AAPT Studies in Pedagogy 5 (2019): From Research to Learning
DOI: 10.5840/aaptstudies201912642

Scaffolding for Fine Philosophical Skills

Russell Marcus
Hamilton College

Abstract: Philosophy students often struggle to master the complex skills needed to succeed in their work, especially in writing thesis-driven essays. Research over the past forty years on instructional scaffolding, both generally and as applied in philosophy, has helped teachers to refine both instruction and assignment design to improve students' performance on complex philosophical tasks. This essay reviews the fundamentals of scaffolding in order to motivate and support some innovative in-class exercises and writing assignments that can help students develop even finer-grained skills. These skills are useful both intrinsically and for their transfer to longer-form essays, to other philosophical work, and to the general academic and intellectual development of our students.

Philosophical Skills and Challenges in Teaching Them

Good philosophy is deceptively complex. It can look simple enough to those of us with training and experience, and from a certain level of abstraction, it is simply described: We engage in discussion largely directed at improving our production of that *sine qua non* of philosophical writing, the thesis-driven essay. Whether we understand philosophy to be a search for truth or a method of argument, whether we are teaching traditional essays or broadening to films or literature or tweets, whether we want our students to continue studying philosophy or merely to learn some transferable skills in their short time with us, we generally have them reading and discussing extended defenses of claims. What views do the authors defend? How do they defend them? Are their arguments convincing?

When it comes time for our students to write about philosophy, we naturally ask them to emulate their assigned readings: present a thesis and defend it. Our attempts to encourage students to write thesis-driven essays, though, often are not as successful as we would like. We present philosophy as a great conversation and invite them to participate, asking them to stand on even ground with the best arguments from the best philosophers. But then we find their work too often

ISSN 2380-4076

disappointing. When they do not present introductory passages with a clear thesis, we complain. When they write detective philosophy, with the thesis only at the end (often as a latent artifact of an attenuated writing process), we complain. When they write theses that are too strong and overreaching, we complain. The core problem may be that the tasks we are assigning are difficult and complex, presuming skills that students have not yet acquired.

One common solution is to have students journal their responses to readings, writing freely about their thoughts and associations and reactions. This is an excellent approach to getting students loose and thinking. But the final results can be difficult to read or evaluate. More importantly, it is not clear how journaling gets students closer to producing, refining, and defending theses.

Another common solution is the compare-and-contrast essay. Here, the teacher reduces the pressure on students by asking them to act merely as referee or judge, evaluating competing claims but not forced to develop much of their own: "John Locke and René Descartes disagree about innate ideas, and Descartes's arguments are more convincing." Or, more ambitiously, "Immanuel Kant shows that J. S. Mill's utilitarianism is not the correct standard for morality, but I have some suggestions about how to improve Kant's moral philosophy." Such assignments can be effective, and our students can often develop sophisticated responses to difficult source material. But they are often cowed by even these challenges, and who among us has not giggled at the arrogance of a 19-year-old trying to show where Kant got it all wrong?

Moreover, there are other kinds of philosophical skills that we want to inculcate. We want students to be able to discuss complex problems and puzzles carefully and reasonably. We want them to listen to the arguments that others present, and to hear them. And we want them to be open-minded and to shed the dogmatism that many of us develop naturally.

In short, our students are often overwhelmed and dispirited with the challenge to work in sophisticated ways with their assigned readings and to write defenses of theses like those of their models. We teachers are often overwhelmed and dispirited managing their discussions and reading their work. Assignments that could cultivate the skills to support more productive conversations and better thesis-driven essays would be useful. Such assignments should be manageable for students and help them develop skills early in their studies of philosophy so that they will be in better positions to do better work later in their careers. Ideally, these skills should transfer to a wide range of other challenges our students will face later.

In this essay, I argue that we can take a lesson from learning theory on effective procedures for scaffolding skills for philosophy and beyond. I begin with a review of the research on scaffolding and its application in philosophy. This research shows the need for more careful attention to the fine skills needed to develop philosophical ability. Then, I present some model in-class group activities and individual writing

assignments that can scaffold philosophical skills at a more fine-grained level than has been discussed in the literature. As experts, we philosophy teachers may have learned these skills without explicit instruction. We may have internalized the skills so that we can use them effortlessly and without reflection. I show that, as teachers, we can refine our instruction to help our novice students to develop the skills that, as experts, we may neglect to notice that we use all the time.

Scaffolding and the Zone of Proximal Development

Since its introduction into educational theory in the 1970s, the concept of scaffolding in instruction has been widely explored and developed.[1] Scaffolding is designed to provide students with just the right challenges to empower them to acquire skills and to help them to take responsibility for their own future learning.[2]

Scaffolding may be contrasted with instructing, where teachers disseminate facts or model behaviors to be imitated. Teachers who scaffold facilitate learning in others by presenting them with developmentally appropriate challenges.[3] Such challenges will allow students to develop rather than regurgitate or mimic.[4] Ideally, the scaffolding teacher adjusts instruction dynamically, presenting more sophisticated and complex tasks as students master the simpler ones, avoiding the frustrations of moving too fast while fostering the excitement of using new skills.

Scaffolding may also be seen as a contrast to what we might call duh Brooklyn method of instruction, one which is all too common in higher education:

> Duh way I loined, me older bruddeh pitched me off duh dock one day when I was eight yeahs old, cloes an' all. 'You'll swim,' he says. 'You'll swim all right—or drown.' An', believe me, I *swam*![5]

Interest in scaffolding was buttressed by its connection to Lev Vygotsky's concept of the zone of proximal development (ZPD) starting in the late 1970s.[6] As is now well known, Vygotsky defined the zone of proximal development as "[t]he distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers."[7]

Vygotsky recognized that we cannot learn what we are not ready to learn. Some concepts or skills are in our ZPD because we are ready to obtain them now. Some concepts or skills are too difficult for us to obtain at the moment; we have to develop to a point at which we can grasp them. As Vygotsky puts it, "What is in the zone of proximal development today will be the actual developmental level tomorrow—that is, what a child can do with assistance today she will be able to do by herself tomorrow."[8]

Vygotsky's counsel might be seen as an extension of an earlier thinker. In the *Discourse on Method*, Descartes describes his approach as dividing "each of the

difficulties I examined into as many parts as possible and as may be required in order to resolve them better."[9] In "Rules for the Direction of the Mind," Descartes says, "The whole method consists entirely in the ordering and arranging of the objects on which we must concentrate our mind's eye if we are to discover some truth. We shall be following this method exactly if we first reduce complicated and obscure propositions step by step to simpler ones, and then, starting with the intuition of the simplest ones of all, try to ascend through the same steps to a knowledge of all the rest."[10]

The lesson here is simple: teachers can effectively help students to acquire skills by giving them tools that they are ready to use to develop in ways that they are ready to develop. We should determine what content or skills our students are ready to acquire; we should provide crafted, restricted activities that will allow our students to grow or develop in specific ways; and we must be careful not to overwhelm students with assignments that are too complex or difficult.

It is essential to good scaffolding to recognize the difference between short assignments and simple or easy ones. A short task may be quite difficult and outside our students' ZPDs. Writing a 250-word summary of Baruch Spinoza's concept of substance, for example, is a short assignment that requires a lot of background knowledge. In contrast, a simple task may be of any length. Asking students to copy out important passages, in their own hands, is surprisingly effective in helping them to read carefully and requires no prior expertise or philosophical training.

In the next few sections, I demonstrate how to use awareness of the ZPD in order to help philosophy students to develop important and transferable skills, some quite simple and basic. Such skills will help with more complex philosophical tasks, including sophisticated discussion and thesis-driven essays.

One note of caution before we proceed: scaffolding was developed in the context of tutoring young children, one-on-one, when an adult can assess the individual competencies of the learner and respond precisely and dynamically to the learner's needs. Vygotsky's work on the ZPD was developed in the context of advancing collectivism and historically based consciousness.[11] Any application of the work on scaffolding and the ZPD to classroom settings, especially large classroom settings, tends to violate important core principles, since as a matter of practicality we must, in groups, abandon direct, dynamic, individualized instruction.[12] Students in our classes all have different ZPDs and so all require different particular prompts and exercises. Recent work on implementing scaffolding using technology that can be more sensitive to individualized needs may help bring classroom instruction together with scaffolding and the ZPD as originally conceived.[13] The use of technology in instruction, though, brings its own problems, especially in philosophy where conversation is important. Still, we can strive to maintain some core ideas of scaffolding through the ZPD, insofar as they entail dividing larger problems into

smaller ones and facilitating our students' acquisition of simple, transferable skills that can be combined for more complex tasks.

Scaffolding Philosophical Skills

Philosophers writing about scaffolding agree that philosophical instruction should be aimed at the second of these two key aspects of scaffolding, helping students to develop skills, rather than merely to acquire knowledge of philosophical content. John Rudisill characterizes the emphasis on developing skills over delivering content as the difference between studying philosophy and doing philosophy:

> By "studying philosophy" I mean, primarily, acquiring knowledge about the history of philosophy. A student merely studies philosophy when she limits herself to acquiring answers to questions like: "in what century and locale did a particular philosopher live?"; "what theses did a particular philosopher defend?"; "what prior or competing philosophical claims did a particular philosopher reject?"; and "what biographical, cultural, or intellectual influences help explain a particular philosopher's commitment to some thesis?" . . . A student who "does philosophy" is a student who, in a self-directed way, exercises a set of intellectual skills in the service of reaching greater clarity with respect to a broad range of issues. Included among this range of issues are those of how to best understand certain concepts and the logical relationships between (and, sometimes, metaphysical implications of) various concepts. . . . Mere content knowledge will be of limited value while philosophical skill will be of tremendous worth.[14]

Helping our students to acquire transferable skills will have more tangible benefits than having them learn some facts. Such skills are useful to them and attractive to deans and parents.

But we can do better on the first aspect of scaffolding, analyzing complex tasks into simple ones. Philosophers writing about scaffolding tend to confound the short and the simple, focusing on assignment length instead of level of difficulty: write some shorter essays and then combine them into longer ones. Cynthia D. Coe, for example, shares the goal of developing philosophical skills, which she characterizes as "comprehending difficult texts, analyzing the arguments contained in those texts, evaluating those arguments, presenting an original claim about the ideas, and defending that claim with a well-organized argument of [one's] own."[15] She rightly looks to divide the large task of constructing a thesis-driven essay into component parts, "picking apart the individual skills that make up our ability to formulate an argument."[16] And she nicely grounds her work in Bloom's taxonomy: remembering, understanding, applying, analyzing, evaluating, and creating.[17] But Coe tends to use length of assignment as a proxy for simple skills.[18]

Jennifer Wilson Mulnix and Michael Mulnix describe assigning a term-long writing portfolio, including some excellent developmental activities.[19] They begin

by having students free write their opinions about some current controversy (e.g., animal rights, affirmative action). Then, students put those opinions into argument form, rewrite their essays, and work in groups to refine their arguments. Eventually, students integrate responses to external sources and again work with their peers. Finally, they write about the process and how their work has developed through the various drafts. While this process may evoke the Brooklyn method of instruction (you'll write, alright!), students in such classes benefit from the structure that requires them to return repeatedly to the same essay, improving and refining it through drafts, and from the metacognitive reflection at the end.[20]

Rudisill and Kate Padgett-Walsh, Anastasia Prokos, and Sharon R. Bird present scaffolding toward semester-long research papers. Rudisill describes a junior-level class aimed at supporting independent research. As might be expected, students struggle to manage a large project effectively. Rudisill and his colleagues developed a structure aimed at inculcating a familiar set of philosophical skills: interpretation and analysis, argumentation, philosophical knowledge and methodology, and communication.[21] The salutary assignments they developed are:

1) Writing a prospectus for an already-existing article, with the hope that students can use what they learned to plan their own prospectus.
2) Critically assessing some serious metaphilosophy in order to reflect better on their own work and its philosophical content.
3) Writing a critical assessment of a philosophical essay before comparing their work to a published response to the same essay.
4) Constructing a critical response to an essay as if they were presenting a commentary at a conference, to prepare them to read and assess each other's work.
5) Developing a list of sources for their research.
6) Choosing an article, central to their own research, to be discussed in class.
7) Presenting their research in class and commenting on the research of others.

These are all clearly worthy tasks, and students working on their own research would be well served to do them all. Still, some more rudimentary skills are presumed.

Padgett-Walsh, Prokos, and Bird foster various skills, including proposing and narrowing a topic, explaining and analyzing a specific debate, evaluating positions within the debate, responding to objections, and revising sections.[22] To achieve these goals, they use a series of writing assignments, including repeated opportunities for serious revision, peer writing groups, and opportunities for metacognitive reflection on the process.

All of the scaffolding activities discussed in this section are worthy, and students who do them are often well served. But proper scaffolding should be graduated,

from the most elementary aspects of a larger task to the most robust. Failures to provide fine enough support can lead to frustration and missed opportunities.[23] By developing simpler, and not just shorter, assignments and activities, we can help our students to develop more fine-grained skills, ones that are more securely in students ZPDs and that support all kinds of more complex philosophical activities.

New Scaffolded Assignments for Fine Philosophical Skills

This extended section includes a wide range of examples of activities that are generally more fine-grained and so more apt to help students develop the skills they need to proceed to more sophisticated work like writing a research paper. In order to give a broad view of the possibilities (and due to the way in which I like to spiral assignments for skill development), they are not presented here in the order I would use them in a course.[24] Instead, they are divided into four groups and presented in four sections: Extracting Arguments, Fostering Dialogue, Developing a Thesis, Putting it All Together.

Some skills that philosophy students need are best done as individual exercises (e.g., writing tasks), while others are more effectively developed using collaborative activities. Thus, some of the tasks that I present here are individual writing activities, and some are group discussion activities. The group activities were developed for classes taught using team-based learning (TBL) and so naturally emphasize the development of skills, rather than the acquisition of philosophical content.[25] All of the assignments here, whether individual writing tasks or in-class group activities, have been used effectively, mostly in either a sophomore-level History of Modern Western Philosophy or an introductory course, Infinity.

Extracting Arguments

It might seem that the simplest philosophical task is to identify a single argument, perhaps separating premises from conclusions. But even this simple task requires understanding basic philosophical concepts. Students can become adept at parroting jargon without attaining a really good grasp of the concepts involved, one that could allow them to use them in original contexts or to instantiate and illustrate them concretely. We can help students to improve their understanding of concepts by connecting abstract philosophical jargon with familiar cases, as I do in this in-class activity on Aristotle's categories.

In-Class Team Activity on Illustrating Abstract Concepts: Aristotle and Being in Many Ways

Aristotle says that being is said in many ways. These many ways are called the categories.

> Of things said without any combination, each signifies either substance or quantity or qualification or a relative or where or when or being-in-a-position or having or doing or being-affected. (*Categories* §4, 1b.25–27)

Compare the list of Aristotle's ten categories, on the left, with the concrete illustrations on the right.

____ 1. Substance
____ 2. Quantity
____ 3. Quality
____ 4. Relation
____ 5. Where
____ 6. When
____ 7. Being-in-a-position
____ 8. Having
____ 9. Doing
____ 10. Being affected

A. The set of prime numbers less than ten is five-membered.
B. The Video Music Awards are in Inglewood, California.
C. Inglewood is south of Hollywood.
D. You are basking in the glow of the fluorescent light.
E. Kendrick Lamar is six times as winning as Ed Sheeran this year.
F. Lady Gaga is wearing a lobster hat.
G. Khalid is a man.
H. You are reading this sentence.
I. Katy Perry is a blonde now.
J. The Video Music Awards are in August.

First, individually, match each category on the left with one illustration from the right. Then work toward consensus on a set of team choices.

The astute reader will notice that the correlations above are not categorical; variations may be defended fruitfully in discussion. This is not a graded activity, so students are not overly anxious about alternative responses or getting it wrong. In teams, such activities are ordinarily done in two stages. First, students make specific choices individually. Then they collaborate, working toward consensus. Some time in class devoted to the differences between voting and working toward consensus is profitably spent, as is reinforcing the importance of working toward consensus.

Once students have some facility understanding concepts, I have them start to write about simple arguments. Assigned readings typically contain an overwhelming onslaught of various arguments. Students have to learn to identify individual arguments before they can figure out how they fit together. The first writing I assign my introductory class involves extracting a single argument from a philosophical text. We start with Plato's Allegory of the Cave, discussing together both the content and two different ways of presenting it in writing. I call these distinct writing forms a précis and an abstract. Since my uses of these terms are somewhat idiosyncratic, I include here the models I provide my students. I have the students write up to three précis, one for each subsequent class period, until they get the hang of it.

Writing Assignment: Précis and Abstracts

The précis is a short expository writing exercise. The topic for your précis should be any argument in the reading assigned for the day. Find a single argument and present it clearly, indicating relevant assumptions. Explain the conclusion. A précis need not discuss every aspect of a reading; it is not a comprehensive summary. A précis should focus narrowly on the details of a single argument.

Be sure to write précis and not abstracts. These are two distinct writing forms, both aimed at summarizing or encapsulating a longer argument. A précis distills an argument to just its core details. In a précis, as in the full version of the argument, the author defends a thesis. When you write a précis, you put yourself in the author's place and present their work as if it were yours.

An abstract, in contrast, is a way of talking about an argument. The author of the abstract "goes meta" by stepping outside of the argument and describing it. In writing an abstract, you tell the reader what thesis the original author defended and on what grounds. You do not actually argue for the thesis or the premises.

This difference between performing an act (a précis) and describing the act that you perform (an abstract) should be easy to grasp, in principle. In philosophy, it is sometimes difficult to see. You might think about the difference between the roles of Socrates and Plato in Plato's dialogues. Plato writes about the arguments, but Socrates does the arguing.

Below are both a précis and an abstract on Plato's Allegory of the Cave. I have written both. You should be able to figure out which is the précis and which is the abstract.

In "The Allegory of the Cave," Plato argues that human beings are prisoners to their sense experiences, misled by the vibrancy of our sensory lives into thinking that the world we experience is the real world. In contrast, Socrates argues, by analogy, that the objects we perceive by the senses are mere shadows of a real world which is perceivable only by our intellects. In the allegory, Plato describes prisoners who are chained so that they can see only shadows, projected on a wall by puppeteers with the sun, which represents the good, behind them. A prisoner who is unchained and who turns around to see the puppeteers, he argues, can be blinded temporarily by the sun and so fail to see the true world. Socrates says that once such former prisoners become accustomed to reality, they will not want to return to the world of shadows, to a belief that the world we perceive with our senses is the real world.

Many people, in trusting their senses as the most reliable source of knowledge, fail to see the real world of the intellect. We are like prisoners in a cave, chained so that we can see only shadows on a wall, projected by puppeteers with the sun behind them. We are so accustomed to believing our sense experiences that we resist the notion that the real world is somehow behind, perhaps causing, what we perceive, just as the prisoners refuse to believe that there is a reality behind the shadows, causing them. If prisoners are unchained and turn toward the sun, which represents the good, they will be temporarily blinded. But once the prisoners become accustomed to seeing the light, they will not want to return to the world of shadows, or sense experiences.

The following individual writing assignment has been incomparably salutary for my students. It is longer than the précis and also more complex, since it presumes abilities both to identify conclusions and to illustrate abstract concepts. I provide a sample, which I wrote, on a key passage in Meditation Five of Descartes's *Meditations*. Then, I give students some choices to illustrate themselves.

Asking students to illustrate originally forces them to think more concretely and personally about the course material. In the courses I teach, we spend a lot of time on pretty abstract and abstruse concepts: the nature of substance, the necessity of causation, the structure of the continuum. Real understanding of these concepts can be outside students' ZPDs, too distant from their own lives to make much sense to them. When students make connections between these concepts and their own experiences, the course material comes alive for them. I can start

to see their honest, candid, personal selves in their work. And the course becomes increasingly meaningful for them.

Writing Assignment: The Illustrative Exposition

Philosophical readings tend to be dense and abstract. Good writing about philosophy is thus often explicative. Instead of assimilating a variety of sources, we often explore and expand on a very few, even a single one. The illustrative exposition is a 400- to 600-word explanation of one of five quotations from our readings given below. You should explain and illustrate abstract concepts, making sure that they are clear and meaningful to you and your reader.

In illustrating your chosen quotation, you may explain the context of the quotation, the importance of the quotation, or the meanings of particular words. Use original, concrete examples. Strive for balance between faithful charity and originality. This is not an exercise in critical evaluation but in careful interpretation. Feel free to refer to other aspects of the work of the author whose quotation you are assigned, or to other work we have studied.

A Sample Illustration

> I think the most important consideration at this point is that I find within me countless ideas of things which even though they may not exist anywhere outside me still cannot be called nothing; for although in a sense they can be thought of at will, they are not my invention but have their own true and immutable natures. (Descartes, Meditation Five)

In the First Meditation, Descartes doubts the propositions of mathematics. There could be a deceiving God who makes me believe even the claims about which we are most confident, like mathematical or logical claims. Claims like "two plus three is five" and "the tangent to a circle intersects a radius of that circle at a right angle" seem to be among our most secure beliefs. But the deceiver could make me believe that they are true when they are false. Even the feeling of surety I have when thinking about such claims could be a false idea placed in my mind.

In the Third and Fourth Meditations, Descartes argues that there is a benevolent God who does not deceive us, eliminating the source of doubt in mathematical claims. Here in the Fifth Meditation, then, Descartes returns to the question of whether we can know mathematics. He points out that mathematical claims hold even if we never see (or otherwise experience)

perfect mathematical objects. Even if numbers or circles do not, "exist anywhere outside of me," we still know about them.

Still, there are lots of ideas which I can know easily and well. I know of the bitter taste of a lemon, even if there are no real lemons. I know of the pleasing sounds of Charles Mingus's "Goodbye Porkpie Hat" and the inspiring colors of Piet Mondrian's "Broadway Boogie Woogie." But such knowledge is different from mathematical knowledge. It is sensory knowledge, and I know that even if the lemons and songs and paintings really do exist, my experiences of them are really at least in part about me. Other people might not find Mingus so pleasing or see the same colors in the Mondrian. One might even think of my experiences as "my invention," as Descartes says, or at least as the result of my interactions with the world.

Mathematical objects are different, though, since they have their own, "true and immutable natures." I do not invent mathematical claims. Everyone who knows addition knows that two and three are five. Everyone who knows geometry knows that the tangent to a circle intersects the radius at a right angle. Even if we have not yet learned the truth of those mathematical propositions, or others, they are the kinds of claims that we discover, rather than invent. They do not require our participation in the world to be true. They are independent of me. Descartes concludes that our knowledge of mathematics is innate, discovered by reflection on our minds, and secure.

Descartes's view could be questioned by people who believe that mathematics is invented, and not discovered. If people of different cultures, perhaps even alien civilizations, have different mathematical beliefs, Descartes's argument that mathematics is not invented would be undermined.

Sample Quotations for Illustration

1) The world (I mean not the earth only, that denominates the lovers of it "worldly men," but the universe, that is, the whole mass of all things that are) is corporeal, that is to say, body, and has the dimensions of magnitude, namely, length, breadth, and depth. Also every part of body is likewise body, and has the like dimensions, and consequently every part of the universe is body; and that which is not body is no part of the universe. And because the universe is all, that which is no part of it is nothing, and consequently nowhere. (Hobbes, *Leviathan* §I.46)

2) When a body is once in motion, it moves (unless something else hinders it) eternally; and whatever hinders it cannot in an instant, but in time and by degrees, quite extinguish it. And as we see in the water, though the

wind ceases, the waves do not give over rolling for a long time after, so also it happens in that motion, which is made in the internal parts of a man, then, when he sees, dreams, etc. (Hobbes, *Leviathan* §I.2)

3) By substance I mean that which is in itself and is conceived through itself; that is, that the conception of which does not require the conception of another thing from which it has to be formed. (Spinoza, *Ethics* 1d3)

4) If a stone falls from a roof on to someone's head and kills him, they will argue that the stone fell in order to kill the man. For, if it had not by God's will fallen with that purpose, how could so many circumstances (and there are often many concurrent circumstances) have all happened together by chance? Perhaps you will answer that the event is due to the facts that the wind was blowing, and the man was walking that way. "But why," they will insist, "was the wind blowing, and why was the man at that very time walking that way?" If you again answer that the wind had then sprung up because the sea had begun to be agitated the day before, the weather being previously calm, and that the man had been invited by a friend, they will again insist: "But why was the sea agitated, and why was the man invited at that time?" So they will pursue their questions from cause to cause, till at last you take refuge in the will of God—in other words, the sanctuary of ignorance. (Spinoza, *Ethics*, 1 Appendix)

5) The order and connection of ideas is the same as order and connection of things. (Spinoza, *Ethics* 2p7)

Finally, on extracting an argument, I ask students to identify and represent longer chains of reasoning, to find the main thread of an argument in a primary source. While we tend to curate readings for our students, especially in their early stages of studying philosophy, it is still often difficult for our students to focus on the key aspects of an argument in sophisticated philosophical writing. One of the joys of studying philosophy with undergraduates is their ability to see everything we read with fresh eyes. But they can miss the forest for the trees or believe that they are in the Adirondacks when we are supposed to be in Yellowstone.

As with 'précis' and 'abstract,' my name for this writing task (exegesis) may be idiosyncratic. At this stage, I am trying to help students to hone their skills at exposition by avoiding the temptation to engage in critical analysis. Excellent charitable interpretations of original sources can only be achieved if students persist in focusing on what the author is arguing and resist the impulse to evaluate. Original illustration is welcome here, but alternative solutions to a problem are not.

Writing Assignment: The Exegesis

The topic for your exegesis should be an original exegesis of any of the readings on Cantor's Paradox/Theorem in Classes 13 or 14. This is not a rhetorical, argumentative paper. It is an exercise in careful interpretation and clear exposition. Unlike the précis, in which you were asked to focus on a single argument, your exegesis should represent the central, overarching ideas of the target reading and may cover several different arguments. You may focus on the context (how Cantor's work might be seen as a response to traditional questions or problems about infinity); the tools Cantor uses, especially one-one correspondence; the diagonal lemma, and its various manifestations; Cantor's use of set theory and how it relates to mathematics more generally; or the proof of the theorem itself. Some exegeses will be more mathematical, while others will be more philosophical. All exegeses should be made your own in part by the use of lively, original, illustrative examples.

Notice that all of the activities in this section are designed to help students to build their abilities to understand and represent what others have said. In the next section, I move on to fostering skills of responding to arguments, though not yet to developing students' own theses.

Fostering Dialogue

Before students start to develop their own theses, even the relatively weak theses in typical compare-and-contrast essays, it is useful to have them understand and represent the conversations of others. One simple way to begin to understand philosophical dialogue is just to have them ask questions. We can help our students to improve even this simple activity by giving them practice in briefly contextualizing their questions and in distinguishing between real questions and disguised arguments framed as questions. In class, my efforts toward these ends tend to be more dynamic than structured, but I also provide opportunities for students to work on their question skills in the individual writing assignment here. Note that I continue to encourage original illustration in this and all subsequent writing assignments.

Writing Assignment: The Colloquium Question

The writing assignment for the end of Units 4 and 5 is a 400- to 600-word colloquium question. Philosophical colloquia take various forms; we will imagine a common structure which begins with the presentation of an

author's paper, arguing for a view. After the presentation, which often is just the author reading their paper, the floor is open for questions from the audience. Questions often begin with a restatement of some aspect of the author's argument ("Let me see if I got you right. You said . . ."). Call that aspect the target of the question. Then, the audience member may present their impression of the target ("I'm worried that . . ." or "This seems wrong to me . . ." or "Even though I agree with that, some other philosophers deny that . . ."). Lastly, the audience member will frame a question about the target, sometimes based on their own views, sometimes based on the work of others.

Your colloquium questions should contain the following elements:

1) Present, as your target, some aspect of an argument about the self, which we read in Unit 4, or some aspect of some argument about free will, which we read in Unit 5. Try not to choose too large a premise or argument as your target. Do try to show, briefly, the importance of the target premise or argument to the author's broader view.

2) Frame the target by using the text of the primary source. Some brief further context for the quotation will be useful.

3) State your concern about the target argument or premise. Here, you may rely on the work of others; you need not develop your own objections, though you may do so. Make sure to show clearly how your concern is precisely connected to the target premise or argument.

4) Finally, ask a succinct question.

As always, the central goal of this assignment is to hone your skills at interpretation and evaluation of philosophical texts. Read the source text carefully, and make your question precisely about it. Original illustration is welcome, as usual.

While it is important to separate asking questions from presenting objections, the former is often a way to begin to develop the latter. We can help students start to develop objections by giving them practice in interpreting the scope of an objection, as in David Hume's famous argument about causation.

In-Class Team Activity on Understanding Objections: Hume on Effects and Causes

Hume raises a problem for our understanding of the relations between effects and their causes:

> The effect is totally different from the cause, and consequently can never be discovered in it. Motion in the second billiard ball is a quite distinct event from motion in the first, nor is there anything in the one to suggest the smallest hint of the other. A stone or piece of metal raised into the air and left without any support immediately falls. But to consider the matter *a priori*, is there anything we discover in this situation which can beget the idea of a downward rather than an upward or any other motion in the stone or metal? . . . When I see, for instance, a billiard ball moving in a straight line towards another, even suppose motion in the second ball should by accident be suggested to me as the result of their contact or impulse, may I not conceive that a hundred different events might as well follow from that cause? May not the first ball return in a straight line or leap off from the second in any line or direction? All these suppositions are consistent and conceivable. (Hume, *Enquiry*, §IV.1)

Given any new or unfamiliar phenomenon, what conclusion does Hume believe we should draw?

A. Despair; we have no idea what is going to happen.
B. We should reflect on past experiences to find similar cases from which to judge.
C. We should use pure thought to choose wisely among the options.
D. We should perform experiments with like objects so that we can predict better what will happen.
E. We should read more Descartes and Spinoza.

First, choose the proper lesson from Hume on your own. Circle its letter. Then, work with your team to consensus on a best Humean approach.

The task of understanding the scope of an objection might be easier when looking at the interactions between two different philosophers, as I ask students to do in the next activity on George Berkeley's criticism of Locke's doctrine of abstraction. This kind of task is especially useful because we tend to assign readings with different perspectives on the same topic, opposing or competing views and arguments.

In-Class Team Activity on Interpreting an Argument: Berkeley, Locke, and Abstract Ideas

Locke claims that we use a mental ability which he calls reflection to construct an abstract, or general, idea of a triangle which stands for all triangles, whether scalene, isosceles, or equilateral. In the introduction to the *Principles*, Berkeley quotes Locke and then argues that his claims about abstract ideas are unfounded:

> If any man has the faculty of framing in his mind such an idea of a triangle as is here described, it is in vain to pretend to dispute him out of it, nor would I go about it. All desire is that the reader would fully and certainly inform himself whether he has such an idea or not. And this, methinks, can be no hard task for anyone to perform. What is more easy than for anyone to look a little into his own thoughts, and there try whether he has, or can attain to have, an idea that shall correspond with the description that is . . . given [by Locke] of the general idea of a triangle, which is neither oblique nor rectangle, equilateral, equicrural nor scalenon, but all and none of these at once? (Introduction, §13)

Which of the following claims best captures Berkeley's criticism of Locke's view about abstract ideas?

A. Since our general term 'triangle' would have, impossibly, to stand for all triangles, we have no ideas corresponding to that term.

B. The term 'triangle' is meaningless because we can form no general idea of triangle.

C. There are no triangles in nature, so Locke's claim that we can have an idea of a general triangle must be false.

D. Some people may have an abstract, general idea of triangles, but some do not. Only the thinker can know whether they have one.

E. Locke's description of the general idea of a triangle is problematic, though of course we have ideas of triangles.

Choose one of the above interpretations, individually. Circle your answer. Then work toward consensus on a team choice.[26]

These activities that foster understanding of particular objections and their targets can be broadened fruitfully. The following task, which presupposes familiarity with Descartes's *Meditations* and the third set of objections from Thomas Hobbes, asks students to think about how to summarize the core differences

between the two philosophers in their conversation about the idea of God, rather than the scope of a particular argument.[27]

In-Class Team Activity on Philosophical Conversation: Hobbes and Descartes on the Idea of God

Hobbes and Descartes quarrel about the arguments for the existence of God. Which of the following descriptions of their disagreement best captures their debate?

A. Descartes believes that God exists, but Hobbes does not.

B. Both philosophers express beliefs in God, but they differ about whether we can prove the existence of God.

C. Both philosophers express beliefs in God, but Descartes believes that we have an idea of God and Hobbes does not.

D. Both philosophers believe that we have ideas of God, but Descartes believes that the idea of God comes from the senses, while Hobbes does not.

E. Descartes believes that we can prove that God created the universe, but Hobbes does not.

First, individually, circle one of the above letters. Then work toward consensus on a team choice.

While team activities can help students to understand the core concepts of a philosophical conversation, having students write about those conversations, still without defending a particular side or thesis, helps to scaffold the skill of dispassionate interpretation of arguments. Especially when working with controversial and easily accessible topics, as in some areas of applied ethics, students often have difficulty assessing arguments separate from arguing from a pre-existing opinion about which conclusion is, in their view, right. So, it is useful to have assignments which intentionally restrain students from defending a thesis.

Writing Assignment: Philosophers in Conversation: Anselm and Gaunilo, Descartes and Caterus, or Anaximander and Aristotle

Your Philosophers in Conversation essay should analyze the arguments of two philosophers on a single topic. Your options are: Anselm and Gaunilo on the ontological argument; Descartes and Caterus on the ontological argument; or Anaximander and Aristotle on whether infinity is a substance.

Like previous writing assignments, this is not a rhetorical, argumentative paper. It is more like two exegeses, put together. You should not defend a thesis. The goal of this assignment is to focus on one or more points of disagreement and to present the arguments on either side carefully. Do not take sides. Your challenge is to get the philosophers talking to each other.

Developing a Thesis

The activities and assignments I have discussed so far are all designed to expand or advance students' philosophical ZPDs, with an eye to having them develop their abilities to defend their own theses. As I mentioned in the introduction, a simple way to help students to develop their own theses is to assign compare-and-contrast essays in which students have to represent opposing arguments and adjudicate between or among them. Such theses are fairly easily appended to essays like the Philosophers in Conversation assignment described above. Once students have sufficiently presented two or more competing arguments, having them pick a side and integrate a defense of their choice into an already-written conversation essay is a useful task. But there are other simple tasks that can help students work toward developing more sophisticated theses.

One approach, perhaps somewhat common, is just to provide students with prefabricated thesis statements. In my Infinity course, I assign a novel about mathematics, religion, and philosophy in which different characters voice different views about the status of axioms: *A Certain Ambiguity* by Gaurav Suri and Hartosh Singh Bal. I use a selection of these quotations for an in-class activity; students could easily be asked to write an essay explaining and defending a view of their choice.

In-Class Team Activity on Developing a Thesis: Starting Points

Their discovery of non-Euclidean geometry made some characters in *A Certain Ambiguity* re-think their views about both the certainty of mathematics and the role of axioms, or starting points, in mathematics and in life.

A. There is a whole edifice of knowledge standing there that I want to add to. Like building a new room in the building, a room that looks out onto something new. The foundations don't worry me; the very fact that the whole edifice exists seems to suggest that the foundations are rather solid. (Claire Stern, 125)

B. I think it's important for a man to have some kind of starting point that can act as a unifying principle for his life. As long as he is true to some core beliefs, he can't go too far wrong. Which starting point is true is not something we humans can make much progress on. . . . Much more important than one's starting point is what one does with it. (Darrel Huston, 255, 254)

C. This morning, Ramanujan's letter arrived and nothing else mattered. The equations had me entranced and I had not even given a thought to what they actually mean in the context of absolute certainty. They are immediate and real; I couldn't doubt them even if I wanted to. But at the same time I know that I can never be absolutely certain of them, and in a way that doesn't even seem that important. Working with them is what is important. (Vijay Sahni, 256)

D. So mathematics, then, is like a game—somewhat like chess. . . . You have some starting conventions, or axioms, and then some rules of inference, and you take the axioms that may or may not be true into theorems that are conditionally true. This game does not mean anything. It is just a game. (Judge Taylor, 257)

E. I absolutely refuse to believe that there is uncertainty in Euclid's axioms. . . . If there is a flaw in them, then we can never be sure of anything. (Adin Kaminker, 229)

Which of the above quotations best captures your own view about starting points? Circle one of the above letters. Then, as a group, attempt to work toward consensus on a best choice.

Because philosophy is complicated, students often are faced with arguments that have several steps. While trained philosophers are usually able to discern the stronger premises from the weaker ones, students need help to develop the ability to make such discernments. One approach is to regiment the argument and ask students to examine each premise and the conclusion independently, as I do with Descartes's wax argument.

In-Class Team Activity on Evaluating Argument Steps: The Wax Argument

In Meditation Two, Descartes argues that physical objects are known not by their sensory properties, but by the mind alone.

____ Premise 1. The wax is the same wax before and after melting.

____ Premise 2. The wax changes all of its sensory properties.

____ Premise 3. The wax experiment can be done with any physical object.

____ Premise 4. Any physical object is thus not identical to its sensory properties.

____ Conclusion. Physical objects are known by the mind alone.

First, individually, decide whether each of the claims in the argument is true or false. Write your answers above. Then, work toward consensus on team responses for each premise and the conclusion.

Asking students to write a short essay based on an in-class activity like this, supporting each claim with evidence, is a straightforward homework assignment.

Another approach is to present students with a variety of objections and ask them to rank them in order of strength. This is an excellent group task and easily can be extended to upper division classes. Indeed, it might be more at home in a class in which students can manage a greater variety of approaches to the core concepts. Instructors can choose contentious passages and include as options various excellent possible interpretations as well as more obvious errors or weaker claims.

In-Class Team Activity on Ranking Objections: Responses to the Ontological Argument

In Meditation Five, Descartes provides a second argument for the existence of God, often called the ontological argument:

> Existence can no more be separated from God's essence than its having three angles equal to two right angles can be separated from the essence of a triangle, or than the idea of a valley can be separated from the idea of a mountain. Thus it is no less contradictory to think of God (that is, a supremely perfect being)

lacking existence (that is, lacking some perfection), than it is to think of a mountain without a valley.

Rank the following seven responses to Descartes's ontological argument from the most effective to the least effective.

A. It is better not to exist than to exist, so there is no reason to believe that a perfect being must exist.

B. Descartes assumes the existence of God from the outset of the argument. Thus, his reasoning is unacceptably circular.

C. The concept of an object may include the concept of existence, without the object really existing. For example, we can think of an existing hippogriff without thinking that there really are any hippogriffs.

D. God does not exist, so Descartes's argument must be faulty.

E. Knowledge of God's existence is a matter of faith. So, any argument like Descartes's must be faulty.

F. If triangles exist, the measures of their angles add up to 180°. But there are no triangles, really. So, Descartes's analogy does not yield the existence of God.

G. The argument is both valid and sound; it is logically and philosophically unassailable.

The work that goes into designing a ranking activity is well rewarded; it can provoke extended productive discussions and lead fairly directly to full argumentative essays. Students can also rank interpretations of thorny passages or the plausibility of various competing positions (e.g., libertarianism, hard determinism, soft determinism).

Other variations are possible, depending on the course content. The following in-class activity asks students to find views of Locke and Kant among Margaret Wilson's excellent analysis of five Cartesian claims about the self. Then, students are prompted to orient their own views in the broad conceptual space.

In-Class Team Activity Developing an Argumentative Thesis: Kant and the Cogito

Béatrice Longuenesse cites Margaret Wilson in distinguishing five claims about the self held by Descartes, in increasing order of strength.[28]

(1) I think.

(2) I am a thinking thing.

(3) Thought is a property essential to me.

(4) Thought is the only property essential to me.

(5) I am essentially a thinking thing and not essentially material.

Answer each of the following three questions, on your own. Then work to consensus on team answers.

Recall Locke's view about the self:

> [A person] is a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places; which it does only by that consciousness which is inseparable from thinking, and, as it seems to me, essential to it. (Locke, *Essay*, II.XXVII.9)

And Kant's:

> It must be possible for the 'I think' to accompany all my representations; for otherwise something would be represented in me that could not be thought at all, and that is equivalent to saying that the representation would be impossible, or at least would be nothing to me. (Kant, *Critique*, B131–32)

A. Which of the above five claims is the strongest that Locke would accept?

B. Which of the above five claims is the strongest that Kant would accept?

C. Which of the above five is the strongest true claim?

Another way to help students learn to develop their own theses invokes the jargon of soundness and validity from logic. I do not presume that students have taken logic, so I introduce those concepts during the term to use them as tools in the course. In this activity, in which students are asked to evaluate Spinoza's argument for the infinitude of the material world, I am still holding students' hands a little, by describing the conditions for each choice. But identifying the reasons for each of Spinoza's claims of absurdity is still a significant challenge. The team discussions tend to be impressively sophisticated.

In-Class Team Activity on Developing a Thesis: Spinoza and the Infinity of the Material World

Spinoza considers arguments against the claim that extended, material substance is infinite.

> If extended substance, they say, is infinite, let it be conceived to be divided into two parts. Each part will then be either finite or infinite. If the former, then infinite substance is composed of two finite parts, which is absurd. If the latter, then one infinite will be twice as large as another infinite, which is also absurd. (Spinoza, *Ethics*, 1p15s)

Remember that an argument is valid if the conclusion follows logically from the premises. An argument is sound if, in addition to being valid, the premises are true. In a valid and sound argument, the conclusion must be true. Which of the following comments best evaluates the above argument against the infinity of material substance?

A. The argument is valid and sound; the material world is not infinite.

B. The argument is valid but unsound because there is no way to divide the universe into two parts.

C. The argument is valid but unsound because two finite quantities may be infinite when combined.

D. The argument is valid but unsound because it is not absurd for one infinite to be twice as large as another.

E. The argument is invalid; the conclusion that the material world is not infinite does not follow from the premises, even though the premises are, or may be, true.

First, choose your favored option. Circle your answer. Then, work toward consensus on a best team choice.

Putting it All Together

It is important to keep in mind the difference between simple activities and short ones and to progress from the simple to the more complex—not just from the short to the long. But I do also generally work from shorter assignments earlier in the term to longer ones at the end, integrating the skills on which we have worked while frequently spiraling back to simpler tasks. At the end of the term, we reach the *sine qua non*, and instructions at this stage can be simple: the Argumentative Essay should be a standard, rhetorical paper, defending a thesis. Defend your thesis by considering at least two of the readings we have studied.

Still, there is room for edifying pedagogical creativity. The earlier exercise in writing précis, rather than abstracts, leads to a simple, if slightly disguised, thesis-driven essay assignment, asking students to write a personal letter to a philosopher. The personal aspect of the assignment is both rewardingly motivating and gently guides students into the work; it is hard for them to distance themselves from the argument by going meta, and their personal flourishes are often charming.

Writing a Simple Thesis: Letter to a Philosopher[29]

The summative assignment for Unit 3 is to write a detailed letter to Locke, Berkeley, or Hume. In the letter, you should do one of the following:

1. Support a view of one of the philosophers against criticism;
2. Urge the philosopher to alter their views, in light of criticism; or
3. Encourage the philosopher to reject their views.

Seek a narrow theme for your letter, so you can discuss the work in appropriate, careful detail. For example, letters about empiricism and rationalism are not likely to be as fruitful as letters about the arguments for innate ideas or the principles which distinguish primary qualities from secondary qualities. Your letter should discuss the work of at least two of the philosophers we have studied, the person to whom you are writing and at least one other. I imagine the structure of the letter as follows, though I welcome creative alternatives:

A. Begin the letter by stating your thesis (whether you urge support, alteration, or rejection of the target's views).
B. Outline the (narrow) view under consideration, as you understand it, in careful detail.
C. Proceed to explain contrary arguments. Here, you are likely to draw from the work of one or more other philosophers. You may also raise original criticisms.
D. Evaluate the arguments and the counterarguments, citing evidence for your thesis in detail.
E. Conclude, repeating the thesis of your letter.

Along the way, you should find space to illustrate abstract arguments with original concrete examples; use textual evidence by citing your sources; consider dividing your letter into sections with headings; and provide

road signs along the way (e.g., "In the previous section, I argued . . ." and/or "In this section, I show . . .")

Students who have been working well through the term have improved the fine skills needed both to write thesis-driven essays and to evaluate the work of others. I use some peer review here, partly so that students must work on their essays in stages, going through at least two drafts. They also enjoy contributing to each other's work, which helps further to foster community and improve the papers. Given the bonding that teams have formed through the term in my team-based learning classes, the peer review process has tended to be both productive and pleasant. Again, the assignment is essentially just a standard thesis-driven essay. Here, I have redacted some of the duller details of the assignment but provided the instructions for peer review.

Writing an Argumentative Essay

The Argumentative Essay should be a standard, rhetorical paper, defending a thesis. Consider a problem or puzzle or argument we discussed this term. Present two different views about the topic you choose. Defend one over the other. Present all arguments charitably. Justify assertions with reasons. Illustrate abstract concepts. Feel free to use any of our sources to illustrate your work. Students often benefit from dividing their essays into smaller sections. Be sure to hold the reader's hand, providing road signs along the way (e.g., "In the last section, I showed that . . ." and/or "Now I am going to argue that . . .")

Instructions to Peer Reviewers

1. Provide the author of the paper you are reviewing with criticism that you believe will help the author improve the paper. Make sure to indicate both what is good in the paper and what could use improvement, but try to stay positive.
2. Focus on the philosophical content of the paper. You may make suggestions about grammar, word choice, sentence structure, and organization. But try mainly to focus on the arguments:
   Does the author write with close attention to the original source?
   Are difficult or obscure passages explained and illustrated?
   Are interpretations of the original passages plausible?
   Is the paper clear and free of mechanical (e.g., spelling, grammar) errors?
   Is there a clear introduction which helps the reader orient her/himself?

Are there sufficient road signs throughout the paper?
How could the author improve the paper?

3. All comments should be made respectfully and tactfully. Be honest and critical. Make sure that you understand the difference between being critical, which is good, and being rude. Focus on the paper rather than the author to avoid personal attacks. It is better to write, "The paper contains dangling participles," than, "You dangle your participles." Detailed suggestions are better than fawning praise.
4. You have just two days to complete your peer reviews. Hard copies of your comments, roughly 300 to 600 words, are due to the authors at the beginning of class on . . .

One final summative assignment asks students to assimilate the simpler discussion skills they have developed in the narrow, curated activities of our classwork into a longer-form group presentations or in-class debates. I have used the former in my Modern course, though students sometimes choose to present a debate. Unlike peer-review, groups for the presentations are formed around students' topical interests, not their in-class teams, and are chosen early in the term. By the end of the semester, many students appreciate the opportunity to work with others in the class.

Thematic Panel Presentation

During this semester, you will participate in one thematic panel presentation. Panels will be composed of three to five people. Presentations will last approximately twenty minutes. The philosophical goal of the assignment is to make connections between various arguments on a single theme across the work of two or more philosophers. The pedagogical goal is to allow all students a brief opportunity to lead the class.

Panels will be chosen during the second week of class, when every student should email me their top three preferences. The themes are: 1. Minds and Bodies I (Descartes, Hobbes, Spinoza); 2. Arguments for God's Existence (Descartes, Spinoza, Leibniz); 3. Innate Ideas and the *Tabula Rasa* (Descartes, Leibniz, Locke); 4. The Primary-Secondary Distinction and the Resemblance Hypothesis (Descartes, Locke, Berkeley); 5. Minds and Bodies II (Descartes, Locke, Berkeley); 6. Abstract Ideas and Uses of Language (Hobbes, Locke, Berkeley, Hume); 7. Two Brands of Idealism (Leibniz and Berkeley); 8. The Existence of the External World (Descartes, Berkeley, Hume); 9. Free Will and Determinism (Descartes, Spinoza, Leibniz, Hume); 10. The Self (Descartes, Locke, Leibniz, Hume); 11. Laws of Nature (Descartes, Spinoza, Berkeley, Hume).

Your panel presentation should demonstrate your group's attempts to assimilate different approaches to one of the central themes found in the primary readings for class. You should consider any assigned secondary readings on the theme by the selected philosophers. The tertiary readings (secondary sources) will probably be useful. You need not be limited to discussing the work of the assigned philosophers; if work of other philosophers is relevant or useful, feel free to include it. Some critical evaluation of any disagreement among the philosophers is desirable. Better presentations will be clearer and make connections among the work of various philosophers. The weakest presentations merely repeat what we have already said in class.

Your presentation may be as creatively ambitious as you wish, as long as it is reasonably within the time guidelines. You may act out a dialogue or debate. Feel free to try some role playing or a panel discussion; you might consider a set of central questions or vignettes which the panelists can discuss. During the presentation, be sure to stop for questions if and when appropriate. Emphasize disagreements among the subjects of your presentation. Conclude with a summary. Your presentation time is short, so be efficient, but do not move too quickly. Avoid irrelevant biographical or historical details. Focus on arguments and connections among various views. It is better to cover less material clearly than more material quickly.

I expect that you will communicate consistently with your co-panelists before the in-class discussion. I urge you to meet several times. Students have found shared documents (e.g., Google Docs) to be useful. There is one required hour-long practice session with the course mentor who will make suggestions for improvement. You should prepare a rough draft of your presentation before the required practice session.

After your panel presentation, I will email the group with an evaluation and a grade. I base the grade on both the content and the form of the presentation. Presentations should demonstrate shared work and understanding. I hope that your work, and your grades, will ordinarily be distributed equally. To assist me with the assignment of a grade, after the panel presentation, each member of the panel should send me a confidential email containing brief details concerning how the preparatory work was distributed and any other information you think I should know about the process. I understand that the person who speaks the most during the presentation may not be the person most responsible for the work. I will ordinarily not assign a grade on the presentation until I receive emails from all members of the panel.

Conclusion: The Benefits of Finer Skills

The compendium of activities here represents neither a complete list of fine-grained skills that we can help our students to develop nor an exhaustive account of the activities and assignments that I use. Moreover, there are probably more assignments here than can be used in any one semester class, and teachers in different contexts will find students with different ranges of Vygotskian ZPDs. Still, I hope that these activities and assignments can be models for further innovations in scaffolding. My own pedagogical development was spurred by adopting team-based learning, but any approach to teaching that involves designing in-class activities and creative assignments can facilitate more fine-grained analysis of the kinds of skills that philosophy students need to improve.

Any philosophy teacher committed to active learning and student engagement does a lot of these kinds of activities, or others of similar (or higher) value, naturally. Merely asking good questions in a lecture, requiring students to come to class with written questions, or encouraging students to respond to each other during discussions are all helpful in developing fine skills. But we can do these kinds of things even more deliberately by analyzing more finely the kinds of complex skills that philosophers develop and designing tasks inside students' ZPDs to match. We work with abstract, sometimes unfamiliar concepts; we compare and evaluate various interpretations of claims; we connect general propositions across various domains, illustrating their instantiations; we ask incisive questions, contextualizing and framing our queries; we regiment arguments and focus our attention on different premises; we compare different objections to a claim; and so on. We can better prepare our students for thesis-driven essays and other sophisticated philosophical tasks with a well-rounded set of activities and skill-honing techniques.

Moreover, if we design our classes and assignments around fostering these skills, we can more effectively argue for the importance of philosophy in higher education. Philosophers are not the only people who do these kinds of tasks. The skills they require are broadly applicable and can help philosophy students to succeed in other areas.

Perhaps most directly rewarding about these kinds of activities and writing assignments, for me, is the way in which they improve the work I receive. The discussions during in-class activities and the simpler writing assignments help students to identify premises and conclusions more effectively, to be aware of and open to various interpretations of arguments, to compare strengths of various responses to arguments, to descend away from jargon by illustrating abstract concepts originally, and thus to connect even abstruse philosophy to their own lives. The work my students produce has become much more fun to read and evaluate. That is better than impressing the deans and almost as good as helping students to hone skills that will serve them for a lifetime.

Notes

Thanks very much to David W. Concepción for extremely fine reading and excellent suggestions for organizational improvements.

1. In "The Role of Tutoring in Problem Solving" Wood, Bruner, and Ross introduce the term 'scaffolding' in the context of one-on-one instruction (tutoring) (90). In "Instructional Scaffolding," Belland provides an excellent overview of the development and core principles of scaffolding, with many useful references (§2.1). Wertsch and Rogoff's "Editors' Introduction" also contains an excellent overview and useful references. Wood and Wood's "Vygotsky, Tutoring and Learning," contains references to the literature on the related concepts of cognitive apprenticeship, guided participation, and reciprocal teaching (6).

2. These emphases on independence and skills-acquisition are present at the inception of discussions of scaffolding; see Wood, Bruner, and Ross, "The Role of Tutoring." The scaffolding instructor does not demand that students cede their beliefs for new and better ones but encourages the student to acquire new beliefs on their own; see Bliss, Askew, and Macrae, "Effective Teaching," 49. As noted in Wood and Wood, "Vygotsky, Tutoring and Learning," "Effective guidance involves the transfer of responsibility from tutor to learner" (6).

3. See Bernstein, *Coordination and Regulation*, on simplifying tasks by reducing the degrees of freedom available to the student. "The "scaffolding" tutor fills in the rest and lets the learner perfect the component sub-routines that he can manage" (Wood, Bruner, and Ross, "The Role of Tutoring," 98). Such guidance is important for managing frustration in the student, though teachers must be wary of students' developing dependence.

4. To illustrate the contrast between scaffolding and instructing or modeling, "Consider the case of an adult helping a fifth-grader to carry out the problem of dividing 124 by 23. In such a case, we might expect such adult utterances as 'How many times will 23 go into 124?' or 'What do you do with the remainder?' That is, we could expect leading questions about divisors, dividends, remainders, and so forth. Now, compare this with the case of an adult who helps a first-grader to solve the same problem by telling him or her to write certain numbers in certain locations on a sheet of paper. In this case, we might expect such utterances as 'Now put a four up here right after the five'" (Wertsch, "The Zone of Proximal Development," 8). The former approach is scaffolding, the latter instructing. See Chaiklin, "The Zone of Proximal Development in Vygotsky's Analysis," 8–14, for a compelling exegesis of Vygotsky's arguments against the effectiveness of teaching through modeling and imitation.

5. Wolfe, "Only the Dead Know Brooklyn."

6. While the Soviet scholar Vygotsky originally explored the zone of proximal development in the 1920s and early 1930s, his work on the subject was not widely known in the West until the English translations of some posthumous papers were published as Vygotsky, *Mind in Society*.

7. Vygotsky, *Mind in Society*, 86.

8. Vygotsky, 87.

9. Descartes, *Discourse on Method*, CSM I.120.

10. Descartes, "Rules for the Direction of the Mind," CSM I.20.

11. Bruner, "Vygotsky's Zone of Proximal Development," 93–97.

12. Chaiklin, "The Zone of Proximal Development in Vygotsky's Analysis," 15.

13. See Belland, "Instructional Scaffolding" for an extended treatment.

14. Rudisill, "The Transition from Studying Philosophy to Doing Philosophy," 242–43, 245.

15. Coe, "Scaffolded Writing as a Tool," 33. Coe also cites the 1990 American Philosophical Association statement on critical thinking: "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based" (36).

16. Coe, 39.

17. Here is the revised Bloom's taxonomy: "Remembering: Recall or retrieve previous learned information. Understanding: Comprehending the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words. Applying: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place. Analyzing: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences. Evaluating: Make judgments about the value of ideas or materials. Creating: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure" (Clark, "Bloom's Taxonomy of Learning Domains"). For the original taxonomy, see Bloom, *Taxonomy of Educational Objectives*.

18. "As the writing assignments increase in complexity, their length and their weight in the overall course grade also increase. For instance, on the first paper I tell students that I expect it will take them about a page of writing to answer the question well, and the paper is worth five percent of the course grade. By the fourth paper, the page length is approximately four pages and the assignment is worth twenty percent of the course grade" (Coe, "Scaffolded Writing as a Tool," 39–40).

19. Mulnix and Mulnix, "Using a Writing Portfolio," 27–54.

20. For more on metacognition, see Concepción, "Reading Philosophy," 351–68, and Stokes, "Philosophy Has Consequences!," 143–169.

21. Rudisill, "Transition from Studying Philosophy to Doing," 243–46. In response, Mulnix and Mulnix suggest that students could be asked to develop a fifth skill, applying philosophical theories in the service of living well (Mulnix and Mulnix, "Using a Writing Portfolio," 245).

22. Padgett-Walsh, Prokos, and Bird, "Building a Better Term Paper."

23. See Belland, "Instructional Scaffolding," §2.2.2, for references to research supporting the need to provide "just the right support." See Bliss, Askew, and Macrae, "Effective Teaching and Learning," 45–58, for an interesting discussion of teachers' pseudo-interactions, bypassing opportunities to scaffold within the zone of proximal development.

24. Spiraling is an important technique for skills development, though it is in tension with mastery-learning approaches. That's a topic for elsewhere, but see Harden, "What is

a Spiral Curriculum?" on Bruner's concept of a spiral curriculum (or Bruner, *The Process of Education* for the original). See Bloom, "Learning for Mastery" on mastery-learning.

25. In team-based learning (TBL) classrooms, classwork is mainly teamwork, specific sorts of group activities. Students are assigned to teams of four to six people for the duration of the course. Instructors lecture only briefly for framing or in response to student needs as shown in poor performances on activities. For an excellent introduction to TBL in philosophy, see Van Orman, "Teaching Philosophy with Team-Based Learning." For a more general introduction to TBL, see Michaelsen and Sweet, "The Essential Elements of Team-Based Learning."

26. In Mulnix and Mulnix, "Strategies for Cooperative Active Learning," sample 1, is an excellent activity to a similar end, done in non-team-based learning groups.

27. Descartes, *Meditations*, 1–62 and Descartes, *Objections and Replies*, 121–37.

28. Longuenesse, "Descartes versus Kant," 20.

29. Adapted from Bean, *Engaging Ideas*, 75–77.

References

Aristotle. *Categories*, trans. J. L. Ackrill. In *The Complete Works of Aristotle*, vol. 1, edited by Jonathan Barnes, 3–24. Princeton, NJ: Princeton University Press, 1984. https://doi.org/10.1515/9781400835843-004

Bean, John C. *Engaging Ideas*. San Francisco: Jossey-Bass, 1996.

Belland, Brian R. "Instructional Scaffolding: Foundations and Evolving Definition." In *Instructional Scaffolding in STEM Education*. Heidelberg: Springer, 2017. https://doi.org/10.1007/978-3-319-02565-0_2

Berkeley, George. *Principles of Human Knowledge*. In *Modern Philosophy: An Anthology of Primary Sources*, 2nd ed., edited by Roger Ariew and Eric Watkins, 438–53. Indianapolis: Hackett, 2009.

Bernstein, Nikolai. *The Coordination and Regulation of Movement*. Oxford: Pergamon Press, 1967.

Bliss, Joan, Mike Askew, and Sheila Macrae. "Effective Teaching and Learning: Scaffolding Revisited." *Oxford Review of Education* 22(1) (1996): 37–61. https://doi.org/10.1080/0305498960220103

Bloom, Benjamin S. "Learning for Mastery." *Evaluation Comment* 1(2) (1968): 1–12.

Bloom, Benjamin S. *Taxonomy of Educational Objectives*. New York: Longman, 1956.

Bruner, Jerome. *The Process of Education*. Cambridge, MA: Harvard University Press, 1960.

Bruner, Jerome. "Vygotsky's Zone of Proximal Development: The Hidden Agenda." *New Directions for Child and Adolescent Development* 23 (1984): 93–97. https://doi.org/10.1002/cd.23219842309

Cantor, Georg. "On an Elementary Question in the Theory of Manifolds." In *An Historical Introduction to the Philosophy of Mathematics*, edited by Russell Marcus and Mark McEvoy, 295–97. London: Bloomsbury, 2016.

Chaiklin, Seth. "The Zone of Proximal Development in Vygotsky's Analysis of Learning and Instruction." In *Vygotsky's Educational Theory and Practice in Cultural Context*, edited by A. Kozulin, B. Gindis, V. Ageyev, and S. Miller, 39–63. Cambridge: Cambridge University Press, 2003. https://doi.org/10.1017/CBO9780511840975.004

Clark, Donald. "Bloom's Taxonomy of Learning Domains." Last modified 2004. http://www.nwlink.com/~donclark/hrd/bloom.html.

Coe, Cynthia D. "Scaffolded Writing as a Tool for Critical Thinking." *Teaching Philosophy* 34(1) (2011): 33–50. https://doi.org/10.5840/teachphil20113413

Concepción, David W. "Reading Philosophy with Background Knowledge and Metacognition." *Teaching Philosophy* 27(4) (2004): 351–68. https://doi.org/10.5840/teachphil200427443

Descartes, René. "Discourse on Method." In *The Philosophical Writings of Descartes, Vol. 1*, edited by John Cottingham, Robert Stoothoff, and Dugald Murdoch, 109–51. Cambridge: Cambridge University Press, 1985. https://doi.org/10.1017/CBO9780511818998

Descartes, René. "Meditations on First Philosophy." In *The Philosophical Writings of Descartes, Vol. 2*, edited by John Cottingham, Robert Stoothoff, and Dugald Murdoch, 1–62. Cambridge: Cambridge University Press, 1984.

Descartes, René. "Objections and Replies." In *The Philosophical Writings of Descartes, Vol. 1*, edited by John Cottingham, Robert Stoothoff, and Dugald Murdoch, 63–383. Cambridge: Cambridge University Press, 1984. https://doi.org/10.1017/CBO9780511818998

Descartes, René. "Rules for the Direction of the Mind." In *The Philosophical Writings of Descartes, Vol 1*, edited by John Cottingham, Robert Stoothoff, and Dugald Murdoch, 7–78. Cambridge: Cambridge University Press, 1985. https://doi.org/10.1017/CBO9780511818998

Harden, R. M. "What Is a Spiral Curriculum?" *Medical Teacher* 21(2) (1999): 141–43. https://doi.org/10.1080/01421599979752

Hobbes, Thomas. *Leviathan*. In *Modern Philosophy: An Anthology of Primary Sources*, 2nd ed., edited by Roger Ariew and Eric Watkins, 114–36. Indianapolis: Hackett, 2009.

Hume, David. *Enquiry Concerning Human Understanding*. In *Modern Philosophy: An Anthology of Primary Sources*, 2nd ed., edited by Roger Ariew and Eric Watkins, 533–600. Indianapolis: Hackett, 2009.

Kant, Immanuel. *Critique of Pure Reason*, trans. Norman Kemp Smith. New York: St. Martin's Press, 1965.

Locke, John. *An Essay Concerning Human Understanding*. In *Modern Philosophy: An Anthology of Primary Sources*, 2nd ed., edited by Roger Ariew and Eric Watkins, 316–421. Indianapolis: Hackett, 2009.

Longuenesse, Béatrice. "Kant's 'I Think' versus Descartes' 'I Am a Thing That Thinks.'" In *Kant and the Early Moderns*, edited by Daniel Garber and Béatrice Longuenesse, 9–31. Princeton, NJ: Princeton University Press, 2008. https://doi.org/10.1515/9781400828968.9

Michaelsen, Larry, and Michael Sweet. "The Essential Elements of Team-Based Learning." *New Directions for Teaching and Learning* 116 (2008): 7–27. https://doi.org/10.1002/tl.330

Mulnix, Jennifer Wilson, and Michael Mulnix. "Strategies for Cooperative Active Learning and Sustainable Assessment." Unpublished presentation at the American Association of Philosophy Teachers Workshop, Saginaw, MI, July 2016.

Mulnix, Jennifer Wilson, and Michael Mulnix. "Using a Writing Portfolio Project to Teach Critical Thinking Skills." *Teaching Philosophy* 33(1) (2010): 27–54. https://doi.org/10.5840/teachphil20103313

Mulnix, Michael, and Jennifer Wilson Mulnix. "Doing Philosophy—The Sooner The Better." In *Philosophy Through Teaching*, edited by Emily Esch, Kevin Hermberg, and Rory E. Kraft, Jr., 245–49. Charlottesville, VA: Philosophy Documentation Center, 2014.

Padgett-Walsh, Kate, Anastasia Prokos, and Sharon R. Bird. "Building a Better Term Paper: Integrating Scaffolded Writing and Peer Review." *Teaching Philosophy* 37(4) (2014): 481–97. https://doi.org/10.5840/teachphil201410225

Plato. *Republic*, trans. C. D. C. Reeve. Indianapolis: Hackett, 2004.

Rudisill, John. "The Transition from Studying Philosophy to Doing Philosophy." *Teaching Philosophy* 34(3) (2011): 241–71. https://doi.org/10.5840/teachphil201134332

Spinoza, *Ethics*. In *Modern Philosophy: An Anthology of Primary Sources*, 2nd ed., edited by Roger Ariew and Eric Watkins, 144–95. Indianapolis: Hackett, 2009.

Stokes, Patrick. "Philosophy Has Consequences! Developing Metacognition and Active Learning in the Ethics Classroom." *Teaching Philosophy* 35(2) (2012): 143–69. https://doi.org/10.5840/teachphil201235216

Suri, Gaurav, and Hartosh Singh Bal. *A Certain Ambiguity: A Mathematical Novel*. Princeton, NJ: Princeton University Press, 2012.

Van Orman, Kimberly. "Teaching Philosophy with Team-Based Learning." *AAPT Studies in Pedagogy* 1 (2015): 62–81. https://doi.org/10.5840/aaptstudies20159215

Vygotsky, L. S. *Mind in Society: the Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press, 1978.

Wertsch, James V. "The Zone of Proximal Development: Some Conceptual Issues." *New Directions for Child and Adolescent Development* 23 (1984): 7–18. https://doi.org/10.1002/cd.23219842303

Wertsch, James V., and Barbara Rogoff. "Editors' Introduction." *New Directions for Child and Adolescent Development* 23 (1984): 1–6.

Wolfe, Thomas. "Only the Dead Know Brooklyn." *The New Yorker* (June 15, 1935). https://www.newyorker.com/magazine/1935/06/15/only-the-dead-know-brooklyn.

Wood, D., J. S. Bruner, and G. Ross. "The Role of Tutoring in Problem Solving." *Journal of Child Psychology and Psychiatry* 17(2) (1976): 89–100. https://doi.org/10.1111/j.1469-7610.1976.tb00381.x

Wood, D., and H. Wood. "Vygotsky, Tutoring and Learning." *Oxford Review of Education* 22(1) (1996): 5–16. http://doi.org/10.1080/0305498960220101