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## Recommended Citation

 $Karaali, G., In \ Defense \ of \ Frivolous \ Questions, Inside \ Higher \ Education, Views, April \ 10, 2012. \ Available \ online \ at \ http://www.insidehighered.com/views/2012/04/10/essay-defense-courses-ask-seemingly-frivolous-questions$ 

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## In Defense of Frivolous Questions

Apr 10, 2012 By <u>Gizem Karaali</u>

Is there any reason for today's academic institutions to encourage the pursuit of answers to seemingly frivolous questions? The opinionated business leader who does not give a darn about your typical liberal arts classes "because they do not prepare today's students for tomorrow's work force" might snicker knowingly here: Have you seen some of the ridiculous titles of the courses offered by the English / literature / history / (fill in the blank) studies department in the University of So-And-So? Why should any student take "Basketweaving in the Andes during the Peloponnesian Wars"? Just what would anyone gain from such an experience?

Yes, the professor will probably claim that our common global ancestry and the dependence of today's culture on the classical morals of the era will provide much food for thought and much room for growth for the 18-year-olds who will be sitting through three hours of ancient basketweaving lectures a week. Yeah, yeah, the industrialist will wave dismissively, but who cares?

Now if our impeccably dressed friend is honest, perhaps he will admit that what he is demanding from those of us who have less (time and money) to spend on trendy outfits because we are busy preparing our lectures and doing our grading and writing our books and presenting our work at professional conferences (of course the latter two are a complete waste of time, our friend would say) is to create for him an army of well-trained, docile and respectful workers, ones who come out of the factory of higher education in time to be immediately recruited by the factory that is the job market. Workers who are faceless in the midst of a sea of millions like themselves, workers who are trained to play by the rules and to respect authority, workers who are cheap and obedient and dispensable.

While the elite will have their prep schools and their private schools and their automatic rights to four years on a heavenly campus playing the sports they like and hanging out with their future CEO friends, the workers that our friend expects us to graduate and dump into his lap are the ones who should NOT learn to ask questions. And stupid or frivolous ones? Those are the worst! Because who knows, maybe they are just making fun of him, asking these trick questions that sound silly but have quick witty answers that he just can't come up with.... Surely he always hated those trick questions.... What, brain teasers, they were called... Or math.... Whatever.

In these kinds of debates our well-fed (but in tip-top shape thanks to his personal trainer) friend will often find support amidst the faculty teaching in the STEM disciplines. It is not tough to find an engineering professor who smirks at the titles of courses offered by his humanities colleagues, nor is it uncommon for faculty in the pure science disciplines to consider themselves at the core of the curriculum and the foundation of a real education.

My own disciplinary colleagues, the mathematicians, are not completely innocent either. True, many of us view mathematics as a creative art, but many of us also have the illusion that mathematics is the only path to universal truth (now what does that even mean?). Furthermore we believe that the fact that the university mathematics curriculum still follows the same ladder structure that brings student cohorts through the same college algebra-precalculus-calculus sequence that we (and our predecessors and their predecessors and their predecessors, ad infinitum) have grown up with is due, not to our shared lack of creativity or simple inertia, but to the absolute necessity of this order.

This year I took a different path. I volunteered to teach a first-year seminar. A strange path indeed for the rational, linear-thinking mathematician who had taken a whopping two courses in humanities during her own undergraduate studies. The first-year seminar series at my college is a perfect foundation for a deep and engaged liberal arts education. The courses are writing-intensive, most are discussion-oriented seminars, and students are expected through the semester to engage with analytic readings, sophisticated writing experiments, creative arts and aesthetic sentiments. Absolutely marvelous for a humanities scholar. How about me? What would I center my course around?

Not caring to reinvent the wheel, I followed the example of my most daring colleagues and chose a completely frivolous question to guide the semester's activities: "Can Zombies Do Math?" The inclusion of zombies was a clever, pragmatic move on my part. The <a href="Humans vs. Zombies">Humans vs. Zombies</a> (<a href="http://humansvszombies.org/">http://humansvszombies.org/</a>) game has been an absolute hit on my campus for years now, so I knew that students would find the bloody stench of the gory manifestations of the undead/living dead irresistibly appealing. However the central idea of the course had been simmering in my mind for several years before I even heard of the game.

Mathematics is undeniably a human endeavor, and even though we mathematicians unfortunately do a very poor job of sharing the true nature of mathematics (which integrates a certain comfort with ambiguity and a deep desire for elegant simplicity amidst complex patterns) with the rest of the society who claims to be allergic to matters mathematical. Mathematical practice gracefully integrates a certain comfort with ambiguity and a deep desire for elegant simplicity amidst complex patterns. With all this baggage in the background, I knew that I had to give it a try. I had to try to create a course where students, fresh out of the factory line that is the K-12 education system, now even better buttressed by No Child Left Behind on one side and the Advanced Placement rush on the other, would be exposed to various ideas and experiences about the true nature of mathematics.

Throughout the course my students and I read several books, articles, essays, short stories and poems. We watched movies about zombies and mathematicians. (A partial syllabus for the course may be found <a href="here">here</a>.

(http://pages.pomona.edu/~gk014747/teaching/PastCoursesATpomona/Fall2011/ReadingList4MathZombies.pdf) ) There were writing assignments that required students to review novels they were individually assigned, and others that asked them to interview a mathematician to discover what motivated them. The two main essays of the course focused on the two serious questions that were hidden under my frivolous one: What does it mean to be human? What is the true nature of mathematics? The culminating writing assignment for the course was a narrative statement asking students to come back to the course title question and resolve for themselves the puzzle that began the whole trip: Can zombies do math?

On the last class discussion of the semester, Kimberley, the student discussion leader, asked her classmates:

"Now that the course is coming to a close, how would you answer the question 'Can Zombies do Math?' Would you answer it any differently than you would have at the beginning of the semester?"

There was consensus around the room that most of them did not change their gut response to the question, but now they had a more crisp understanding of the path that led them to that answer. Along the way they tackled questions such as what makes us human, what we ostracize as subhuman, other, monstrous, and what, if anything, is a soul. Also through the semester they had the chance to explore ambiguous, wild patterns and strange, undetermined paths in the mathematical universe. But I think what mattered most in the end was summarized best by Kenny's response to Kimberley's question:

"Does the purple hippo that I just conceived like to brush his teeth? It depends."

Yes, the course was centered around a frivolous question, but the point my students and I left the semester with is that the answer to any question we can pose depends, always depends on what our basic assumptions are, what we are already inherently implying with our choice of words, tone of voice, and turn of phrase, and what lies inside us as individuals who are reflecting over the question. The minor issue about what makes us human was, of course, a side attraction, which will hopefully allow these keen students of the liberal arts to proceed through the rest of their voyage in college with some carefully examined and deeply felt sentiments about their place in this universe.

Another brief description of the course mentioned here (titled "Humanistic Mathematics: An Oxymoron?") will appear in Diversity & Democracy (Volume 15, Number 2), a publication of the Association of American Colleges and Universities, in Spring 2012.

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