Astronomy Education Review

2009, AER, 8, 010602-1, 10.3847/AER2009050

A Mindset List for College Astronomy Instructors

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Received: 08/3/09, Accepted: 08/24/09, Published: 09/1/09

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Abstract

Many students entering college this fall were born in 1991. They were born in an era in which the technology, modes of communication, political debate, and views of the future were profoundly different from those of many of their astronomy instructors. It can be useful to consider the “mindset” of our students and adjust our language, our cultural references, and even our vocabulary accordingly.

Since 1998, Tom McBride (Professor of English) and Ron Nief (Director of Public Affairs) at Beloit College in Wisconsin have compiled a “mindset list.” It shows which events, people, and technology were important in the lives of students entering college that year, and which predated them. See <http://www.beloit.edu/mindset/> for the most recent example. For example, “You sound like a broken record” may not mean much to today’s students because LPs became obsolete before they were born, and also because CD sales are in decline, thanks to downloads. It is fascinating to read these mindset lists, especially if you are finding yourself significantly older than your students.

While the list is not especially focused on science (and, in fact, the 2008 list includes the somewhat misleading listing that for the class of 2012, “The *Hubble Space Telescope* has always been eavesdropping on the heavens”), it does bring up the issue of what astronomical ideas our students have grown up with and which they have grown up without. Here are a few examples, to get your thinking started:

- The Apollo project happened longer ago for today’s students than World War II did for many of their instructors. Fox TV’s show that claimed the Apollo moon landing was a hoax aired when they were prepubescent.
- They likely do not know that there were six landings by astronauts on the Moon, of which *Apollo 11* was only the first. They might have heard of *Apollo 13* because it was the subject of a movie starring Tom Hanks.
- Many of them have never heard of Carl Sagan. The *Cosmos* series premiered on TV almost 30 years ago.
- Few of them have seen the film, *2001: A Space Odyssey*. They like snippets of it, such as when the ape throws the bone into the air and it turns into a spacecraft, but if you show it in its entirety, they will consider it slow-moving. They enjoy *Dr. Strangelove* because they do not know how close to the truth it was.
- The vast majority of them grew up with light pollution as a fact of life. Few have seen the Milky Way in a dark night sky, or a meteor.
- Everyone has a basic concept of what “warp drive” is. Only the science majors realize that faster-than-light travel is still fiction, even in principle.
- Most of them have never heard of Percival Lowell and the issue of the canals on Mars. None of them were alive when the Viking spacecraft landed on Mars. Few of them have ever heard of the Viking program.
- Most students recognize the term “black hole,” although many think it is a science fiction concept. They are often surprised to learn that astronomers have evidence that they exist.

- Few of them have ever thought that abandoning technology would be a good idea. They are much more at home with technology than their parents. Many of the notions of the antitechnology movements of the 1960s seem very strange to them.
- They have not grown up thinking of Venus as a possible abode for life, or a romantic setting for science fiction.
- Situations in which they are first-hand users of satellites, including satellite TV, phone calls by satellite, GPS, and Google Earth, are all commonplace to them.
- The *Challenger* disaster was indeed traumatic for the kids who saw it on TV, but many of them graduated from college 10 years ago.
- Almost none of today's students have heard of Velikovsky or von Däniken (two peddlers of pseudoscience who garnered much press attention in earlier decades).
- Very few have heard of (or seen) a Chevy Nova or a Ford Galaxie car.

We invite you to add your own thoughts to this rudimentary list. But whether these items resonate with you or not, you may want to consider the life experiences and popular culture references of your students as you plunge into your Astronomy 101 classes this year.

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