

## The Text

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*There are two ways to slide easily through life; to believe everything or to doubt everything. Both ways save us from thinking.*

~ Alfred Korzybski

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THE "TEXT" OR artifact for a Socratic Seminar can be anything that will promote a complex thinking process—typically a well-chosen poem, a short piece of fiction, an excerpt from a novel, a work of art, a deep question or quotation, a geometric proof, a movie clip, a song, etc. In less formal settings, a seminar could even be about how a hole appeared in a fence or the "story" that is told from tracks in a sandbox.

Choosing a text is complicated and may even be the hardest part of planning for a Socratic Seminar. A poorly chosen text can flop even with an adept facilitator, a solid opening question and experienced students, whereas a well-chosen text can stimulate conversation even in the most unenthusiastic or inexperienced classrooms. However, even well chosen texts may not work for every group or teacher.

As an example, I once had some middle school students who were struggling to understand spelling and grammar conventions. It was my theory that they were struggling to learn because they didn't have a value for them. I decided to use a text with unconventional spelling and grammar as a way to explore the territory. In this case it was "*a glazed mind layed in a urinal*" by E. E. Cummings (though any non-conventional text, like *Flowers for Algernon* by Daniel Keyes, would probably have worked).

I hoped that we could have conversations around: *Whose responsibility is it to make a text clear? Is it the author's, the reader's or both? What are conventions for? Why would we want to use them?* I didn't have an agenda to

push, but I was interested to listen to them about where they were coming from and what their ideas were.

The first class period appreciated Cummings' unconventional spelling and grammar and recognized that there was a technique somehow operating. The students discussed how difficult it was to determine Cummings' point and how much work they had to do in order to create even basic understandings. I learned a lot from them and was excited for more insights from the second class.

With the next class, something was immediately different. The students were working furiously during pre-seminar, and after what I considered a significant amount of time, they still weren't done annotating. What I discovered was that they were busy fixing grammar and spelling. Some of them had even started rewriting the poem in conventional language. Our subsequent conversation was shallow and students were fixated on how "stupid" the text was because of all the supposed mistakes.

Even after years of facilitating, I still make mistakes choosing texts. There is no magic formula for what will work, but a mistake is often a better teacher than success, so I don't mind. Trial and error is still my main strategy for picking a text and I'm not sure that will ever change. I have, however, gotten more consistent and learned some important lessons.

Most importantly, the text should have no obvious right or wrong answer or concept, such as a moral. This is so that the dialogue will be genuine inquiry and investigation, rather than an exercise in arriving at the "right" answer. If the text has a moral, such as one of Aesop's fables, or an overly conclusive summary, remove that part of the text so that the students can draw their own morals and conclusions.

Be careful about sharing the actual moral, since the students will evaluate themselves on their accuracy.

**I would tell [future students]  
that not every situation has a  
designated right and wrong answer,  
to respect each other's ideas, and  
to try to help each other arrive at  
an explanation, rather than proving  
each other wrong.**

**-RW (grade 8)**

### Additional Thoughts on Text Selection

- In the beginning, the text should be relatively short—typically only a few paragraphs at first so that the conversation can stay focused. When using a novel or other long text, use seminars to focus in on specific sections.
- The text should be complex enough to require close reading and annotating.
- The text should be difficult for the participants to comprehend as individuals so that everyone is needed in order to create meaning.
- The text should have widespread “big idea” appeal for most or all participants.
- The text should have interpretive issues, ambiguities, contradictions, and/or multiple justifiable interpretations.
- At the beginning of a unit, use a text to introduce and explore essential questions, big ideas, or themes.
- In the middle of a unit, use a text to deepen ideas, unravel difficult spots, and investigate complex issues.
- At the end of a unit, use a text to gauge student understandings, to make connections to themes or objectives, and to synthesize and expand information.

### Text Complexity

In the Common Core State Standards, there is a three-part model of text complexity. The first is *Qualitative measures of text complexity*, which includes the meaning and purpose of the text, structure, levels of meaning, language conventionality and clarity, and knowledge demands. The second is *Quantitative dimensions of text complexity*, which are those that are more measurable, such as word length, sentence length, and text cohesion. The third is *Reader and task considerations*, which include things like reader motivation, the purpose of the text, and the actual questions posed of the text. All three are important considerations.

In general, better Socratic Seminar texts, pairings, and sets will:

- have multiple interpretations or levels of meaning.
- be implicit rather than explicit.
- be unconventional more often than conventional.
- be unusually structured or presented.
- be figurative, ironic, allegorical, or symbolic.
- present multiple viewpoints or experiences.

### Further Considerations

According to Strong, the ideal text is "one in which students know the meaning of each word individually, but have no understanding of the paragraph as a whole. Meaning is constructed by the group clause by clause, sentence by sentence, or paragraph by paragraph, based on the group's determination of how finely the text must be broken down in order to reach comprehension." If there are challenging vocabulary words in the text, then the students should define them in pre-seminar; otherwise the text will likely only generate a discussion about connotations and denotations.

A well-chosen text *before* an upcoming unit can act as a framework for the larger ideas. Texts after the main lesson(s) can help students further engage with the material in new ways. For example, in a unit on Homer's *The Odyssey*, a supplemental Socratic Seminar based on the question *Do you believe in fate?* may help students engage with the ideas of free will versus predeterminism, which are important for understanding the ancient Greek world. A seminar conducted after Cream's song lyrics *Tales of Brave Ulysses* or C. P. Cavafy's poem *Ithaka* can help students make new connections.

Be cautious of texts that bring up extremely controversial, heated subjects, such as the death penalty, since these will often depart into debates where students deviate from the text and almost always return and stick to their preconceived ideas and opinions. Generally speaking, use such texts and topics in debate class.

Howard Zeiderman also suggests choosing non-contemporary texts. One of the dangers with contemporary texts is that students might become locked into thinking about them only in terms of like and dislike, rather than attempting to actually understand them. He writes, "If the text were entirely

familiar and contemporary, it would only reinforce the opinions of some participants and run counter to the opinions of others. The result would be argument and debate rather than discussion. A degree of unfamiliarity, which is found in non-contemporary works, is therefore necessary." Although I do not agree that non-contemporary texts are *necessary*, the idea is still important to consider. In my experience, students have rarely practiced thinking deeply, even about such things as their favorite songs that they hear everyday.

## Types of "Texts"

A "text" for Socratic Seminar is any artifact or piece that will be the focal point for inquiry and dialogue. Nearly anything with complexity, ambiguity, implicit meaning, and/or levels of thought should work well. Short stories, poems, and song lyrics are often particularly provocative, since many tend to be very dense and abstract. Excerpts from philosophical and scientific writings can also be good seminar-texts, since they, too, are often dense with big ideas and complexities. Dialogues about whether advertisements are misleading can be remarkably insightful.

Visual arts, such as paintings, photographs, optical illusions, and film clips often work well because of the inherent interpretive complexities. Artists such as Salvador Dali, Leonora Carrington, M. C. Escher, Abelardo Morell, Remedios Varo, Kurt Wenner, Kay Sage, Shepard Fairey, Erik Johansson, and Michael Parkes all have great pieces for seminar. Street artists always intrigue me, often because they have hidden messages behind their art that students can discover and uncover during seminar. Some street artist suggestions: Banksy, Above, Roa, Laguna, SpY, Hyuro, and Mentalgassi.

Dali's *Persistence of Memory* and episodes of the television shows *Night Gallery* and *The Twilight Zone* have been some of my students' favorite pieces of all time. Chapters from the *Tao Te Ching* are extremely reliable for middle and high school students. Numerous short stories by Ray Bradbury and Philip K. Dick have made excellent seminar texts for me.

Fables, folktales, and poems are great for younger elementary students, though remember to consider taking off any strong conclusions or morals so that students can do their own thinking. Aesop's fables are very popular, and

many other good moral stories can be found all over the web. Robert Louis Stevenson, Shel Silverstein, A. A. Milne, Judith Viorst, and Paul Fleischman have some great poems for younger students.

I have had a lot of success using Dr. Seuss with middle and high school students. They tend to underestimate the complexities in stories such as *Yertle the Turtle* and *The Lorax* ... until they realize that the stories contain universal themes that they probably missed when they were younger. A turtle was just a turtle; a tree was just a tree. As they revisit the text in seminar, these may take on new meanings. A turtle may become a symbol of oppressed people. A tree may symbolize the human mind.

Interesting conversations often emerge about whether Dr. Seuss put those "additional meanings" in the text to begin with or not. Are we simply bringing new understanding to the text? If so, what does that say about the reading process? Such lines of questioning can make for many wonderful Socratic Seminars, especially for middle school students who are beginning to see and appreciate allegory and symbolism for the first time.

### Text Examples

Poetry	"anyone lived in a pretty how town" by E. E. Cummings "I'm Nobody! Who Are You?" by Emily Dickinson
Short Story	<i>An Ominous Baby</i> by Stephen Crane <i>Through the Tunnel</i> by Doris Lessing
Short Text	<i>Tao Te Ching</i> chapter 2
Picture Book	<i>The Sneetches</i> by Dr. Seuss <i>Weslandia</i> by Paul Fleischman
Movie Clip	<i>Indiana Jones and the Raiders of the Lost Ark</i> <i>Pleasantville</i>
Painting	<i>Persistence of Memory</i> by Dali
Excerpt from novel	Opening paragraph to <i>A Tale of Two Cities</i>

## Text Examples (continued)

Question	“What is boredom?” “Do you believe in Fate?”
Quotation	“First they came ...” by Martin Niemoller
Song + Lyrics	“Daughter” by Pearl Jam “The Sounds of Silence” by Paul Simon
Song + Lyrics + Visual	“This Must Be the Place (Naive Melody)” by Talking Heads and contemporary art from <i>What the Songs Look Like</i>
Classical Music	“The Planets” by Gustav Holst
Math Proof	Euclid’s <i>Book of the Elements</i>
Chart or Graph	Immigration in the 19th Century
Performance	Jérôme Murat’s <i>The Statue with Two Heads</i>
Primary Resource	Columbus’s Journal
Political Cartoon	“Join or Die” by Benjamin Franklin
Map	“The Spread of Islam”
TV Show	<i>Star Trek: Voyager</i> episode 191: “Living Witness”
Paradox	“This sentence is false.” (True or false?)
Event	Hole in a fence — “What happened here?”
Diagram	Abraham Maslow’s Hierarchy of Needs

**It’s arguably easier to facilitate conversations *outside* of your expertise, since you actually would have genuine questions.**

Conversations on visual arts, music, sports, or other areas besides written texts may at first seem more difficult to facilitate, but they aren't. They may appear to be harder since some students and teachers may not be familiar with the basic tools of analysis in some disciplines like music or art: color theory, shape and proportion, harmony and dissonance, major and minor keys, music theory and much more. For example, where do you start with a painting? How do you determine the meaning of music?

However, teachers and students should realize that the life of a seminar is always in the questions—and anyone can ask those. By focusing on asking questions, art teachers can easily facilitate seminars about math, English teachers on music, and math teachers on poetry. In fact, any teacher can facilitate a seminar on just about anything. There still may be times where the conversation steers too far away from a teacher's academic comfort zone, but that shouldn't scare anyone away from inquiry. It's arguably easier to facilitate conversations *outside* of your expertise, since you would actually have genuine questions.

## Choose Printed Text Over Digital

A key decision is whether to have students use digital or printed texts. Given the choice, a lot of teachers may want to choose digital media in order to save paper or copies, because of using a flipped classroom model, or maybe because of recently purchased technology. Ask the students, and many of them say they prefer to read on digital devices. The digital version of a text seems to have many advantages: it's harder to misplace or lose, it's portable across multiple devices, it can be digitally manipulated, and notes and highlights can be saved and shared. Printed texts remain a reliable standard that students can highlight, make notes in the margins, and doodle in the extra spaces, but are they boring or outdated?

Given the choice, should Socratic Seminar facilitators choose digital or print?

In an October 15, 2017 article for *Business Insider*, Patricia Alexander and Lauren Singer write about their findings regarding the differences. Essentially, they found that for texts longer than a page, students were better able to comprehend information in print. More importantly for seminar facilitators, they also found that for specific questions going beyond general



concepts such as the main idea of the text that “comprehension was significantly better when participants read printed texts.” My own observations support the use of printed texts as well, largely because I have found that my students are more focused and academically inclined when they read and wrestle with a printed text.

So, especially for Socratic Seminar, print texts appear to be the best choice.

## Text Pairings

Combining two (or more) texts together for a seminar can create excellent complexity and great dialogue. These pairings can be chosen because of the similarities or their differences. Similar texts often help to focus discussion on different perspectives and viewpoints on universal themes. For example, pairing *The Giver* by Lois Lowry with the short story “The Ones Who Walk Away from Omelas” by Ursula K. Le Guin may help students explore morality and the nature of happiness.

Choosing two texts that contradict each other can lead to powerful critical and creative thinking as well, since the right pairings will show multiple viewpoints of the same time period, event, or issue. For example, juxtaposing two artists such as Norman Rockwell and Lewis Hine can show students that there are differing viewpoints and experiences of the same time period. Contradictory informational or persuasive texts are obvious choices since they often both seem factual and correct. For example, if your curriculum presents a certain historical character in a heroic light, then choosing a text that vilifies that person will put the students in the twilight of uncertainty.

Books like Greenberg's *Heart to Heart: New Poems Inspired by Twentieth-Century American Art* pair poetry and art together in complex ways. *The Chronicles of Harris Burdick* by Chris Van Allsburg is a great collection of inspired stories based on the author's mysterious illustrations. *The New York Times'* The Learning Network, in collaboration with the Poetry Foundation, offers “Poetry Pairings” that make for excellent seminar texts.

One fun source for linguistic pairings is Montague Brown's *The One-Minute Philosopher*. The book is set up to explore dozens of conceptual word pairs, such as admiration/envy, confidence/pride, error/fault, friendship/fellowship, justice/law, reason/logic, and wonder/bewilderment. These

pairings make excellent texts because students can explore the polarity of the pairings, as well as the overlapping gray area between those ideas. In addition, the further reading section suggests specific pairings of classical texts that explore the issues further.

A fantastic resource entitled *Suggestions for Pairing Contemporary Music and Canonical Literature* can be found at *CornDancer.com* and websites like Pinterest and Teachers Pay Teachers have vast resources. Other websites for pairings and text sets:

- *CommonLit.org*
- *NewsELA.com*
- *ListenWise.com*
- *ReadWorks.org*

For added complexity, combine several types of media into a seminar text set, or dossier. The students then must weigh evidence and examine levels of validity from various sources. For example, a text set about dress code might include: a national newspaper article or blog advocating for dress code, a scientific paper against, a school newspaper article against, and a thought-provoking photo of a team all wearing their uniforms.

One of my favorite sources for language arts, music, and art is the book *What the Songs Look Like: Contemporary Artists Interpret Talking Heads' Songs* by Talking Heads and Frank Olinsky. This book combines the song lyrics with pieces of contemporary art. By incorporating the music as well, the lyrics, and the visuals create a three-part complex text set.

## Quotations

Famous sayings and short quotations can be tricky for seminar. On one hand, they can work well since they are often about universal big ideas or issues. However, many sayings and quotations are very short. With inexperienced groups this is often not enough material, so participants are forced to move *beyond the lines* of the text in order to make meaning. This often leads to a large amount of speculation and personal anecdotes, which often do not promote critical thinking and close reading.

If you really want to use a quotation, consider collecting several together and then using them as a set. For example, take these five quotes from legendary coach John Wooden. During pre-seminar, make sure the students understand what the quotes might be first saying. Then, an opening question for the group might be: *Which of these quotes would be the best advice for us? Which one would make the best motto for our new school year? Which one would make the best advice for new seminar groups?*

### Text Set of John Wooden Quotes

- Don't mistake activity with achievement.
- If you don't have time to do it right, when will you have the time to do it over?
- It is amazing how much can be accomplished if no one cares who gets the credit.
- Failing to prepare is preparing to fail.
- Listen if you want to be heard.

## Math Texts

Socratic Seminars tend to be less common in math classes, perhaps because of a seeming lack of interpretive issues. However, math problems with enough complexity can make excellent seminar texts. Many teachers have found that proofs from sources such as Euclid's *Elements* work well. Certain mathematics books, such as *Interactive Mathematics* (Year 1) by Daniel M. Fendel, have complex problems that can work well for middle and high school. Phillips Exeter Academy in New Hampshire, renowned for their Harkness Method, has discussion-based math classes that use complex problem sets specially designed for students to work through together. They have made some of their problem sets available on their website.

Several math teachers I have worked with have had success with a seminar-like activity that I call a Gallery Walk Seminar. To set up this style of seminar, place several complex, multi-step problems around the room with a variety of solutions (either drawn from student examples or thoughtfully

crafted by the teacher). The solutions should be short and long, direct and indirect, arithmetical and algebraic, formulaic and geometric, etc.

In small groups, the students then peruse the room museum-style, guided by a discussion question or set of questions, such as: *Which one is most reliable? Which one would be the most prone to mistakes? Which solution is the most elegant? Which is the most efficient? Which one is the best solution? Which is the most beautiful? Which shows the most care? Patience?*

This can remain a small group activity, or after determining their answer(s), the groups can then convene in a circle for a larger dialogue. The students would need some pre-seminar work to first understand what is meant by *elegant* or *beautiful* in mathematics. And of course, the most important aspects of this activity are the reasons and justifications that students have about each of the solutions.

Several teachers at Forest Park High School in Forest Park, Georgia did something similar by showing several graphs to students and asking them which one best matched a specific scenario. In their article "Socratic Seminars for Mathematics," Koellner-Clark, Stallings, and Hoover found "that the method of Socratic Seminars was very effective in encouraging students to assume responsibility for reasoning and communicating convincingly about mathematics" and that the more verbal learners "showed understanding that they had not shown on pencil-and-paper assessments."

For younger students, try *mathematizing* picture books, as Hintz and Smith suggest, in order to begin an inquiry process that could lead to a seminar dialogue. In their three-step process, start by selecting a text that features math, highlights mathematical ideas, or contains visuals for exploring mathematical concepts. Second, explore the text by "engaging students in lively discussion before, during, and after reading" (or reading aloud). In this stage, students pay attention to the mathematics involved, write and share recording strategies, and discuss how and why they represented their mathematical thinking. Their suggested third stage, Extending the Text, can lead to excellent seminar dialogue: "One way to extend the text is to delve more deeply into discussion of key ideas, emphasizing mathematical applications or connections between concepts and personal experience."

### Math Texts for Mathematizing a Picture Book

- *The Hungry Caterpillar* by Eric Carle
- *Double Those Wheels* by Nancy Raines Day
- Mummy Math: An Adventure in Geometry* by Cindy Neuschwander
- Ten Flashing Fireflies* by Philemon Sturges
- The Doorbell Rang* by Pat Hutchins

### Math Fiction for Seminar

- "The Feeling of Power"* by Isaac Asimov
- The Man Who Counted* by Malba Tahan
- The Phantom Tollbooth* by Norton Juster
- The Number Devil* by Hans Magnus Enzensberger
- Flatland* by Edwin Abbott
- Beyond Infinity* by Charles Fischer

## Riddles and Puzzles

Riddles, puzzles, and other texts that tend to have a "right" answer, or a small field of answers, have not worked well for me. Once the riddle is "solved," students relax their thinking or stop inquiry altogether. The task seems finished to them and they have difficulty seeing the value in continuing dialogue.

An example of what didn't work well for me is the well-known puzzle: *Why are manhole covers round?* Once students determined the standard answer; that a circular shape prevents the cover from falling down through the hole, they slowed down their inquiry. (With a square hole, the cover could fall through since the hypotenuse is longer than the sides. A circular cover, with all distances from the center the same, cannot fall through no matter how it's turned). Despite my promptings, they did not generate other ideas, such as: it's round so that it can be rolled; perhaps that's the cheapest method of production; or that a circular shape maximizes area.

With multiple answers possible, this may seem like a potentially good text. But here's the problem. This is a well-known puzzle with a well-known answer. Chances are high that someone may have heard "the answer." What happens then is that someone will respond with what I call the *emphatic hammer*. They may say, "Oh, I've heard this one before. It's because a round cover can't fall through." Since the answer comes with such emphasis and certainty, and because it seems perfectly correct, the other students may feel it's a wrap. As a teacher who wants to promote thinking, I can urge them to discover other possibilities (which may feel like an agenda), but I have found that this does not feel genuine and starts to feel more like filler until the seminar ends.

## Videos and Film Clips

Videos and film clips can be excellent sources for texts. Episodes of Rod Serling's *Twilight Zone* and *Night Gallery* have worked extremely well for me. Unlike some television shows, these episodes are powerful, intriguing, and thought provoking. Some of them, like "Occurrence at Owl Creek Bridge" by Ambrose Bierce are adaptations of short stories, and therefore, make excellent supplements to units of study. Clips from the beautiful non-narrative movies *Baraka* and *Samsara* have worked extremely well for me as well.

I had great success with a 7-minute clip from *Indiana Jones and the Raiders of the Lost Ark*, the scene where Harrison Ford's character switches the bag of sand for the golden idol. We enjoyed a rich conversation about the possible symbolic meanings of the idol, Indiana's name and the irony that he's stealing from indigenous people, the fact that two clearly white people are in charge of the entire operation (Indiana and his arch-enemy waiting outside), and much more.

Music videos are challenging, since many of them are inappropriate and some are too visually stimulating. I once tried using the video for *Birdhouse in Your Soul* by the band They Might Be Giants. We had read the song lyrics in the previous seminar and seemed prepared for the video. Even though it was half the length of the *Raiders of the Lost Ark* clip, it was fast-paced, with too many images and scenes flashing past to make comprehension possible.

We watched the video twice, and then focused on a couple of sections to watch again. We attempted some entry points, but there were simply too many and we floundered with where to begin and what exactly to talk about.

However, because of the combination of music, lyrics and visuals, some music videos make fantastic complex texts. Check out “Take on Me” by a-Ha, “The Scientist” by Coldplay, “Do You” by Spoon, “Caught in the Crowd” by Kate Miller-Heidke, and “Karma Police” by Radiohead.

A performance can easily spark hours of conversation, or more with experienced participants. Theatrical performances, such as Jérôme Murat’s *The Statue with Two Heads*, make great seminar texts. Many animated short films will work well as Socratic Seminar texts, especially because the visual aspects appeal to students. Most of them do not have dialogue, so they lend themselves to interpretive complexities. Some favorite shorts: *Snack Attack*, *Paperman*, *The Lost Thing*, *Feast*, and *The Fantastic Flying Books of Mr. Morris Lessmore*.

**Seminars based around wildly open questions like “What is mathematics?” might generate interesting ideas and perhaps help a teacher learn about the students, but a full text would likely produce better dialogue.**

## A Question as the Text

The text for a seminar can be a single question, such as: “What is boredom?” However, similar to using riddles or quotations, such seminars are more difficult to facilitate. Because there isn’t a physical text to cite or talk about, students often must speculate instead of thinking critically. This isn’t necessarily a bad thing, though, since provocative questions can often promote new and creative ideas. For example, I once used the question “What is boredom?” for a seminar with middle schoolers. One student noted that he was never bored in the morning, which led the group to the idea that boredom was more about being tired than being interested, which was a thought that many of them had never considered.

Seminars based around wildly open questions like "What is mathematics?" might generate interesting ideas and perhaps help a teacher learn about the students, but a full text would likely produce better dialogue. A slight variation on the question can use a text and still explore the idea: "According to the author, what is mathematics?" The task can be made even more difficult using multiple texts: "According to these texts, what is mathematics?"

In addition, many variations on a basic question are much more engaging for students, so teachers should practice generating questions. Rick Garlikov, in his article entitled "Teaching Effectively: Helping Students Absorb and Assimilate Material," writes:

I used to hate when teachers began a history or psychology course or some such by coming in the first day and asking "What is history?" or "What is psychology?" That usually puts all but the most avid "teacher-pleasers" into a stupor, usually saying something to themselves like "It is the stuff in this book" or "Who cares?" or "I don't know; why don't you just tell us, since you have the degree in it?" Instead, if a history teacher were to come in to class and say instead something like, "Is it part of history whether Shakespeare owned chickens or not, or whether he ate eggs on the day he began to write *Romeo and Juliet*?" or "Suppose all the history books ever written and all the diaries and journals we have were totally lost, would there still be history? And if so, what would it be?" or "Are the things you have forgotten about your own life still part of your biography or history?" or "What if some of the things in history books are false? Are they still part of history?" or "Commentators and politicians often say things like 'History will judge whether this is the right policy or not.' Well, when does history begin, or get to make that judgment? How long do we have to wait for 'history' to kick in? Or who in the future gets to say?" Questions like those might generate a much more lively and a much more productive discussion than "What is history?"



## Science Lab as a Text

In science, Socratic Seminar can still be used in the typical way: The students can annotate a scientific article, generate questions, form a circle, and have a genuine conversation together. Alexis Wiggins writes: "If you are struggling to imagine how to use discussion in your science classroom, the easiest point of entry is to discuss controversial or ethical issues in the news, such as bioethics, climate change, abortion, drugs in sports, genetically modified crops, or vaccination." These issues can often stir up good dialogue, though they can become too heated for some groups. In my experience, many students have deeply-rooted, family-based opinions on topics like abortion, and getting them to openly dialogue about the subject is nearly impossible.

Seminar may also be used in a lab-based science class in a most interesting way. Split the students into lab teams of 4-8 students. From there, split each team into two groups. The first group will do the lab and the second group will observe—essentially similar to forming inner and outer concentric circles. Then they switch roles, which will mean doing each lab twice. I know lab time is usually very precious, but you will probably only need to do this once or twice a year to get powerful results.

When the first group does the lab, the second group can be involved making observations, carefully collecting information, tracking participation, generating questions, and looking for unexpected variables. Think of the observers as quality control. The students can meet as a team after the first lab in order to refine the experiment for more precision or accuracy. They can make inferences based on their observations, make changes to the original hypotheses, encourage members of the team, and even provide feedback to you as the teacher in order to make the lab better.

With the extra structure placed around an experiment, the students will be more reflective about the entire experience and will incorporate more critical thinking as scientists. The students may be able to:

- Find and eliminate unexpected variables.
- Explore the effects of human error in science.
- Discuss scientific methodology.
- Generate questions for further investigation.
- Suggest or create additional or supplemental labs.
- Refine lab techniques.

As an example, imagine a lab where four students, Anders, Samantha, Jamie, and Esa have to mix two chemicals in a test tube and monitor the results in one-minute increments for ten minutes. Anders and Samantha do the lab first, while Jamie and Esa write the following observations and questions.

### **Seminar-Like Science Lab**

#### ***Team Observations***

- Anders spoke 12 times; Samantha 6.
- Samantha did not get to pour any of the chemicals. She should get a turn next time.
- They couldn't decide how to read the meniscus. We should review our notes.
- They recorded data after 64 seconds one time instead of 60 (third minute).

#### ***Questions***

- What happens to the data that was four seconds late? Can we use it? Does it ruin the experiment? How do scientists know when an experiment is actually ruined?
- Does the angle that the chemicals are poured at matter?
- How would temperature affect this experiment?
- Our groups all did the experiment at room temperature. What would happen at higher or lower temperatures?
- Does it matter which chemical is poured first?

#### ***Lab Reflections***

- The meniscus was hard to read on the test tubes.
- Anders and Samantha struggled and argued about it.
- Maybe we should measure with something else first.
- Our corner was dim. We should get a floor lamp or something.
- People in the class used different brands of stopwatches. How could that affect the experiments? Are the stopwatches significantly different? What's the margin of error?

Notice that several of the observations can lead to further exploration. Scientists constantly use critical thinking to decide when a factor is actually a viable variable or whether it is insignificant enough to ignore (at least for the time being). Without certain criteria to rule out, anything could be a potential variable. Even a simple lab experiment would then have to test for whether fluorescent lights affect test tubes, whether the type of brick used at a school affects group dynamics, or whether the brand of air conditioning unit is affecting the experiment.

The teacher and/or the curriculum usually control the number of variables in a particular lab. The students normally only manipulate a few given variables in order to understand the principles of the scientific method. But what is or is not a potential variable could be an amazing and worthwhile critical thinking process for young scientists.

## Something Different

Want something completely different? Have your students become too comfortable and overly familiar with discussions and seminars? You could try an activity from a book like Roger-Pol Droit's *Astonish Yourself! 101 Experiments in the Philosophy of Everyday Life*. These activities should shake everything up a bit. Here's a brief excerpted description of one entitled "Empty a Word of Its Meaning:"

Take what comes to hand, the most ordinary object—a pen, a watch, a glass—or even a piece of your own clothing ... Now take this inoffensive, familiar, safe little object in your hand. Repeat its name, in a low voice, as you look at it ... It shouldn't take long. In a few seconds the familiar word detaches itself, and hardens. You find yourself repeating a series of strange sounds. A series of absurd and meaningless noises that denote nothing, indicate nothing, and remain insensate, formless, or harsh ... Try to observe the moment when meaning dissolves, and how a new, raw reality emerges outside the words ... Is it not marvelous? Terrifying? Funny?

Imagine all of the questions that can arise from such a marvelous activity. What is a name? Why does it “detach”? What does name mean? Is it significant that name and mean are the same letters (anagrams)? Repetition can strengthen (as in practice) or weaken (as in this exercise). Why is that? What are mantras? Who decides what to call things? How do words end up in a dictionary? How do slang and regional idioms happen?

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### **Text Length: Start Shorter**

In the first few seminars, generally keep the text shorter: a single paragraph or picture book for elementary, a poem or a few paragraphs for middle school, maybe a short story or essay for high school. Of course, in a shorter period, keep the text shorter; a longer period can allow for longer texts. A very long text can be too intimidating and overwhelming for seminar groups. Even if the class can “finish” a longer text, it would probably not be at the depth Socratic Seminars target, since it’s not unusual for groups to go at a speed of thirty minutes per paragraph.

A shorter text will allow time for important debriefing and reflection during the post-seminar (chapter 9). With sufficient time to reflect, students can discover why they were successful individually, why the group was or was not effective, and what the process was that revealed the deeper aspects of the text. In other words, they can improve. Reflection can be done for homework, but reflecting as a group directly after the process is most effective.

Remember, since the goal of choosing a text is to develop habits of mind and skills, a variety of short, dense texts will often promote more thinking than one long text on a single subject. A short text can also lead more easily to a sense of accomplishment. Rather than getting lost inside a large text, students can feel good about completing smaller, bite-sized pieces. A simple way to build confidence in any group is to string together a series of small successes.

## Longer Texts and Novels

Reading an entire novel at close reading or Socratic Seminar speed would take a significant amount of time, so a typical way to deal with longer texts is to focus on specific passages or excerpts. Instead of dialoguing about the entire text in one seminar, students can instead focus on a few pages that can be applied to the whole. Choose important passages and pivotal moments, such as the green light in *The Great Gatsby*. When in doubt, ask questions: *Which two pages do we need to dialogue about? Which chapters were most confusing? Which pages will help us unlock this story?*

When using entire novels or other long texts for Socratic Seminars, annotating becomes increasingly important. Generally, the longer the text, the more important systematic annotating becomes. Without really good annotations, students will spend large amounts of precious seminar time attempting to find the exact passages or locations in the text. They will likely resort to vague notions and general ideas instead of using specific text references.

While reading long texts, students can first identify some reoccurring themes and repetitive words, and then annotate consistently so that they have a thematic thread. I like to pause after about 10% of the text for the students to identify recurring themes, ongoing examples of connections to essential questions, or multiple instances of "Great Ideas." Once these have been identified, students can stay vigilant for those specific annotations.

One of the best tools I know for this job is Mortimer Adler's list of "Great Ideas" from *The Great Ideas: A Syntopicon of Great Books of the Western World* and *The Great Ideas: A Lexicon of Western Thought*. Paideia Seminars often use these "Great Ideas" and a lot more information and resources are available from the *National Paideia Center*. See the appendices for Adler's original list and additional possibilities.

For example, in the novel *The Alchemist* by Paulo Coelho, students may initially find the recurring themes of chance, happiness, and labor. In George Orwell's *Animal Farm*, the students may recognize change, opposition, and tyranny. In Richard Bach's *Jonathan Livingston Seagull*, the students may discover multiple passages with the ideas of angel, desire, and infinity.

Once identified, the students must then read closely to find additional passages and examples of those same ideas. Let's suppose that the first

instance of the theme “angel” occurs on page 4 and the next occurrence is on page 11. When students recognize the theme again on page 11, have them write in the margin or on a sticky note “see page 4.” Have them turn back to page 4 and write in the margin “see page 11.” By continuing this throughout an entire novel, the students will have a thematic thread that they can navigate and use for dialogue and writing papers.

I always explain to my middle and high school students that thesis papers actually begin during the annotating process. If they annotate properly, they will already have a map of all the thematic citations they need. Additional annotations can be used in the same way, of course. For example, if the students keep finding amazing similes in Ray Bradbury’s *Fahrenheit 451*, they can mark an “S” in the margin of the book with “see page 65” as a signpost to a previously encountered simile or “see page 73” as a note to the next simile. From there, the students might be able to develop a thesis around Bradbury’s use of the simile.

By reading novels in this way, teachers can differentiate groups of students by interests. Even though the entire class is reading the same novel, the students can annotate for different Big Ideas. Working together in small groups, they can record and share their annotations and explore different ideas that interest them. For example, one group could annotate for the theme of “chance,” while another explores “happiness” and yet another “opposition.”

## Reading Level

There are numerous resources to check the reading level of the written text to use for Socratic Seminar. Some of them focus on vocabulary per page, others on concepts per page. Some measure the number of syllables per sentence, and other systems factor in student interest level. If you have access to this information, it can be useful to help choose texts.

With or without this reading level information, use the following rule of thumb. Since Socratic Seminars are group endeavors, the material should be difficult for a single student to understand the entire piece. In general, a group of middle school students can often be given a text that is normally reserved for high school students to read on their own, high school students

can be given college-level material, and an ELL 1 class could be given material that ELL 2 students could handle on their own.

## Teacher Interest

Choosing something that you love may seem like a great way to pick a text, but I strongly caution against this for many reasons. A text you love or previously studied is probably something that you know a great deal about. This immediately puts you in a strong authority position—something you are trying to diminish as a seminar facilitator. You want students to develop genuine inquiry into the text, not create a systematic process of guessing what you think.

Using a piece you love will also likely create personal expectations. If the students dislike the piece, you run the risk of taking their comments and the seminar personally. You may find yourself overly biased in the conversation, steering students toward the miraculous interpretation that excited you as a learner, or steering them away from non-traditional interpretations.

In general, I suggest not choosing a text simply because you love it. Choose it because it is complex and difficult for the students, because it raises numerous questions, because it supplements the curriculum, because it has no right answer, but not because you like it.

There is a simple two-question test of whether or not you should use a text that especially applies if you love it: *Can you generate three or more questions on your own about the text that you are genuinely curious about and don't have ready-made answers for? Are you willing to let the students create their own interpretations?* If you can honestly answer yes to these, then go ahead and try it out. Otherwise, choose something else.

It may be a coincidence, but Stephen Crane's "An Ominous Baby" worked very differently for me the first few times I used it with middle schoolers. On the first two occasions, I chose the story because it was full of rich words and descriptions, because it explored the concept of greed, and because it was dense with hints of concepts like social class. In both of the initial seminars, which went two full 90-minute periods, the conversation was rich, packed with excitement, enthusiasm, and discovery. However, the following year I chose it because I liked it, because it was my "old reliable." On this third

occasion, the group struggled through a single 70-minute period, and then staggered through part of another. The students were unimpressed and seemed uninterested, with none of the excitement from the previous classes.

## Favorite Texts

Here are some of my favorite texts of all time for Socratic Seminar. I apologize if this list is not diverse enough for some readers; these are simply what have consistently produced the best conversations for me over the years. You can find a more complete list on my website.

<b>Elementary</b>	
<i>The Zax</i>	Dr. Seuss
"The Land of Counterpane"	Robert Louis Stevenson
"The Blind Men and the Elephant"	John Godfrey Saxe
<b>Intermediate</b>	
"Thank You, M'am"	Langston Hughes
"An Ominous Baby"	Stephen Crane
"All Summer in a Day"	Ray Bradbury
"Charles"	Shirley Jackson
<b>Middle and High School</b>	
"Sign for My Father, Who Stressed the Bunt"	David Bottoms
"Anyone Lived in a Pretty How Town"	E. E. Cummings
"A Very Old Man with Enormous Wings"	Gabriel Garcia Marquez
"Zaabalawi"	Naguib Mahfouz
"The Ones Who Walk Away from Omelas"	Ursula K. Le Guin
"That Village That Morning"	Akram Haniyyah



**Novels**

<i>The Journey of Ibn Fattooma</i>	Naguib Mahfouz
<i>The Alchemist</i>	Paulo Coelho
<i>The Phantom Tollbooth</i>	Norton Juster
<i>Animal Farm</i>	George Orwell
<i>The House on Mango Street</i>	Sandra Cisneros

**Songs**

"The Sounds of Silence"	Simon and Garfunkel
"Lateralus"	Tool
"Daughter"	Pearl Jam
"Cult of Personality"	Living Colour
"The Trees"	Rush
"The Times They Are A-Changin'"	Bob Dylan

**Miscellaneous**

<i>The Statue with Two Heads</i>	Jérôme Murat
<i>The Persistence of Memory</i>	Salvador Dali
<i>Relativity</i>	M. C. Escher
"Living Witness"	<i>Star Trek: Voyager</i>
"Eye of the Beholder"	<i>The Twilight Zone</i>
"Midnight Never Ends"	<i>Night Gallery</i>
<i>The Tao Te Ching</i>	Lao Tzu
<i>Book of the Elements</i>	Euclid
"Autobiography in Five Short Chapters"	Portia Nelson

**Socratic Seminar Curriculum Materials**

To my knowledge there are three organizations that make curriculum materials specifically for seminars (though each has a different name for dialogue). *The Touchstones Discussion Project* has materials for K-12 and even college. The materials I have used tended to focus on short texts and

excerpts from literature, but they have specific collections that focus on math and science. The *National Paideia Center* has materials for all ages and subject areas primarily using Adler's "Great Ideas." They have quite a few free lesson plans available on their website.

The Great Books Foundation also has materials for all ages. The Shared Inquiry process specializes in exploring excellent pieces of literature using interpretive questions, but they also have materials that branch into nonfiction and other areas, with a recent collection focusing on music, film, and television. They have a substantial amount of support materials, such as audio recordings, graphic organizers, assessment resources, and integration suggestions.

## Summing Up

1. A "text" for seminar can be anything that will promote a complex thinking process.
2. Good texts generally have multiple possible interpretations, are implicit, unconventional, figurative, allegorical, and/or symbolic.
3. Choose printed texts over digital ones.
4. Generally start with shorter texts so students can stay focused.
5. Novels can be annotated with tools like the "Great Ideas" from Mortimer Adler.

## Your Next Steps

- Ask your students what they might want to explore.
- In the beginning of the year, consider using some specific material from your school, such as the school motto (or better yet, an excerpt from history where the motto appears), the school's mission statement, excerpts from the student handbook, etc.
- When in doubt, choose something already in the curriculum, such as a map or chart embedded in a textbook, a painting in an anthology, a diagram in a science textbook.