analysis, and expression.

Principal, BHSEC Newark¹

[Writing and Thinking workshops] set the tone for the whole year.

Principal, BHSEC Manhattan

The annual Writing and Thinking Workshop provides an intensive learning experience for all BHSEC students organized around exercises in critical reading and writing. The workshop, held at the beginning of every school year, serves several functions. For new students, it is an introduction to the values and practices of the school. It helps all students learn how to use writing as a tool for developing thinking. Socially, it provides students with a personalized, extended welcome to the year. Academically, it serves as an introduction to the rhythm of the school year by providing a structure of required attendance in class and regular homework as a warm-up for the critical thinking and writing that will be expected in classes throughout the year.

¹ From a chapter of a book titled *Writing Based Thinking* For more information on this book, see <http://www.sunypress.edu/p-4898-writing-based-teaching.aspx>

The workshops are based on Bard College's Writing and Thinking program, developed in the early 1980s under the leadership of Peter Elbow and Paul Connolly. The founders' vision was to enable students to use writing to develop thought processes.

Goal of Writing and Thinking Workshops: That ideal culture of the classroom toward which we aspire is student-centered and encourages active learning and respect for the processes that contribute to learning. The workshop encourages students to learn within the supportive community of the classroom by speaking, writing, and thinking together to supplement the more traditional mode of learning alone. Since teachers participate in the writing activities along with students, the boundaries occasionally blur between students and teacher.

BHSEC Faculty Guidebook

The workshop is held during the first week of school at each of the four BHSEC schools. It runs for 3 to 5 days (depending upon the school and district calendars) and includes three sessions per day of 90 minutes each. There are two back-to-back sessions in the morning, then lunch, and another session in the afternoon. Students write for about half of each 90-minute period in response to structured prompts. During the workshop, students are expected to write by hand on actual paper, even if they never do so again thereafter. Through the ways that teachers engage students, the workshops convey the message that writing and critical analysis skills are fundamental to success at BHSEC. Additionally, they are structured so that their serious purpose can be achieved in ways that are playful and exciting.

My goal for Workshop is for each group to have a magic moment, one that raises the group to a higher level, with each person an integral part of that experience. The moments are simultaneously collective and private, shared by all members of the group, but likely indescribable to those outside of it.

Weinstein, 2011.

The workshops are organized around a theme-based anthology, with readings selected by the faculty at each of the schools. In 2012, the themes were "justice" at BHSEC Newark, "home" at BHSEC Manhattan, and "influences" at BHSEC Queens. Faculty members from all disciplines, including math, sciences, music, and physical education, teach these workshops.

I realized the value of having [all faculty] across the curriculum do it.... This isn't just a social studies and English thing. It is school wide. Music teachers are involved. This is important for the school as whole. This is something we do.

Faculty Member

Although a unifying practice, the schools vary in how they structure the workshops. At BHSEC Newark and Manhattan, the workshops are organized in very similar ways, with mixed grade levels. At BHSEC Queens, students are grouped by grade level. Each has its advantages. In mixed groups, older students can model participation in dialogue and serve as mentors for younger students. With grade levels separated, activities appropriate to each group can be incorporated such as an orientation to the school in 9th grade or to the first year of college level work in 11th grade.

Almost all BHSEC classes throughout the year incorporate the teaching methods that serve as the building blocks for the Writing and Thinking workshop. A number of these are described in detail below, adapted from the *BHSEC Queens Writing and Thinking Manual*, which is used as a guide for teachers of the annual workshops.

Free-writing is the activity of putting pen to paper and keeping the pen moving. Students are encouraged to write “freely,” that is, without worry about the success or even the formalities of writing. It is meant to encourage thinking on paper.

Focused Free-writing is like free-writing in that it is mostly free-associative and can’t be done “incorrectly.” However, a focused free write responds to a prompt or a topic provided by the class’s workshop leader or in a classroom assignment.

Classroom example: A teacher asked students to take five minutes for a focused free-write on: How would we assess if the Reconstruction policies were successful in addressing the evils of slavery, the plight of newly freed African-Americans, and rebuilding the South after the Civil War?

9th grade History Class at BHSEC Newark

Process Writing is self-reflective writing. Students are asked to tell the story of how a piece of writing evolved and to recall the mental processes that took place for them as they wrote.

Teacher reflection: I use process writing for students to reflect on what they have done, what kind of obstacles they encounter when solving problems, an assignment, etc.

Mathematics Faculty Member, BHSEC Newark

In **Thought Chain**, one student begins the chain by simply reading aloud her response to a prompt. Then the second and subsequent students find ways to connect to the previous speaker by first paraphrasing the previous speaker using the phrase “I hear you saying...” and then adding “but” or “and” as connector to reading their own piece of writing.

I thought it would be quite an experiment to use this in a math class, but the students love it. They ask for thought-chain and use it all the time. It gives them a way to articulate and talk about Math in a different way.

Mathematics Faculty Member, BHSEC Newark

Believing and Doubting is a technique that can serve a variety of purposes. The teacher asks students to write a few sentences confirming an author’s viewpoint, agreeing with it. Students then share their views with each other. Then students are asked to disagree with that same author as revealed in a piece of writing, followed by student sharing.

Small Group Critique for Paper Revision is one of the techniques most strongly emphasized. It is based on the premise that students improve their writing by giving as well as receiving peer commentary. The reader should read her/his piece more than once. Time is set aside to hear commentary by all participants.

Text Explosion begins when a group leader asks students to read through an entire poem or prose piece. Then students are asked to notice interesting phrases or words and underline them

while the teacher reads it aloud. Students then choose one of the phrases they underlined and do a Focused Free-write on that phrase. These can go for five minutes or more. The idea is to generate a rich array of responses to words and phrases.

Besides writing exercises in class, students are regularly assigned written homework and long essays. Expectations for writing differ substantially between the high school years (grade 9 and 10) and the college years (grade 11 and grade 12; called Years 1 and 2 at BHSEC). While significant writing is required in 9th and 10th grade, students in Years 1 and 2 are asked to write more analytic and comparative papers that gradually prepare them to write a final research paper in year 2 on a topic of their choosing, of approximately 15 pages in length. Professors carefully annotate student papers as a way to encourage students to deepen their thinking. One essay assignment for a Year 2 Seminar class was as follows:

What specific ideas do you see in Marx and Engel's The Communist Manifesto? Looking carefully at specific passages of the Manifesto, are there moments in the text where Marx seems to complicate or contradict himself? How does the text try to resolve some of these complications and contradictions? Why might some of these complications and contradictions be in the text?

A professor, commenting on a paper written in response to this assignment, praised the student's work and also encouraged further thinking and dialogue:

Nicely concluded. Next time, I recommend that you try writing a conclusion that opens up to some larger questions rather than tying up all the points neatly into a ribbon.

I never thought much about the third section of the Manifesto, but after reading your essay, I see how it relates to his anxiety.

Reading: Teachers at BHSEC use reading for the traditional purposes of conveying important information, learning how to extract information from a text, and expanding vocabulary. However, the founding principal of BHSEC Newark, quoting a former director of Bard College's Writing and Thinking Institute, said, "Reading should be a contact sport; you should be constantly bouncing off of the author." He went on to discuss the school's emphasis on constantly pressing students to read more deeply.

BHSEC prioritizes the use of primary texts in student reading as a foundation for building critical thinking skills. This is especially the case with Freshman and Sophomore Seminar, BHSEC's two-year college sequence centered around great books of the Western tradition, but it also the case in many other courses. For Freshman and Sophomore Seminar, BHSEC faculty develop an annual reading list based on those used at Bard College and Bard College at Simon's Rock (see NCREST report on Seminar). In a given year, all Seminar students in the same grade level read the same texts, giving them a common language and set of ideas that they can draw upon in their thinking and conversations. Teachers emphasize that it is very important to help students understand the utility of the texts in their own lives. Other BHSEC college seminar classes also read a variety of texts, an expected practice for any college-credited course.

Teachers employ particular techniques to help students to think deeply about their readings. A frequently used technique is the **Response Journal** or **Reading Log/Journal**. The journals may be highly structured with a specific set of questions that students must address, or they may be more open-ended and directed by students' interests and creativity. One teacher described the journaling process to students as follows:

For this class, I am asking you to keep a Reading Log/Journal (RLJ), and to write an entry for every primary source you read as homework. The RLJ is a tool to help you read “critically” – reading texts not just to gather information, but to actively analyze them. Another way to think of this task is to “interrogate” a text. Imagine yourself as an FBI agent who is questioning a suspect (in this case, a written document). You want to find out everything you can, and you shouldn’t totally trust it.

Assignment, History of the Americas, Queens, 9th Grade, Fall 2013

An English teacher emphasized the importance of figuring out how different texts support or contradict one another and of embracing complexities:

I focus my students on thinking about things that are incoherent and that get complicated by other things. I am not looking for students to have a coherent understanding necessarily of the text, but really to be aware and notice how one text complicates another text.

English Faculty Member, BHSEC Manhattan

Non-written texts may also be “read” and critically analyzed. For example, one class observed by the NCREST researchers looked at photographs and discussed ways that pictures can be deceiving and may be used to manipulate people.

Dialogue: At BHSEC, classes are often organized with students seated in a circle or square so as to facilitate discussion. In many of the classes observed, the teacher spoke very little; rather he or she provided an initial question or prompt and encouraged students to engage in dialogue with one another. Most students participated readily. In this environment, students appeared to be learning primarily through their interactions with one another. Students treated each other and the teacher with attention and respect.

When teachers chimed in, they would often press students to dig more deeply into an issue under discussion by asking questions such as:

What is freedom? What are basic rights? Why are [teenagers’] rights limited? (9th grade American History class)

Where in the real world do we use these formulas? (Algebra I class, Newark)

How exactly does Douglass argue for the right to vote for blacks? (9th grade American History class, BHSEC Queens).

What is sacrificed by turning over land into urban, recreational land? (College History class on The American City, Year 1 and Year 2 students in BHSEC Manhattan)

What would happen if you put a hockey puck in the middle of two positive charges? (9th grade Physics class, BHSEC Manhattan)

What comes to mind when you think of the word “domestic?” (9th Grade American History class, BHSEC Queens)

Before the fall, Adam and Eve had free will? Do Adam and Eve have free will after the fall? Has the quality of free will changed? (College English class on Milton, Year 1 and Year 2 students in BHSEC Queens)

The students appeared to find these kinds of questions intriguing and thought-provoking. They were clearly accustomed to contributing ideas to the conversation.

An important part of encouraging dialogue is argumentation. Students are expected to take a position and then back it up with textual evidence. They are often encouraged to also discuss opposing arguments and why they are flawed – or have merit. A BHSEC grading rubric calls for arguments to be “clear, topical, contestable, original, and significant.” Argumentation is also used in writing and reflecting on readings as discussed in the Writing and Thinking Workshop practice called “Believing and Doubting.”

Symposium: Another opportunity for students to engage in critical thinking is through participation in an annual end-of-year Symposium, held at BHSEC Manhattan, at which Year 1 and Year 2 students present their independent study projects. While this is not a graduation requirement, about half of the students offer presentations individually or in groups. These take the form of lectures, panels, workshops, and demonstrations of an art form. Classes are not held on Symposium Day; rather all students in the school take part in this event.

Examples of sessions led by students in June 2013 are:

- The Structure of Love, lecture/presentation
- First, Do no Harm: Bioethics and Holistic Medicine, panel discussion
- Dramatic Reading of Prophecies – The End for All Brooklynites and Queensies, reading original works of poetry and fiction
- The Future of Food: Vertical Farming and Food Labels, panel discussion
- Dimensions of KPop (Korean Pop), panel discussion
- Capitalism, Eugenics and Designer Babies, panel discussion
- Faulty Logic in Political Advertisements, student presentation
- Logical Fallacies in Anti-Abortion Arguments, student presentation
- Modern Objectification: From Toplessness to Headscarves, student presentation

During these sessions, students not only present original research, they also take turns questioning each other about their projects and results.

Facilitating Practices

BHSEC has developed a number of practices that facilitate or support instruction on critical thinking, such as: 1) teacher professional development, 2) PhD prepared faculty, 3) support services that help students grapple with academic challenges, and 4) a school culture that values critical thinking.

Professional development: Many of BHSEC’s professional development strategies help faculty to effectively teach critical thinking skills. To prepare them to lead *Writing and Thinking workshops*, all new faculty attend a weeklong workshop held at Bard College or a BHSEC school at which they learn about the range of methods used in teaching writing and thinking. Experienced teachers can participate in short-term refresher trainings, sometimes targeted to those in specific disciplines.

[The training] can be something that puts you back in touch with what made you love teaching.

BHSEC Faculty Member

In Newark, they were doing training of new faculty. The PE teacher asked if he could use the writing techniques in his classes. He was excited that he was being included and encouraged to use writing.

BHSEC Faculty Member

Professional development activities lay the groundwork for instruction aimed at improving critical thinking, in part by having faculty members practice the techniques that they will later use with their students. They are also given a set of tools to help students develop better thinking skills, including the guidebook mentioned above. However, a school leader pointed out that there is no one “right way” to teach writing and thinking and that “there is a lot of room for new ideas and reinventions; it is not just about replication of what you were told.”

In addition, faculty meet regularly with principals to discuss their teaching and principals conduct classroom observations and offer feedback. Faculty members also support each other’s work. When they begin teaching the Writing and Thinking workshops, new teachers are paired with more experienced ones. Groups of faculty also meet in different configurations.

In math, [the faculty] work together almost every day. When the class is done, we talk about how it went; we look at what works; we develop homework together. That really helps support the thoughtfulness.

Mathematics Faculty Member, BHSEC Manhattan

PhD prepared faculty: Sixty eight percent of BHSEC faculty have PhDs or terminal degrees in their fields (e.g., MFA degrees) and another 10% are in the process of completing their dissertations. Many faculty members participate actively in their fields and engage in their own research agendas, and BHSEC encourages this activity through making research funds available and providing time for research and writing (see NCREST report on Faculty Hiring and Support). Faculty members make it a point to share their research with students so that they form images of what critical thinking “looks like.” Their personal research activities also influence interactions with colleagues and students on scholarly matters. A faculty member commented,

The faculty bring a collegiate ethos to their classes and their conversations with one another. We do talk about pedagogy, but we also talk about scholarly matters, and that does, in various moments, move into our discussions with students as well.

Faculty survey response

Student support: Students at BHSEC are constantly tasked with reading and deciphering difficult texts, thinking about how they connect with other texts or their own experiences, and writing about them. While BHSEC faculty expect all students to find their coursework challenging, there is an understanding that students’ prior academic experiences vary greatly—not all students were high achievers in middle school, nor were all of their middle schools high-performing institutions. Therefore, it is important that BHSEC students get the help they need to manage and understand these more difficult assignments. One teacher commented, “We are asking students to go above what most schools ask students to perform so we need a safety net.” Another responded, “It is absolutely essential not to just have a net, but to have an airbag that students can fall on!”

The student supports available at BHSEC are multifaceted and focus on both academic and socio-emotional needs.² Teachers provide individual support to students during and after class. Counselors offer help in working through problems that may get in the way of full academic engagement. In addition, school structures such as the Learning Commons, peer tutoring program, and extra help sessions are available. Teachers monitor student progress individually and in departmental meetings; students are actively encouraged to seek help when needed.

{It is the} support that we provide to students ... [that] makes it possible to have a successful school. It complements ... the high level demands. They go hand in hand.

Faculty Member

School culture: Three aspects of the BHSEC culture are especially supportive of critical thinking: 1) valuing students as autonomous thinkers, 2) creating a culture of authentic inquiry, and 3) honoring intellectual struggle and perseverance as a learner.

BHSEC culture is one that encourages students to think critically and analytically in a way that I have never experienced. It recognizes the talents of young people and challenges them to work hard.

Respondent, Faculty Survey

Valuing students as autonomous thinkers: Adults at BHSEC are committed to the idea that students' views have as much value as those of the authors that they read. Students are encouraged to interact with knowledge, and not just be passive receptors; they are expected to question what they are told. For example, in a college English class, students were asked to talk about where the Bible story of Adam and Eve intersects with Milton's *Paradise Lost*. They were encouraged to think about where the perspectives of these two pieces of writing were in agreement or differed, as well as to draw on their own religious beliefs on topics such as free will, nakedness, and acceptance or rejection by God.

Treating students as having autonomy and authority goes beyond the classroom. BHSEC leaders and teachers actively engage students in helping to create the kind of school they envision for themselves. In a focus group discussion, faculty members emphasized that students are expected to offer opinions and take action on their ideas. One school leader remarked, "We need to give students permission to ask. Students should have opportunities to give input on school culture."

We give students as much freedom as possible, like an adult-- freedom to choose classes, go out for lunch, be adults. We give students the space and opportunity to act like adults. We want students to engage in life like adults.... We tell students that they will make mistakes, but we also tell them that that's good for them, that you learn from your mistakes.

Mathematics Faculty Member, BHSEC Manhattan

Creating a culture of authentic inquiry: Faculty work hard to make sure that students engage with both historical and current subject matter in a way that permits inquiry and encourages discussion. While students often read texts from a range of historical periods (see NCREST report on *Seminar*), they are encouraged to consider how these texts apply to current times and their own lives. One teacher led a discussion of the phrase inscribed on a plaque on the Statue of Liberty, "Give me your tired, your poor,

² see report x in this series for more detail

your huddled masses yearning to breathe free." She asked her students: "What does this mean to you? To Americans? To the world?" In a unit on slavery, the same teacher asked what freedom meant to the students, as 14-year-olds

Honoring intellectual struggle and perseverance as a learner: Students are explicitly encouraged to embrace discomfort. While teachers are willing to help and spend considerable time doing so, they also see the value in pushing oneself to do more, to dig deeper, to look beyond the surface. Teachers talked about helping students to find "ways to struggle productively" because struggle and progress in learning go together.

It's got to be a challenge; the struggle with the material... has to be extremely personal. Students have to go through it. They can't pretend to go through it; they really have to go through it and then students come out much more confident.

Mathematics Faculty Member, BHSEC Manhattan

Critical thinking at BHSEC and the Common Core State Standards

The Common Core State Standards (CCSS) in math and English Language Arts have been recently adopted in 46 states and are thought to represent a movement toward deeper and more rigorous learning.³ The faculty at BHSEC have been pleasantly surprised by the extent to which CCSS reflect the kind of education that they have always considered of highest value.

I think I speak for many, that faculty are thrilled. [The Common Core is basically] what BHSEC has been doing for years.

Ray Peterson, Founding Principal, BHSEC Newark, BHSEC Manhattan

A longtime faculty member and founding principal of BHSEC Manhattan and Newark, Ray Peterson, has written on the alignment between the CCSS and BHSEC's educational philosophy.⁴ He points to the emphasis that both place on the deep reading of complex texts:

Students will be required to read more complex texts...and to write and speak about these works using specific evidence from the text to support their claims. The standards clearly preference depth over breadth and are aimed at giving all high school graduates the skills and experiences they need to be college and career ready. (p. 1)

He also notes that the CCSS position teachers as "facilitators of inquiry," rather than imparters of knowledge, an approach that BHSEC faculty consider more effective. He goes on to point out that many of the traditional tools used by BHSEC teachers, such as Focused Free-writes, fit perfectly with the intent of the CCSS. In fact, many of the BHSEC classes observed during the current study of critical thinking used techniques emphasized in the CCSS.

³ For more information, see <http://www.corestandards.org>.

⁴ Peterson, R. (2012). *Responses to the Common Core [unpublished manuscript]*. New York: BHSEC.

Evidence of Critical Thinking Skills

As in most schools, critical thinking is not formally assessed in the BHSEC structure. However, faculty members have their own approaches to tracking students' development of critical thinking skills. One teacher said that he asks himself:

- *Can students ask questions?*
- *Can they write an argument? Can they use an argument?*
- *If I give them different types of theses and have them explain which ones are wrong, do they make sense?*

Further evidence comes from student perspectives, expressed in the annual exit survey given to graduating seniors. Those who took the survey in 2013 indicated the extent to which they considered 22 factors "very important" to making BHSEC successful. Their responses suggest that they were especially appreciative of factors related to critical thinking. Students from both Manhattan and Queens considered learning to "argue with evidence" to be the most important factor in BHSEC's success. .

Factors that contribute to making BHSEC successful (items related to critical thinking)	% who considered it "very important" (rank order)⁵
Argue with evidence	83.8
Read to make inferences	79.4
Solving complex problems	70.2
Addressing conflicting views	67.1
Analytic writing	61.2

The survey also included an open-ended question on what students valued about their experience at BHSEC. Several comments from 2012 and 2013 are especially illustrative of the ways that students think about their training in critical thinking.

Classes are oriented around intellectual growth. We are not taught to prepare for an exam. We are taught to rethink, to challenge, to reshape. BHSEC's goal isn't that of other schools. That's what makes it different and that's what makes it successful. Reading Austen, Kafka, Lermontov, Pushkin is something far greater than reading some book that will prepare me for the Regents. The curriculum, the faculty is what makes BHSEC successful. I love you BHSEC.

BHSEC is successful because it teaches a student how to think critically about texts, and helps find ways to make even one's most challenging subject relatable. The teachers are not only intelligent in their fields, but also able to teach their subjects in engaging ways and share their passion for the material.

⁵ The survey will be administered to Newark's graduating class for the first time in 2015 when the first cohort of incoming 9th graders graduates.

BHSEC is successful because it does not just promote rote memorization. It encourages its students to become critical thinkers and passionate students. Where most often, high schools are seen as stepping stones to college, BHSEC 's education is an end to itself.

I struggled the entire time. I also, however, gained more than I thought I could. I've become eloquent, thoughtful, and well read enough to effectively articulate and argue a point I want to make.

Replication

Aspects of BHSEC's approach to teaching critical thinking can be readily replicated. To start, institutions can schedule professional development activities that explain and model ways of using writing as a form of processing ideas and information. The Institute for Writing and Thinking at Bard College offers a range of workshops attended by teachers from around the country (see <http://www.bard.edu/iwt/about/>). At these workshops, "teachers learn through doing—they learn to be writers, just as they would have their students be, to write their way into understanding, and questioning, texts, ideas, themselves."⁶ Faculty are provided with published handbooks and materials that can be used for guidance.

As described in this report, BHSEC's approach to critical thinking works at three levels: school culture, classroom practices, and facilitating practices. Developing a deep practice around critical thinking is a complex enterprise involving a high level of commitment. Replicating schools would need to think about how to build the different dimensions in a way that worked in their locale.

Bard has this problem. People come to visit and take some of the stuff. But it has to be about the whole school culture. By having Writing and Thinking [Workshops] from the start, we're saying it's important. To do it right, it takes a ... significant amount of time ... and you're going to have to involve all the teachers so it becomes part of the message or core enterprise of the school.

Faculty Member

Schools wishing to replicate BHSEC's work on teaching critical thinking are encouraged to make this topic part of an ongoing program of school improvement. Bard College and BHSEC resources are available to be used as a part of this program.

The BHSEC folio series is a publication of BHSEC, in collaboration with the National Center for Restructuring of Education, Schools, and Teaching (NCREST), a research center at Teachers College, Columbia University. The series includes information on seven exemplary practices associated with the three BHSEC schools. Each publication in the series is based on qualitative research conducted by NCREST.

The development of these folios has been undertaken with support from the Booth Ferris Foundation and Bard College. For more information on the BHSEC model and this series, contact Martha Olson at olson@bard.edu.

⁶ From A Day in the Life of a Workshop, Bard College, <http://www.bard.edu/iwt/workshops/day/>

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