



Socratic Seminars in the Economics Classroom

A Socratic seminar is a specific instructional technique for leading classroom discussions that can be used to enhance an economics course. The focus here is to provide an introduction to the Socratic seminar, including key pedagogical features to demarcate this type of classroom discussion, give an overview of the costs and benefits of this type of instruction, and provide suggested topics for use in an economics classroom.

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1. Introduction

A growing body of literature in economics education supports the need for engaging, interactive learning that moves beyond the lecture format. Hansen (2001) elaborates on five areas where students should demonstrate proficiency, culminating in the ability to use existing knowledge to explore issues and create new knowledge for themselves; Salemi and Siegfried (1999) look for ways to apply that framework to economics coursework specifically. In Hansen, Salemi, and Siegfried (2001), the authors discuss various techniques to improve economic literacy. This paper proposes to give economics teachers the tools to explore issues and make meaning within existing content through a specific type of classroom discussion known as a Socratic seminar.

What makes a seminar Socratic? This type of classroom discussion is a defined event planned specifically by the instructor to investigate a chosen resource from outside the course textbook. Virtually any type of media is appropriate to choose as a text: readings, images, audiovisual material, or physical objects may all be used. A seminar will typically begin by viewing a 'text' together or taking a pre-assessment to ensure that a text assigned at home has been adequately reviewed. The instructor then facilitates an authentic discussion among the students, using systematic questioning to provoke deeper thinking and explicit engagement with the text.

2. Review of Literature

A review of the literature shows the Socratic seminar to be effective educational pedagogy. The focus of this article is to make examples available for instructors in an economics classroom, including elementary and middle school social studies teachers. Similar articles discuss the Socratic seminar in law (Carnevale, 2005), mathematics (Koellner-Clark, Stallings, & Hoover, 2002), and the natural sciences (Chowning, 2009) as well as topics associated with the humanities, including ethics (Wiggins, 2011), reading (Metzger, 1998), and literature (Copeland, 2005). Other work has been done using Socratic seminars in business (Gronke & Haussner, 2006), distance learning (Yang, Newby, & Bill, 2005), and teacher education programs (Knežić, Wubbels, Elbes, & Hajer, 2010). This versatile form of classroom discussion is adaptable to the economics classroom.

A large body of literature discusses the Socratic seminar in an educational context; this article will draw on the work of Tredway (1995) and Copeland (2005) discussing the benefits of the Socratic seminar for student learning in reading, speaking and listening. Copeland (2005); Strong (1997); and Polite and Adams (1997) provide evidence for increased critical thinking among college students, while Le and DeFilippo (2008) document benefits in critical thinking for elementary students. Socratic seminar was the only one of six interventions shown to raise critical thinking levels in an online discussion (Kalelioğlu & Gülbahar, 2014).

Kohn (1994) and Copeland (2005) show social benefits for students as well as academic benefits. A variety of papers have shown an increase in motivation for courses that implement Socratic seminars (Roberson, 2013; Mee, 2000; Polite & Adams, 1997; Strong, 1997; and Tredway, 1995). Castell and Bridges (2007) found students more engaged in courses with student-led discussions than those following a lecture format. Lambright (1995) shows that Socratic seminar can enhance creativity through active learning. Benefits have also been shown for adult learners (Keegan, 2013; Mangrum, 2010) and for faculty members (Tredway, 1995).

For descriptions of the features of a Socratic seminar, see Tredway (1995), Copeland

(2005), Mangrum (2010), Carnevale (2005), Metzger (1998), and Pihlgren (2007). A large body of evidence looks at the use of questioning strategies that may aid in Socratic seminar facilitation (Woolever, 1987; Nappi, 2017; and Gose, 2009). Tofade, Elsner, and Haines (2013) provide questioning strategies.

3. Features of a Socratic Seminar

Key ingredients of a Socratic seminar include a text common to all members of the class, student-led discussions, and systematic questioning by the teacher. The following discussion goes through these and other features of leading a Socratic seminar from a practitioner's point of view. I am indebted to the Socratic seminar Workshops lead by John Zola for starting me down the path to using Socratic seminar in my own practice.

A. Before the Seminar

Text Selection

The beginning of the process is for the instructor to select a text, often a short reading but possibly a variety of other documents or objects depending on the context of the course. The text is any material that the teacher would like students to consider at length through individual reading, pre-assessment, discussion, and reflection. The text can be made available to the class for homework or at the start of the class period; either method should allow students to activate personal thinking on the text.

In searching for an appropriate text, instructors should focus on material that is challenging, ambiguous, has a defined voice, and requires a relatively brief time to read and interpret. The seminar discussion is an opportunity to stretch students on their level of reading comprehension, as they will collectively make meaning that an individual student may not have been able to access. Pihlgren (2007) argues that content should not contain straightforward analysis, such as a news article, textbook excerpt, or other types of introductory non-fiction. As the assignment is often relatively difficult or ambiguous, shorter pieces are preferable to longer ones in order to maintain student interest and engagement with the text.

In the economics classroom, seminar texts are a great way to introduce primary source documents and other material of historical interest that may not find a place in today's modern textbooks. An excerpt from David Ricardo's notes on England and Spain's comparative advantage, Marx's diatribes on the means of production, or Marshall's disputation on scissor blades could all be introduced as a text for a Socratic seminar. Genuine interest on the part of the instructor is key here as well – teachers should feel empowered to select texts that speak to important philosophical issues that matter to them.

One additional strategy for a seminar is to consider paired texts; students can be supplied with two texts (assuming sufficient brevity), or two text assignments could be mixed throughout the students in the class. This can help introduce multiple perspectives into the discussion, but teachers should be cautious to avoid pure debate among students reading different texts (Downing, 1997).

As text selection is important to the functioning of a good Socratic seminar, Keegan (2013) suggests working with a librarian or a specialist colleague on choosing material and opening questions for the discussion.

Pre-assessment

A Socratic seminar relies on students reacting to the text. It is important to ensure that students have sufficient exposure to the text in order to make meaning of it with their peers. Before entering the seminar, the teacher will decide on the type of pre-assessment to use to ensure that all students in the discussion have sufficiently engaged with the text. (Students who have not may be assigned an Observation Task (discussed below). The pre-assessment does not need to be academically rigorous or challenging, but an illustration for the teacher that the student has put in the time necessary to discuss the text with their peers. It is not necessary that students demonstrate comprehension but rather familiarity with the material (Gray, 1998). John Zola suggests a "ticket" assignment, tasks such as drawings, self-selected vocabulary terms, or timelines that enable students to earn their admission into the discussion. Teachers may also use a short reading quiz to identify students who are not able to recall even basic features of the text.

Observation Tasks

Observation Tasks represent a way for students who are not participating in the discussion to remain active participants in the Socratic seminar. Observation Tasks are non-punitive, specific tasks that engage the students in tracking the discussion; after the seminar is over, they will be given a chance to report on their observations to the class. Students who are unable to complete a ticket assignment or pre-assessment can be assigned Observation Tasks, and students should be allowed to opt in to be observers, particularly early in the process of introducing Socratic seminars as a classroom activity.

Observer Tasks are important roles and provide interesting information for the class that helps improve future discussions. Copeland (2005) suggests that students discussing and observing switch throughout the discussion so that all students perform both jobs throughout the period.

Observer Tasks should record facets of the discussion like participation, the number of questions, references to the text, an index of topics discussed, positive and negative behaviors during the seminar, and points of agreement or confusion.

Setting Norms, Goals, and Managing Behavior

Before running a Socratic seminar with a class for the first time, instructors should consider aspects of classroom management that differ from other activities. The use of norms and rules is encouraged; these should be revisited prior to subsequent seminars. A basic set of norms can be outlined by the teacher or brainstormed as a class and should include basic guidelines around who gets to speak and when, how to respond courteously to each other, and how to express disagreement respectfully.

Instructors may also ask students to create goals, either personally or as a group. A class goal could revolve around focusing on the meaning of a text or encouraging everyone in class to share. Individual goals may include maintaining eye contact with the speaker or explicitly referencing the text during the seminar.

Because a Socratic seminar is less structured than a typical discussion, instructors may refer frequently to the norms or rules. It is advisable to keep the norms visible during the seminar, and to discuss modifications to the list as part of the seminar debrief (Pihlgren, 2007).

Grading

There are many schools of thought on grading Socratic seminars. Zola (2016) summarizes the disagreement. On one hand, Socratic seminars are an opportunity for authentic, realistically occurring conversations and reflective self-assessment, so grades may be unnecessary; at the same time, assigning points to various types of behaviors can incentivize students towards productive discussion behaviors.

Regardless of whether the discussion is scored, Socratic seminars can find their way into the gradebook through the Ticket assignment, an individual reflection, and optional post-seminar assessment.

B. During the Seminar Discussion

Opening Question

A Socratic seminar begins with an opening question. This is a key component of the planning process, as the intention is for the discussion to proceed primarily through student interactions thereafter. Opening questions should elicit flowing discussion amongst students by being simple and open-ended and allowing for reference to the text, starting students down the path to making meaning from the text.

a. Open Ended

The opening question is a device to allow any student to be able to respond from their own perspective. Although intended to spark analytical discussion, the question does not need to start from an analytical perspective; asking students about their personal understanding of the text may be more effective in stimulating discussion (Gray, 1988). Being open-ended allows all students to engage with the text at their own level of understanding. One method of opening a Socratic seminar discussion is to use a “whiparound”: allow each student 10-30 seconds to answer your opening question, in order and without interruption. Hearing other responses can spark conversation once everyone has replied. An example of an open-ended question for an elementary school classroom is “What were the trade-offs faced by the main character in this story?”

b. Allows for Text Reference

The second facet of a strong opening question is that it allows for reference to the text. Each student should be able to answer the question and also point to a spot in the text that supports their response. This sets the tone for continual referencing of the text. A question that asks students to pick out an important paragraph or symbol is simple enough that anyone can answer, allows multiple responses, and forces the students to engage again with the text in order to respond. It follows that an opening question should not ask about students’ emotional or subjective reactions to the material – this gives an opening for students to respond without objective reference to the text (Kalelioğlu and Gülbahar, 2014). An example that might apply to a high school or introductory college course in economics might be: “According to the author, how does the scientific method as used in Economics differ from that of Physics?”

c. Making Meaning

The third important aspect of opening questions is that they should lead students down the path to making meaning of the text. Ideally, the question is genuinely of interest to the instructor. While there is no endpoint for the seminar, the teacher should have a vision of concepts that could be touched on throughout the discussion. Seminars will likely cover content knowledge and basics of the text, but may also encompass questions of values, uncertainty, epistemology, and other gray areas. The teacher can help frame that discussion through their choice of reading, the tenor of the opening question, and how they facilitate the group when such challenging questions arise. For an example of an opening question that allows students

to make meaning of a text, a professor of macroeconomics looking to engage their students in a deeper discussion of monetary policy may ask their students to read a critique of Dynamic Stochastic General Equilibrium (DSGE) models and ask the question: "How useful are DSGE models for making policy decisions?" Another way to frame a seminar would be to assign a reading on the experiences of homeowners after the recession of 2008 and ask, "What are the distributional consequences of loosening monetary policy?"

The opening question should allow for multiple interpretations and each participant should be able to access their present understanding of the material to answer the question (Polite and Adams, 1997).

Core Questioning

In an ideal setting, the teacher can sit back after the opening question and listen to authentic conversation amongst students who remain on-topic and reference the text. In practice, teachers will be required to facilitate, coach, and monitor the norms during the discussion. Example questions are adapted from Woolever (1987), Nappi (2017), Gose (2009), and Tofade, et. al. (2013).

a. Facilitation

All classroom discussion will require facilitation by the adult in the room, and a Socratic seminar is no exception. The main facilitation function for this type of discussion is to keep the conversation moving at a steady clip in the right direction. As Downing (1997) points out, leading a Socratic seminar is like sailing a small ship; the sails should be neither parallel nor perpendicular to the wind, but rather placed at angles that catch the wind to propel the boat in a desired direction and speed. Similarly, facilitation questions can keep the discussion productive, focused on the text, and engaging to students. This obliges the instructor to attend to body language and tone the way a sailor reads the waves.

To focus on making meaning of a text, the instructor may ask facilitation questions such as:

- Is there evidence in the text to support that assertion?
- How does this matter for various stakeholders?
- What might be a different perspective on that idea?
- Who has not yet had a chance to speak?
- Is there something in the text you'd like to discuss that hasn't been brought up yet?
- I'm hearing a lot of discussion about costs. What might be the benefits?

b. Coaching

At other times in the discussion, the instructor will want to do some coaching to encourage deeper, critical thinking and analysis. They should avoid "teaching" by offering analysis and possible evaluations before these are presented by students; the focus of the seminar is making authentic meaning of the text by discussing student ideas.

Some questions that can encourage students to think more deeply about the subject and text without providing answers for them can include:

- Where does the author say that in the text?
- Who might have a different perspective on that?
- How could we tell if that were true or false? What kind of evidence would we need?
- How does this idea relate to something we have previously seen in class?
- Can you clarify or elaborate on that thought?
- What is unclear still in the text?
- I'm hearing a lot of discussion about costs. What might be the benefits?
- Does this situation remind you of any other situations? (Situations may be from the

class, other courses, or other life situations.)

c. Monitoring Student Behavior

A final role for the teacher during the core discussion is classroom management. Emphasizing to students that the Socratic seminar is a special event (and scheduling them as such) helps to alleviate misbehavior in many cases, but there still may arise occasional issues of student choices during the seminar. It is important to deal with those behaviors during the seminar and re-direct all students to a deeper understanding of the text (Mangrum, 2010). Issues that may arise include students challenging others' opinions too sharply, a minority of students speaking more than their share of time, and students making off-topic comments that derail the conversation. The instructor should show open-mindedness, willingness to confront difficult issues in a non-judgmental way and should model the discussion norms and agreements at all times. Referring to the norms during the discussion is a good reminder to share speaking time and allow all viewpoints to be addressed. The key function of the Socratic seminar is text analysis, which is made possible by students cooperating positively in a group setting.

Closing a Seminar

When the time available for a seminar is nearing completion, the teacher can close the discussion at their discretion while ensuring sufficient time to discuss observation task results fully (see the section "After the Seminar" below). The length of a Socratic seminar is less important than the process and results; time spent will depend on the age of the students, size of the class, amount of prior knowledge, difficulty of the text and so on. Many instructors have reported that ending a discussion during a moment of high student interest helps build excitement for future seminars (Zola, 2016).

C. After the Seminar

After the seminar has been closed, provide time to allow students to process the content of the discussion. First, observers will share their notes from the discussion, followed by a whole group critique. Instructors may assign an individual assessment or reflection to help students integrate new content knowledge and relate the ideas to their lives.

Observers Share

Instructors should allow the observation group to share what they saw during discussion, including behavioral and content tasks. Behavioral tasks include mapping participation, the number of questions, and positive or negative behaviors during the seminar. Content tasks could include highlighting references to the text, a topic index, and points of agreement or confusion. Regardless of topic, all observers share their findings.

Critique

A brief critical discussion follows observer feedback. The critique takes only a few minutes, but provides an important outlet for students to process the seminar experience and should not be skipped. Teachers can elicit thoughts on one or more of the following types of questions to think about the overall functioning of the seminar.

- What did you notice during the discussion?
- What were you working on today? How did it go?
- What worked during today's discussion?
- What should we improve for next time?

These questions help the instructor plan the next Socratic seminar, give students a voice in

classroom operation, and model a growth mindset.

Post-seminar Assignments

Two types of individual assignments that can follow a Socratic seminar are reflections and assessments.

a. Individual Reflection

An individual reflection is an opportunity for individuals to evaluate themselves on personal and group goals, adherence to norms, and meaning-making of the text. The level of scaffolding for reflection varies according to the age and experience of the students, but the assignment offers a chance to consider their own participation in the discussion as well as the group dynamics and what they learned.

b. Individual Assessment

Another option for the instructor is to include a graded assessment, possibly in addition to the reflection. The assessment may be completed at the end of the class period, as homework, or to open the following class. Assessments can range from a simple recall test of content knowledge to opportunities for application, analysis, and evaluation to demonstrate understanding.

4. Benefits and Costs of Implementing Socratic Seminars

There are trade-offs inherent in using Socratic seminars relative to other forms of pedagogy. This section looks at possible benefits and costs.

A. Benefits

The benefits can be grouped in terms of student learning and classroom community.

Benefits to Student Learning

The life cycle of a Socratic seminar provides students with an opportunity to make greater meaning from a challenging text (Keegan, 2013). Seminars are student-centered (Polite & Adams, 1997; Strong, 1997), giving agency to the learner in the knowledge acquisition process. Because students are tasked with leading the discussion, Socratic seminars promote a high level of intellectual discourse by encouraging students to paraphrase their colleagues, take turns in conversation, defer to others, and manage frustration with opposing viewpoints (Tredway, 1995; Polite & Adams, 1997). Copeland (2005) identifies mutual inquiry and collaboration as additional positive attributes. Downing (1997) shows that the seminar provides coaching in oral skills and small-group processes that enable meaningful conversations about ideas. Lambright (1995) notes that seminars are based on divergent thought processes rather than converging on a single answer. This promotes critical thinking skills (Tredway, 1995; Perkins, 1993; Copeland, 2005; Polite & Adams, 1997; Downing, 1997) such as explanation, use of evidence, generalization, application of concepts, creation of analogies, and new representations. There may also be benefits to enhancing interest in learning (Polite & Adams, 1997), creativity (Copeland, 2005), and in concentrating attention on a text (Downing, 1997). In short, a Socratic seminar packs a strong punch in terms of active student learning to rival other types of discussion and learning strategies. In an economics classroom, these discussions can enable students with a range of skills to illustrate Henry Hazlitt's 1946 dictum that, "The art of economics consists in looking not merely at the immediate but at the longer effects of any act or policy; it consists in tracing the consequences of that policy not merely for one group but for all groups."

Social Benefits

While Socratic seminars are discrete events, there are benefits to classroom relationships and dynamics that can last beyond the class period of the discussion. Kohn (1994) writes that, "Students acquire a sense of significance from doing significant things." A seminar can benefit the economics classroom by developing skills in conflict resolution, building community, and academic engagement. The seminar enables students to engage in conflict with others' ideas in a safe and controlled space, and for groups to work out solutions without significant adult intervention. By collaborating with their whole class, including the observer group, students work on team-building skills (Copeland, 2005). Additionally, there is some evidence for increased engagement and motivation for students who experience the seminar: Koellner-Clark et al. (2002) found increased interest in math curriculum, Castell and Bridges (2007) showed greater engagement relative to lecture-based teaching, and Roberson (2013) notes that Socratic seminars can increase academic rigor alongside "a student-focused and student-driven construct, opportunities for experiential thought, and shared discussion, all of which contribute to increased motivation" (p. 70). Tredway (1995) discusses the interaction of academic and social benefits as well, noting that discussion texts give opportunities to explore relationships and build maturity.

B. Costs

There are limitations for teachers to consider when adding the Socratic seminar to their pedagogical repertoire. Much of the literature omits these considerations, but Downing (1997), Copeland (2005), and John Zola's Socratic seminar Workshops provide discussion of potential downsides. These include the discrete nature of the seminar, advance preparation by the teacher, considerations of special-needs students and English Language Learners, and the difficulty of facilitation.

Instruction Time

A primary consideration for teachers is that the seminar is a special event. This means that there will not be this type of discussion taking place every week or even every month. While the benefits are potent, students will not necessarily be working on these skills often. Teachers should use the seminar consistently but not frequently to preserve the unique nature of the discussion; some may feel that a one-off event does not warrant the amount of class time required to conduct a full Socratic seminar.

Preparation Time

Impositions on the instructor include preparing in advance for the discussion by choosing a text, considering an opening question, and imagining different directions the conversation could go and still meet the learning goal. While some of this work can be used with future classes, instructors will find that materials require updating and consideration for each group of students. One full Socratic seminar cycle can consume more than two hours of instructor time, taking into account preparation, discussion, critique, reflection, and grading. Additionally, some practitioners use name tags or particular classroom setups which also take time, and teachers in particularly large classes may find the seminar too unwieldy to undertake at all.

Special-Needs Students and English Language Learners

The Socratic seminar requires an instructor to be in touch with their students' abilities in a deeper way than many assignments. Teachers need to be aware of the reading level of the class and choose material to increase academic rigor while allowing them to make meaning from the text. Teachers should also consider special-needs students and English Language Learners in their classes and offer accommodations allowing them to make meaningful contributions to

the discussion at their ability levels. One possibility is to assign them as observers, particularly in the first few discussions. The number of special-needs students relative to overall class size adds another dimension of preparation to ensure that everyone is able to make consistent contributions.

Facilitation

Ensuring that conversation during the seminar flows smoothly and leads toward the learning target is a final challenge for instructors. These challenges will be unique for each classroom community; successful strategies in one year may not work with a new group. The skill set for facilitating a discussion is different from lecturing and other teacher-centered pedagogy. Teachers looking to add student-centered activities such as Socratic seminars will want to consider developing their own skills, either through preparation or deliberate practice during their first seminars. Skills to develop include asking probing questions, expanding the discussion in relation to other ideas, assuming a devil's advocate position, and maintaining group coherence (Gose, 2009). Tofade et al. (2013) propose a taxonomy of questioning that teachers can use to prepare for open-ended discussion. While many teacher-centered activities use other questioning techniques, the Socratic seminar asks instructors to focus on divergent questions that have many responses and allow for diverse viewpoints to be considered (Lambright, 1995).

Successfully incorporating Socratic seminar pedagogy into classroom practice requires the teacher to improve their skills in facilitating discussion, accommodate special-needs students and English Language Learners, and prepare their classroom and discussion content in advance. While the academic and social benefits of the seminar are large, there are costs to the instructor in preparation and class time.

5. Suggestions for Use

Economics instructors can use this section to imagine how to hold a Socratic seminar in their classrooms. Instructors should feel empowered by the format to choose challenging texts that introduce humor, add emotional depth, or seem distantly connected to the content. Seminar texts can be drawn from art and literature in a variety of formats, historical analysis, academic research, philosophical essays, current events, and more.

The examples discussed below are intended to spark further ideas; there are considerably more possibilities in the economics curriculum than expedient to list. To provide structure, the ideas below relate to the first three Council for Economic Education (CEE) Voluntary National Content Standards, (2010).

A. Standard 1: Scarcity

"Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others."

At the elementary level, meeting this standard requires an understanding of natural, human, and physical capital; the difference between wants and needs; and how preferences for goods and services shape choices. One way to use Socratic seminar to deepen thinking here is to read Shel Silverstein's 1964 book *The Giving Tree* and ask an opening question like "Is the tree giving the Boy goods that he wants or that he needs?" (While closed-ended, students can divide on the question and offer different goods for their answers. This starts discussion without additional direction.) Reading the text aloud or watching a video of the story ensures access

to the text but limits the ability to quote or refer to specific details. Note that students may introduce higher-order concepts from this and other standards – the teacher can determine the extent to which they re-focus the discussion on one standard or allow students to consider a wider array of topics related to the text.

By middle school, students should add discussions of the subjectivity and consequences of choices. One possibility for exploring this is to lead students in a survival exercise scenario where they will be asked to rank-order a series of objects in extreme situations. An example scenario (and lesson plan), set on the Moon, can be found on the website for NASA (2006). To tap into Socratic elements of the exercise, provide students with the task to complete as a “ticket” exercise and discuss as a group, starting with a “whiparound” allowing each student to identify their most (or least) important object. Follow-up with questions like “Why would your choice be preferable in the context of being in space?” This exercise helps students to think through the outcomes of their choices and illustrates subjectivity in decision-making.

For extension to high school, resource constraints and unintended consequences can be addressed by assigning a news article about a vote to cut school funding with pro forma statements by administrators or lawmakers illustrating different perspectives. For example, see Ryan (2008), which describes a cut in budgets for schools in Des Moines, Iowa. Begin by asking the group to indicate how they would vote and follow up with individuals to explain their choice. For texts with debatable topics, ensure that classroom norms are clearly posted and referred to consistently to stay focused on the issues of resource constraints and the consequences of political decisions. Higher-level concepts may arise from this topic, such as thinking on the margins, short- and long-run considerations, and resource allocation.

College students can benefit from getting back to these fundamental topics as well. A twin text activity could use Dubner and Levitt (2008) and Whitman (2007). Students can read either or both articles and discuss the opening question “Why are public policy outcomes often challenging to predict?”

B. Standard 2: Decision Making

“Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Many choices involve doing a little more or a little less of something; few choices are “all or nothing” decisions.”

To elicit discussion of costs and benefits, elementary students can read Tori Corn’s 2014 picture book *What Will It Be, Penelope?* and respond to an opening question about what Penelope gives up by having oatmeal with prunes for breakfast. The teacher can lead students to a deeper understanding of opportunity cost by asking students to consider whether she would have been better off with no breakfast at all, or if there were a change on the margin that could improve her situation. Examples from the story include having orange juice to drink or sugar for her oatmeal. Instructors may refer back to topics such as wants and needs and subjective preferences.

Middle school students can engage with the concepts in a deeper way reading accounts of individuals who leave school before graduation. A teacher may choose a text that focuses more on bullying (see the *Rookie* magazine story by “Hannah”, 2014), societal issues such as crime (such as Arruza, 2012) or economic hardship (Nadeau, 2012). These lead to questions about education as a merit good, subjectivity, intertemporal substitution, and thinking on the margins, such as “Why did dropping out make sense to Hannah at that time?”

At the high school level, students begin considering optimality and profit maximization in this standard, along with ideas such as inter-temporality, sunk costs, uncertainty, diversification and loss aversion. They may look at a historical analysis of the 1930s, such as Sennholz (1969) or Green (2013). They may discuss whether the Federal Reserve acted optimally between 1929 and 1933 or the effects of Roosevelt's New Deal. This discussion assumes prior knowledge of history as well as macroeconomic policy but could lead to fruitful discussion and a recognition of how financial markets, consumer markets, and government agencies interact. These sources have clear points of view that students can analyze as well. An opening question could ask, "What event was most responsible for starting the Great Depression?" This allows the class to generate a variety of hypotheses, discuss different actors and entities, and explore different time horizons of causal relationships.

A collegiate course introducing this topic could tackle the economic case for mitigating climate change. Pindyck (2013) could be discussed, beginning with asking, "What should the discount rate be for calculating future welfare benefits?"

C. Standard 3: Allocation

"Different methods can be used to allocate goods and service. People acting individually or collectively must choose which methods to use to allocate different kinds of goods and services."

A discussion on allocation could begin with an age-appropriate thought experiment in which a number of people are stranded in a remote environment. Texts used might include a version of Johann Wyss' Swiss Family Robinson from 1812 or an excerpt from William Golding's 1954 book *Lord of the Flies*. The ensuing seminar can begin by asking the class to offer ideas on what they should do first as a group. Throughout the discussion, the instructor can point out that the proposed actions have trade-offs and that making decisions involves considering the costs and benefits of each action. After discussing for some time, the teacher can point out that students likely worked their way through each of the three fundamental questions of economics. As phrased by the Council for Economic Education, these questions are "What goods and services will be produced? How will these goods and services be produced? Who will consume them?" This last question can be further explored by going through various allocation mechanisms, such as price, command, majority, contests, force, first-come, equality, lottery, personal characteristics, and randomness. As students get more sophisticated in thinking and reasoning, the conversation can proceed from an explanation of specific proposals to an analysis and finally an evaluation of each mechanism.

An opportunity for high school and college students in this area would be to investigate the allocation of a unique and scarce resource such as the market for human organs. Students can listen to a 2015 Planet Money podcast episode on this topic (NPR, 2015). The teacher can ask an opening question such as "What would be the most important benefit of loosening restrictions on paying for human organs?" Throughout the discussion, students should frame their responses in terms of thinking on the margin and considering the relevant opportunity costs. Students may also touch on the question of income distribution and the ways that government policy can have distributional implications through this topic.

D. Using Additional Standards

Given the epistemic uncertainty of the study of economics, the 20 content areas covered in the Voluntary National Content Standards yield a multiplicity of topics suitable for Socratic

seminars. Instructors can identify ways of eliciting conversation on any content standard through unique or interesting material from outside the textbook.

6. Future Research

The intention here is to advocate the use of the Socratic seminar discussion format in classrooms, from elementary social studies through post-secondary economics courses. There are opportunities for researchers to conduct quantitative and qualitative studies of their effectiveness in economics programs, similar to the procedures set out by Koellner-Clark et al. (2002) in mathematics, Metzger (1998) in reading, and discussed in Roberson (2013).

Evaluating the treatment in quantitative terms for an economics context may be accomplished in secondary and post-secondary courses by using the Test of Understanding College Economics (TUCE). It may be more challenging to assess the specific academic effect of Socratic seminars on younger students, whose overall social studies standards may be comprised of few economic concepts. Kalelioğlu and Gülbahar (2014) provide a model for assessing the effects of instructional techniques on academic skills.

The qualitative effects on intellectual maturity, conflict resolution and community-building are yet more challenging to determine. Researchers looking to assess these results will need to use tools of observation and ethnographic description without a clear control group. Perkins (1993), Polite and Adams (1997), and Roberson (2013) offer examples of assessing concepts such as values clarification and motivation in classroom environments.

7. Conclusion

The Socratic seminar offers economics educators an opportunity to foster authentic conversations in their classrooms. While there are points of agreement among academic economists (Kearl, Pope, Whiting, & Wimmer, 1979; Whaples, 2006), by its nature the field of economics presents ideas with significant epistemic challenges. These challenges may result from a trade-off between accuracy and simplicity, a lack of accurate or convincing data, political biases, or for other reasons. As a result, educators can use Socratic seminars to have deep, nuanced discussions on topics with multiple possible answers that require perspective-taking and thinking at the margin, both in the short-run and over longer time periods.

References

- Arruza, E. (2012). High school dropout shares his story. *WTTW News Chicago Tonight*, September 24, 2012. Retrieved from <http://chicagotonight.wttw.com/2012/09/24/high-school-dropout-shares-his-story>
- Carnevale, D. (2005). Hold a Socratic chat: A law professor teaches students at a distance. *Chronicle of Higher Education*, 16.
- Castell, M. A. & Bridges, R. K. (2007). Goodbye lecture: A student-led seminar approach for teaching upper division courses. *Teaching of Psychology*, 34(2), 107-110.
- Chowning, J. T. (2009). Socratic seminars in science class: Providing a structured format to promote dialogue and understanding. *Science Teacher*, 76(7), 36-41.
- Copeland, M. (2005). *Socratic circles: Fostering critical and creative thinking in middle and high school*. Portland, MA: Stenhouse Publishers.
- Corn, T. (2014). *What Will It Be, Penelope?* New York, NY: Skyhorse Publishing, Inc.
- Council for Economic Education (2010). *Voluntary National Content Standards in Economics*, (2nd Ed.). New York, NY.
- Downing, J. (1997). *Creative Teaching: Ideas to Boost Student Interest*. Englewood, CO: Libraries Unlimited.
- Dubner, S. J., & Levitt, S. D. (2008). Unintended consequences: The case of the Red-Cockaded Woodpecker. *The New York Times Magazine*.
- Golding, W. (1954). *Lord of the Flies*. New York, NY: Penguin Random House.
- Gose, M. (2009). When Socratic dialogue is flagging: Questions and strategies for engaging students. *College Teaching*, 57(1), 45-49.
- Gray, D. (1988). Socratic seminars: Basic education and reformation. *Basic Education: Issues, Answers and Facts*, 3(4).
- Green, J. (2013). *The Great Depression: Crash Course US History #33*. [Video file]. Retrieved from <https://www.youtube.com/watch?v=GCQfMWAikyU>.
- Gronke, H. & Haussner, J. (2006). Socratic coaching in business and management consulting practice. *Practical Philosophy*, 8(1), 28-39.
- "Hannah" [Pseudonym] (2014). *I was a high school dropout: A non-horror story*. Rookie, (30). Retrieved from <http://www.rookiemag.com/2014/02/dropping-out/>.
- Hansen, W. (2001). Expected proficiencies for undergraduate economics majors. *The Journal of Economic Education*, 32(3), 231-242.

- Hansen, W. L, Salemi, M. K., Siegfried, J. J. (2002). Use it or lose it: Teaching literacy in the economics principles course. *American Economic Review*, 92(2), 463-472.
- Kalelioğlu, F., & Gülbahar, Y. (2014). The effect of instructional techniques on critical thinking and critical thinking dispositions in online discussion. *Journal of Educational Technology & Society*, 17(1), 248-258.
- Kearl, J. R., Pope, C. L, Whiting, G. C., & Wimmer, L. T. (1979). A confusion of economists? *American Economic Review*, 69(2), 28-37.
- Keegan, N. (2013). *Socratic seminar and creating prior knowledge*. Library Media Connection, 32(3), 50-51.
- Knežić, D., Wubbels, T., Elbers, E., & Hajer, M. (2010). The Socratic dialogue in teacher education. *Teaching and Teacher Education*, 26(4), 1104-1111.
- Koellner-Clark, K., Stallings, L. L., & Hoover, S. A. (2002). Socratic seminars for mathematics. *Mathematics Teacher*, 95(9), 682-687.
- Kohn, A. (1994). *The truth about self-esteem*. Phi Delta Kappan, 76(4), 272-283.
- Lambright, L. (1995). Creating a dialogue: Socratic seminars and educational reform. *Community College Journal*, 65(4), 30-34.
- Le, K., & DeFilippo, C. (2008). Little philosophers. *Educational Leadership*, 66(2), 66-69.
- Mangrum, J. R. (2010). *Sharing practice through Socratic seminars*. Phi Delta Kappan, 91(7), 40.
- Mee, M. M. (2000). *A case of three seventh-grade students' perceptions of the influence of one form of Socratic seminar on their motivation for learning*. Dissertation Abstracts International, 61(62), 4663.
- Metzger, M. (1998). Teaching reading. *Phi Delta Kappan*, 80(3), 240-247.
- Nadeau, B. L. (2012). Italian dropout rates feed a vicious cycle. *The Daily Beast*, September 6, 2012. Retrieved from <https://www.thedailybeast.com/italian-dropout-rates-feed-a-vicious-cycle>
- Nappi, J. S. (2017). The importance of questioning in developing critical thinking skills. *Generational Issues for Educators*, 84(1), 30-41.
- National Aeronautics and Space Administration. (2006). *Survival! Lesson Exploration: Then and Now*. Retrieved from <https://www.nasa.gov/stem-ed-resources/jamestown-survival.html>
- National Public Radio (2015, Oct. 28). Your organs, please. *Planet Money Podcast*, Episode 518. Podcast retrieved from <https://www.npr.org/sections/money/2015/10/28/452655987/episode-518-your-organs-please>
- Perkins, D. (1993). Teaching for understanding: To memorize and recite or to think and do. *American Educator*, 17(3), 29-33.

- Pihlgren, A. (2007). The features of Socratic seminars. *The 13th International Conference on Thinking, Norrköping, Sweden, 1(21)*, 159-165.
- Pindyck, R. (2013). The climate policy dilemma. *Review of Environmental Economics and Policy* 7(2), 219-237.
- Polite, V. C., & Adams, A. H. (1997). Critical thinking and values clarification through Socratic seminars. *Urban Education, 32(2)*, 256-278.
- Roberson, B. N. (2013). *Motivation towards learning perceived in Socratic seminar versus traditional lecture*. ProQuest Dissertations Publishing, 3558400.
- Ryan, M. (2018, Feb. 2). Des Moines schools braces for \$11 million in cuts. *Des Moines Register*. Retrieved from <https://www.desmoinesregister.com/story/news/education/2018/02/02/des-moines-public-schools-prepares-11-million-cuts/1088029001>
- Salemi, M. K. (2005). Teaching economic literacy: Why, what and how. *International Review of Economics Education, 4(2)*, 46-57.
- Salemi, M. K., & Siegfried, J. J. (1999). The state of economic education. *American Economic Review, 89(2)*: 355-361.
- Sennholz, H. (1969). *The Great Depression*. The Foundation for Economic Education. Retrieved from <https://fee.org/articles/the-great-depression>
- Silverstein, Shel. (1964). *The Giving Tree*. New York, NY: HarperCollins Publishers.
- Strong, M. (1997). *The habit of thought: From Socratic seminars to Socratic practice*. Chapel Hill, NC: New View Publications.
- Tofade, T., Elsner, J., & Haines, S. T. (2013). Best practice strategies for effective use of questions as a teaching tool. *American Journal of Pharmaceutical Education, 77(7)*, 155.
- Tredway, L. (1995). Socratic seminars: Engaging students in intellectual discourse. *Educational Leadership, 53(1)*, 26.
- Whaples, R. (2006). Do economists agree on anything? Yes!. *The Economists Voice, 3(9)*, 1-6.
- Whitman, G. (2007). *Slavery, snakes, and switching: The role of incentives in creating unintended consequences*. Library of Economics and Liberty. Retrieved from <http://www.econlib.org/library/Columns/y2007/Whitmanincentives.html>
- Wiggins, A. (2011). Not teaching ethics. *Phi Delta Kappan, 93(1)*, 33-35.
- Woolever, R. (1987). A new framework for developing classroom questions. *Social Education, 51(6)*, 407-408.
- Wyss, J. D. (1812). *The Swiss Family Robinson*. (J. Seelye, Trans.). London, England: Penguin Classics).
- Yang, Y. C., Newby, T. J., & Bill, R. L. (2005). Using Socratic questioning to promote critical thinking skills through asynchronous discussion forums in distance learning environments. *American Journal of Distance Education, 19(3)*, 163-181.

Zola, J. (2016). *Teacher support material*. John Zola Socratic Seminar Workshops. Retrieved from <http://www.johnzola.com>