

The Virtual Philosopher: Designing Socratic Method Learning Objects for Online Philosophy Courses

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Abstract

This case study describes the Virtual Philosopher, a series of digital learning objects which were created as a Socratic method activity for online ethics courses. Each Virtual Philosopher is a scenario-based, active learning exercise designed to foster students' reflective analysis and application of previously introduced course concepts. The pedagogical aims of these learner-centered objects are increased student metacognition, development of students' logical abilities, and formative self-assessment of students' moral reasoning. After reviewing students' evaluation of the Virtual Philosopher exercises, suggestions for improvement of these learning objects will be discussed.

Keywords: ethics, online learning, learner-centered, metacognition, active learning, formative assessment

Introduction

As the number of students taking online courses continues to increase, academic departments are experiencing pressures to expand course offerings to include online learning options (Allen & Seaman, 2007). For residential campuses, where students typically return home during winter and summer sessions, online courses afford learners options for continuing to earn degree credits. Not all "signature pedagogies" of the disciplines however, are easily adaptable to online learning environments (Shulman, 2005). This adaptability barrier has created a lack of learning objects in some disciplines (Moisey, Ally & Spencer, 2006). In the discipline of philosophy, the Socratic method using a dialectic process of inquiry is the distinct pedagogical practice. While other disciplines may adopt a Socratic method for investigatory learning, this didactic technique is foundational to philosophical inquiry. A challenge for designing online philosophy courses then arises with how to incorporate Socratic inquiry into the students' learning experience.

In the traditional classroom, the Socratic method serves at least three functions. First, the open-ended inquiry allows learners to discover the complexity, difficulty, or uncertainty of a particular issue. Second, the questioning process aims to uncover the students' values, beliefs, or preconceptions. Finally, the dialogue is designed to reveal inconsistencies in student responses. Rather than knowledge being imparted by the "sage on the stage," the Socratic teacher is "the guide on the side" facilitating student metacognition and knowledge construction (Reich, 2003).

This case study describes the Virtual Philosopher, a series of digital learning objects which were created as a Socratic method activity for online ethics courses. Each Virtual Philosopher is a scenario-based, active learning exercise designed to foster students' reflective analysis and application of previously introduced course concepts. The pedagogical aims of these learner-centered objects are increased

student metacognition, development of students' logical abilities, and formative self-assessment of students' moral reasoning.

Learning and Pedagogical Theories behind Virtual Philosopher Design

Learning objects might be defined as "interactive web-based tools that support the learning of specific concepts by enhancing, amplifying, and guiding the cognitive processes of learners" (Kay & Knaack, 2007, p. 6). This pedagogically focused definition stresses the specific student learning attributes of the learning object rather than its technical design features. The Virtual Philosopher learning objects were designed with a constructivist model of knowledge (Nurmi & Jaakkola, 2006). With constructivism, knowledge is created within the learner's cognitive structures through exploration, discovery and confrontation with problems. The constructivist framework of these problem-based learning objects permits student understanding to be shaped by negotiating real-world scenarios, stimulates learning through cognitive conflict, and encourages knowledge evolution through reflective self-evaluation on the viability of individual understandings (Savery & Duffy, 1995). The exercises do not culminate with a pronouncement of the "right" and "wrong" answers but instead let students discover the implications of their ethical decisions. So for example, students who adopt an "all life is sacred" justification for restricting abortion might be challenged with a scenario where as a jurist during the penalty phase of a trial they have to vote for or against a death sentence. Or students might be asked about the moral permissibility of eating meat or buying leather products, given their sanctity of life position. The learner-centered approach of these exercises is *heutagogy*, or self-determined learning (Hase & Kenyon, 2000). With the Virtual Philosopher learning objects, students can repeat the exercises multiple times exploring various path options. The heutagogical approach relies on double-loop learning that challenges students' "theories in use," values, and assumptions rather than simply encouraging a reaction to the issues proposed (Argyris & Schön, 1996).

As students respond to questions, the Virtual Philosopher tracks the answers for consistency and at the end of the exercise points out to the learner any irregularities. By making learners' thinking processes visible, students can then use the information as a metacognitive formative assessment to monitor, modify, or refine their responses for any potential biases, pre-conceptions or value inconsistencies (Bransford, 2000). The cognitive dissonance created by Socratic dialogue irregularities encourages development of students' logical abilities and improved patterns of thought. Inconsistencies create a kind of stumbling block, a disequilibrium that provokes student thought and promotes deeper learning dimensions as students contemplate avenues for potential resolution (Brogan & Brogan, 1995).

In working through the Virtual Philosopher exercises, students are able to engage in a meaning-making process constructing mental models of theoretical concepts such as justice, equality, and piracy (Johnson-Laird, 1980). The learning objects were not created as stand alone instruments of learning but were designed to amplify and reinforce understanding of specific concepts introduced in the larger learning environment. The Virtual Philosopher is a tool for students to learn *with* rather than a "surrogate teacher" to learn *from* (Churchill, 2005). The reflective process is essential for higher-order thinking and a hallmark of pedagogically designed online courses (Palloff & Pratt, 2003). The Virtual Philosopher learning objects repeatedly challenge students to think about their thinking and to reflect upon their values and assumptions.

Finally, while the initial design of the Virtual Philosopher targeted an indirect experiential learning of specific concepts, once the Socratic questioning dialogues were written, student learning styles became a secondary design consideration. Since online courses rely heavily on students reading and writing about a topic, the Virtual Philosopher learning objects emphasize other categories in the "VARK" learning styles typology (Fleming & Mills, 1992). To engage visual and auditory learning styles, the Virtual Philosopher learning objects employ streaming videos clips of the professor presenting a scenario and asking subsequent questions. Text of the auditory presentation appears below the streaming video frame. The "hands on" design of the Virtual Philosopher exercises involves kinesthetic learners as the activities require students "do something." The actual process of completing each exercise involves students clicking through numerous choice options.

Socratic Learning Objects

Structure of Virtual Philosopher

Seven Virtual Philosopher learning objects were designed for a web-centric (fully online), interdisciplinary “Ethics & Technology” course (Palooff & Pratt, 2001). The Virtual Philosopher exercises are structured like a logical decision tree. Each activity begins with a review presentation of course information, which leads to a question or choice usually consisting of two to four options (though more are possible). Selection of an option yields a response in which more information is presented and another question or decision choice option is given. Students’ decisions lead them down different paths in which any contradictions or inconsistencies are pointed out. Each exercise ends with some closing comments upon the students’ particular selections. The initial decision paths of each exercise arose from classroom experience. Given a particular question, example, or case presented to students in the traditional classroom Socratic dialogue there are a limited and fairly predictable number of student responses. Utilizing these expected responses each Virtual Philosopher was designed (in the same way experienced teachers prepare classroom discussions) to anticipate a full range of student responses and to replicate the Socratic method discussion within the decision tree. Students are encouraged to push the limits of the Virtual Philosopher to ensure that it evolves to adequately reflect their questions. While previous classroom experiences determine the original response options, feedback from students’ post-exercise writings are used to add new branches to the exercises’ decision tree.

The first Virtual Philosopher learning object was constructed using only text, moving gifs of a man in a toga, and voice narration. In this initial exercise, students were asked to select from set of principles concerning the value of human life. One of the decisions was between the principle that all human lives are equally worth saving or some lives can be more worthy of being saved than others. Later on in the exercise, the student is presented with an ethical dilemma in which six different patients are all candidates to receive one life-saving liver transplant. Students are given backgrounds on each candidate patient. For example, the patient who has waited the longest for a transplant is homeless and a recovering alcoholic, another candidate is a single mother with six dependent young children, and a third patient is an eight-year old child. Students are then asked to select one of three options. First, should they begin by a process of elimination to determine which candidate ought to receive the liver transplant? Second, should they give the liver to the person who has waited the longest? Third, should they determine the recipient via lottery since all lives are equally worth saving? If a student selects an answer here which conflicts with the principle he selected earlier, the inconsistency is called out. The most common student answer is to determine the liver recipient via a process of elimination. In this event students eliminate one of the six candidates from contention until only one remains. Each time they attempt to eliminate a candidate, students are presented with dialectic for not eliminating the candidate. The exercise ends with a critique of whatever option the student chooses and an evaluation of her consistency (or inconsistency as is often the case even with faculty participants). At the end of this critique students are prompted to engage in an online discussion about their decisions and reasoning. This component is essential to replicate the Socratic method. The learning object, which is ordinarily imbedded within a course webpage, can be accessed at the Virtual Philosopher website (<http://web.uncg.edu/dcl/courses/viceCrime/vp/vp.html>).

In an effort to replicate the Socratic method classroom experience, the second set of seven Virtual Philosopher learning objects were created with full video of the instructor. For example, one classroom discussion, which was replicated within a Virtual Philosopher learning object, stems from a classic lifeboat ethics dilemma (Cohen, 2007). Students are presented with a scenario in which they are a lifeboat passenger but because the lifeboat contains more people than it was designed to hold, there is too much weight for it to remain afloat. Students are given a little information about the people in the lifeboat including the fact that one man is 400 pounds—twice the weight of any of the other lifeboat passengers. From classroom experience, the anticipated student responses as to how to morally resolve this dilemma include: 1) the student should jump out of the boat to save others, 2) the student should ask for volunteers to jump out, 3) the student should suggest drawing straws to see who gets pushed out of the boat, and 4) the student decides that the large man should be pushed out to save everyone else. While other resolutions are possible, (including that no action be taken thereby allowing the lifeboat to sink) these four options capture the vast majority of student responses. Whatever option a student selects then initiates a Socratic inquiry into the motives and moral implications of the chosen

action. The student may then, upon reflection, opt to abandon the chosen action and pick a different solution or if firm in his view continue with the planned action. For example if, as is most common, the student chooses to push the large man out of the boat to save others, the student is presented with an argument that this would be murdering an innocent man – a clear violation of his right to life – and therefore would be immoral. Some students backtrack at this point whereas most accept that their decision is a violation of the man's rights, but is justified for the greater good. Then, a further attempt to dissuade the student is provided whereby the example is changed such that the large man is the student's beloved brother and does this alter the morality of her chosen action? No matter what option students select in this exercise, they are pushed to abandon their position and choose another action until they eventually decide on a view they are willing to defend against criticism. This scenario is part of a larger Virtual Philosopher exercise available on the web at: http://web.uncg.edu/dcl/courses/ethicsTechnology/video/VP/ethics_vp3/vp3.

Distributive Justice

The simplest structure used in a Virtual Philosopher learning object was designed to encourage student understanding of the concept of distributive justice. After a brief conceptual review of distributive justice, students are presented three cases in which they have three methods of distributing the good in question. The three cases ask students to distribute scholarship funds, a pizza, and to impose a tax burden. Although the cases differ, the solutions follow a consistent theoretical pattern; students choose a distribution based upon need, merit, or equality. After selecting a just distribution to each case, those students who consistently resolve all cases, end the exercise with an explanation of the theory they have applied and some criticisms for them to consider concerning that theory in practice. Those students who vacillate between theories have their inconsistency explained to them and are directed to go back and apply consistency in their decision selections. This learning object can be viewed at: http://web.uncg.edu/dcl/courses/ethicsTechnology/video/VP/ethics_vp4/vp4.html.

Digital Property

The most complex Virtual Philosopher learning object structure to date focused on questions of intellectual property. After some background information, students are asked to choose between two competing definitions of theft. They are then given four cases which they must classify as theft or not given their chosen definition. Those that apply the definition consistently go on to choose between two conceptions of what makes theft wrong, one based on a Kantian moral theory and the other on Utilitarian view of morality (Slote, 2005). Students are subsequently provided a series of seven cases and asked to classify actions as morally justifiable or unjustifiable given their combined concept of theft and whether they adopt a Kantian or Utilitarian notion of the wrongness of theft. Since students make two different "A or B" decisions, there are four distinct theoretical notions, each of which interprets the seven cases differently. Those students who apply their chosen theoretical notions consistently successfully complete the exercise; those with inconsistent theoretical applications have this pointed out to them, are provided solutions to their inconsistencies, and are directed to start over until consistency is achieved. This more complicated decision tree model required at least eight different outcomes in order to accommodate the variety of choices students could make. The learning object can be viewed at: http://web.uncg.edu/dcl/courses/ethicsTechnology/video/VP/ethics_vp5/vp5.html.

Cookie Dough

In one Virtual Philosopher learning object an experiment was tried that has yielded some of the more positive student responses. The exercise involved the use of an analogy between four arguments for when we become full persons (conception, implantation, viability, or birth) and the question "when does cookie dough become a cookie?" (when the ingredients are mixed in the bowl, when the dough is placed in the oven, when they are mostly cooked, or when they emerge from the oven fully cooked). This analogy was then filmed in segments with the instructor actually baking cookies while explaining the various arguments. The students then choose their responses and follow a branching tree challenging their answers. This experimental "on location" style really grabbed students' attention and interest in the material. Rather than simply presenting content through a lecture-like camera view, this on location illustration of the content engages students thus promoting a deeper understanding of the material. Student surveys confirmed a preference for using imaginative video locations and activities to convey the material. The possibilities for creative teaching opportunities abound limited only by instructional

imagination and the requirement that student choices are planned out in advance. Many experienced teachers, however are well versed in the most prevalent student questions, which then can be built into these types of exercises. The cookie dough learning object can be viewed at: http://web.uncg.edu/dcl/courses/ethicsTechnology/video/VP/ethics_vp6/vp6.html

Student Assessment

To assess students' perception of the Virtual Philosopher's learning value, an end-of-course survey was administered. Of the 51 enrolled students, 38 completed the anonymous survey for a response rate of 74.5%. The survey consisted of six multiple choice/ranking and five open-ended questions. The respondents were primarily non-traditional students (71%) with 24% of the students over age 40. As Angelo and Cross note, assessment of specific types of assignments yield the most useful data from adult learners because these students "have some experience and perspective to bring to their assessment of the assignments" (1993, p. 356). Twenty-four percent of the students were male and 76% were female. All respondents had completed at least one web-centric course with 45% of the respondents having completed between five and ten online courses and 18% of students completed more than ten online courses. Twenty-nine percent of the respondents were online only learners, 45% were primarily traditional on-campus classroom students, 11% enrolled in an even mixture of web-centric and traditional on-campus courses, and 15% of students were primarily but not wholly online students.

Since the Virtual Philosopher learning objects were designed as an ungraded, formative assessment to amplify and reinforce students' understanding of specific concepts while allowing them to discover the implications of their ethical decisions, the exercises were supplemental, not required. Of the seven Virtual Philosopher exercises available in the courses, 41% of respondents completed all seven learning objects, 34% of students reported completing between 4 to 6 exercises, and 25% of students worked through between 1 and 3 exercises. When asked about how students used the Virtual Philosopher learning objects, 18% of students responded "I always answered using only one path", 8% of students responded "I only explored multiple paths when I changed my mind during the inquiry process", 47% of students indicated "I sometimes explored multiple paths because I was curious where they would go", and 26% of students responded "I almost always explored multiple paths to see all aspects of the exercise."

Open-Ended Question Responses

With the open-ended survey questions, several themes appeared. First, the value that students found in the Virtual Philosopher learning exercises often correlated with whether the students perceived themselves as outgoing or shy personalities. This result aligns research that shows introverted students generally perform particularly well in online courses frequently becoming quite verbal and interactive (Palloff & Pratt, 2001). Second, some students clearly identified how the intentional design of the Virtual Philosopher aligned with their self-identified learning styles. Finally, many respondents indicated that the Virtual Philosopher exercises required greater student attention and provoked metacognitive thought. Students were asked to compare the online Virtual Philosopher exercise to an in-class discussion with an instructor. Sample responses included:

I loved the virtual philosopher. It really points out things that you might not otherwise think about, forcing you to make better decisions.

It requires a lot more time and attention than in class.

I am a visual learner and enjoyed the virtual philosophers a lot! I would compare them fairly equivalent. Although a teacher is still not right in front of you, the visual aid helped me tremendously.

...I don't think it could ever be as good for me as a live class. I'm a very socially-interested person, and I enjoy the interaction with professors and students.

I am a visual learner, so it was nice to be able to look over everything and have time to process it without having to think on my toes like I would in a discussion. I was able to answer most of my questions this way.

When asked “Are there any ways in which the Virtual Philosopher exercise is better than a classroom discussion with an instructor?” students responded that this anonymous, private learning environment allowed them to be more honest with their responses. Introverted students also noted the how the exercises’ non-public setting facilitated their participation in the activity. Students commented:

Yes, because I am not embarrassed to answer how I truly may react to a situation.

You can answer truthfully and not feel like it is the wrong answer.

...you don't have to fear you will answer "incorrectly" or be judged for your answers.

You could be totally honest with your thoughts.

Yes, you have more freedom to explore various answers, scenarios. Some people are shy and don't like direct interaction with instructors.

I think it could be better in the fact that I don't feel nervous or embarassed [sic] about my responses, like I would in a classroom. I felt like I could participate more. (Normally, I am a very shy student.)

Shy students who are reluctant to speak up and discuss things in a classroom setting would feel more comfortable with the virtual philosopher.

The asynchronous nature of the Virtual Philosopher learning objects and the lack of time limitations seemed to reinforce deeper learning and self-reflection. With scenario-based exercises, students’ learning shifts from a focus on memory, recall and recognition to problem solving and critical analysis (Naidu, S., Menon, M., Gunawardena, C., Lekamge, D., and Karunanayaka, S., 2007). Student remarks included:

Being able to ponder the questions raised because it allowed me to go into depth with my thinking. Plus I could work at my own pace.

I liked the virtual philosopher exercises because it made you think outside the box. It gave a broader base to concepts and ideas which allowed you to analyze issues with more depth. It was a thinking prompter.

They made me think more about the complexity of the issues we face - and reinforced that there is no easy answer in most cases.

I liked the way I could go back and change my answers after hearing, normally, why my answers may not be the best choice. I was able to find out what I really agreed with and my eyes were opened to new possibilities. (As corny as that sounds!)

Gave me interaction time.

Rarely in class situations does the professor offer you unlimited time to ponder a topic before you respond.

When students were asked to identify their “favorite Virtual Philosopher exercise” the “cookie dough” and the “lifeboat” scenarios were most selected. Students commented that the “cookie dough” learning object was “a topic that I feel a little stronger about,” “it put a very sensitive issue into a discussable one,” and “I loved the way it applied to what we were studying and the humor kept me engaged.” Students responded “lifeboat” Virtual Philosopher exercise “was probably the most thought provoking for me,” and “I thought I knew whether I was a Kantian or a Utilitarian, but was unclear!”

Conclusions

The online classroom setting might be better suited to Socratic method discussion than a traditional setting for two reasons (Whiteley, 2006). First, a traditional classroom discussion has time constraints. When student self-discovery is beginning and the allotted class period ends, it very difficult to recapture the dialogue at the next class session. Second, the ephemeral nature of a traditional classroom makes it difficult for students to accurately remember all that is said. With an online course these two barriers are

overcome. Time boundaries are absent (although deadlines exist) and students often have a textual record of what was said or can replay video/audio transmissions.

Although the Virtual Philosopher learning objects adequately replicate the Socratic method “signature pedagogy” for philosophy in online courses, three improvements might be made. Some students were unsatisfied with the answer choices provided within the decision tree options. Students queried “could there be other paths to consider in addition to those outlined by the choices?” and suggested that the Virtual Philosopher exercises should incorporate an open-ended textbox option where students would be able to “input responses by typing them in.” Another improvement suggested by students was cumulative tracking of decision responses. After completing an exercise, students indicated they “would like to have seen what path my classmates’ chose” and suggested integrating an exercise results chart at the end of the activity. A final improvement the instructors are considering is a greater overlap between the Virtual Philosopher learning objects and the required discussion exercises. This pedagogical intersection would be particularly helpful for increasing students’ conceptual understanding and the meaning-making process.

The next series of Virtual Philosopher learning objects in development aims to improve students’ connection with ethics case studies (Brooke, 2006). Simply reading cases often fails to convey to students what it is like to be in the situation. Since they generally know the outcome of the case, students use this lens as a way to judge what should have been done along the way. Thus the next series Virtual Philosopher exercises will place students in a decision making role as ethics events unfold around them. Information and suggestions will be provided from various characters and then students will be asked to choose an option which then leads to more information and more challenges requiring their decisions. This model aims to give students a broader sense of what they are likely to face in the real world and relies on a holistic view of active learning by including information gathering, experiential learning, and reflection (Fink, 2003). For example, students think it is obvious now that the Enron accounting practices of hiding debt in partnerships was wrong because they know what happened. The real challenge is to present the decision to create these partnerships as a way to prevent a decline in stock price and to “help the company through troubled times” as a real dilemma to be resolved without knowing the consequences. Recognizing how easy it is to go down the wrong path is of more value than simply knowing that Enron went down the wrong path.

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- This work is based on a 2007 presentation at the MERLOT International Conference. New Orleans, LA.
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Manuscript received 27 May 2008; revision received 23 Aug 2008.



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