

The West Australian Skeptics Awards for Young Critical Writers: Investigations and Questions about Future Directions when Studying High School Students' Beliefs in the Pseudoscientific and the Paranormal

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Abstract

In 2006, the Western Australian Skeptics ran the inaugural WA Skeptics Awards for secondary (high school) students from Years 8 to 12. They were devised by a group of concerned skeptics to address what they saw as a dearth of critical thinking amongst young people, by rewarding reports that critically examined claims of the paranormal and pseudoscientific. Adapted-for-the-classroom versions were made by Kylie Sturgess and used for two English classes at an all-girls' private school in the inner-city suburbs of Perth. Despite the successful results of the students, it raises questions about how to increase the popularity and general application of similar projects; what supporters of critical thinking face in the classroom and beyond, as well as what successful, empirical research is actually being done in terms of improving critical thinking outcomes amongst the secondary and primary years.

Introduction

Ladies and Gentlemen:

As you can see from the PowerPoint display, this presentation is in two parts. For the first part, I'll be speaking on behalf of the Western Australian Skeptics and telling you about their efforts with their WA Skeptic Awards in 2006. They have a request of all skeptics - to contribute your ideas and your resources to help with their upcoming website, collating information that is designed for students in the secondary school years – also known as Years 8 to 12.

As for me and my part of the speech? Well, I have a great many questions. Because although my students took part in the WA Skeptics Awards and I have already begun to research unique and useful ways we can show initiative as skeptics in the classroom... I want to know something.

I want to know if what I do and what you do and what all people who give a damn about educating young people really makes a difference to their lives.

When we use examples of pseudoscientific and paranormal claims (everything from the sadly deluded to outright fraud with a skeptical approach) and encourage same children to develop a more critical eye about the world they're growing into – are they really learning something or is this just our confirmation bias?

Let me start with one group's efforts which can be measured in terms of efficacy and should be considered an excellent start in considering how to measure effectiveness when teaching critical thinking, especially how to be a skeptic. I'd like to point out; this does involve all of us, not just those with a teaching degree. I say this as every skeptic

can demonstrate a better example to young people than some of the role models out there!

The West Australian Skeptics and the Awards for Young Critical Writers

In 2006, the WA Skeptics launched their Awards for Young Critical Writers. They sent brochures to the 96 largest schools in Western Australia, representing 70 % of all students in years 8 to 12. They also put a downloadable version on the national Australian Skeptics website.

Entrants had to write critically on any curious belief, and had to make their own test or survey. Those achieving merit would get a certificate and other goodies. They had 16 weeks to get their entries in.

Here is what happened. A total of 27 students sent in a total of nine entries. The topics were mostly old favorites, like horoscopes, zener cards, Ouija boards and the i-ching, feng shui and the afterlife. In total, the students tested seventy people, getting only the dreaded negative results and surveyed a further 150 people.

Whilst it was said it had been a fun experience, it could also be frustrating, as the 12-year olds surveying the afterlife found, when some of their questions became difficult to get responses for as 'no one answering these questions is dead.'

Two entries, on the i-ching and tarot cards received awards and two entries on feng-shui and horoscopes received honorable mentions.

This sounds like a great initiative, but the response overall was only one student for every four schools contacted.

What went wrong? Was it because teachers are too busy? Or was it because students prefer to soak up media hype? Or was it because the brochure never made it past the head of school? In discussion, it was figured that there were a few factors, like how the Awards had been geared towards individuals rather than the classroom. So it was decided that for 2007, the Awards would change direction and incorporate a website aimed at the classroom. They are constructing this over the year and are after submissions.

The draft homepage for the WA Skeptics would be formatted in the following manner. Their theme is 'Undeceiving themselves' - to draw upon the notion of proactively challenging deceptions. 'Undeceiving' is in fact a well-established word and has the advantage of being understood, even at first sight.

In the top right of their website, their stated aim is to provide classroom resources in critical thinking for secondary schools. If you search the web, there are

numerous resources but little specifically aimed at secondary students. This is a niche which greatly interests me as a teacher too.

The WA Skeptics wanted their own standalone site that is linked to the Australian Skeptics national website.

Once the WA Skeptics are finished with their collation, they will be circulating it for comment and certainly to those who are interested can contact them.

Critical Thinking in Secondary Schools – Promoting Skepticism

So – what leads me to stand here today? Who were some of these students that achieved two Awards and one of the honorable mentions?

This is a quick profile of my school. One of the things that you should realize is that we were the focus of an item in our state newspaper, The West Australian, with the title 'Girls Win the Battle of the Sexes' in regards to tertiary entrance scores. If we're not the best in our state, as we were in 2006, we're usually in the top five. This immediately raises questions, I'm sure. Could any other school so easily aspire to have the same results?

The classes I run are English classes, not Science, and I have a brief run-down in regards to how I structured one term's worth of work in *Science, Fiction and Skepticism*. I integrated study on Shakespeare's Macbeth, Wyndham's The Chrysalids and the film GATTACA with the Awards.

The class chose to work in groups and produced six reports in total – the topics included Ouija boards, feng shui, use of Zener cards, i-ching and tarot cards.

So what's so different about the WA Skeptics Awards in comparison to other ventures and how my students entered them? Firstly, a skeptical group in the wider community set the guidelines and parameters for what the students had to achieve in terms of thinking critically about the pseudoscientific and paranormal – this was run by Dr John Happs, President WA Skeptics; Dr Geoffrey Dean, CSICOP Fellow and the WA Skeptics Committee. A teacher, myself, took those guidelines and adapted them for a cross-curricular investigation, focusing on the skills required to meet English outcomes in Reading / Speaking and Listening.

In addition to this, I drew on the expertise and aid of the Methodist Ladies' College Science Department. Writing for the Awards counted towards their English grades and the materials / templates are able to be used by other teachers in both English and Science Departments in the state, as there are matching overarching outcomes across schools. I am very interested in seeing how it could be nationally or internationally applicable. Communicating and networking is vital to support and improve one's teaching, after all.

I'm very interested if this sort of project could be of some use to people who are currently dealing with the pressures placed upon them by the 'No Child Left Behind' policy, for example. After speaking to some people at the Amazing Meeting's Thursday workshop on critical thinking, I heard that the United States faces some similar problems to

Australia in the way that government policies are not really meeting the needs of young people in that field. We are not alone, it seems.

But one thing you should be certain of – you're also never alone when you're looking for innovative and interesting ways to teach critical thinking. We have plenty of evidence in regards to courses in critical thinking that exist. There are people like Tim VanGelder, from Melbourne University, whose software program *Rational* has had amazing influence on the critical thinking scores of his undergraduate students; this is found on the site Austthink.com. We have had lectures by several presenters at this very conference. You may have read Dr Martin Bridgstock's essay on the Australian skeptic's site (he won the 2006 Australian Skeptics Award for Critical Thinkers), about his methodology.

But these are primarily undergraduate programs, designed for the over-eighteens - and that is what I want to emphasize. This target audience is also reflected in the Skeptic Society's "Baloney Detection Kit" that is for sale. What about younger people? I know that VanGelder is interested in how *Rationale* could be used in the lower years – but is it too problematic to start being a critical thinker as a younger person?

Ouija Board Lessons and Whether they Work

I would firstly point out that Mathew Lipman's Philosophy for Children research argues that the earlier you teach children to be critical thinkers, the better [Lipman, 1988]. But when I looked at the younger years, I found few investigations which were backed by consistent tested evidence, although at least efforts are being done to rectify this by other groups and is further discussed by Michael McRae's paper 'Creating Critical Thinkers for an Information Age' [McRae, 2006]. If you don't know what's already out there, it's easy enough to start looking.

In terms of what we skeptics are writing on the topic of younger years and teaching critical thinking via studying the paranormal and pseudoscientific – I found even less. There's a Skeptical Inquirer article titled 'Ouija in the classroom' back in September 1997, which discussed how one teacher's class looked at the likes of UFOs, ghosts, Big Foot, and Ouija boards. But that same article stated:

'Every year parents complain about my "teaching the paranormal. Often, all they need is a face-to-face explanation of what's going on to calm their fears... the administration has given me support, and then withdrawn it under pressure.' [Barrieau, 1997]

Teaching children to look skeptically at weird things appears to be quite contentious, for a variety of reasons as shown. That is another concern I have - how could a teacher be better supported when they teach a class which might go against the dominant values of their community?

But the most worrying thing to me is this statement in 'Ouija in the classroom':

'...students seem to understand and absorb at a much higher level with this approach.' [Barrieau, 1997]

Seem to understand? And understand what, exactly? Who has recently tested students in Primary school and Secondary school by applying, say, critical thinking tests after doing such a class? Or looked at any educational improvement in, say, their Science grades or their communication skills? There are, of course, tests like the Belief in the Paranormal Scale, the Ellis Scale of Irrational Beliefs and classroom tests of scientific reasoning that could be used, along with PISA scores (assessing Scientific, Reasoning and Mathematical ability) or even longitudinal studies into whether a career in science is inspired by such classes. Are teachers, academics or institutions interested in finding out more about this aspect?

Studies like those done by other groups who promote critical thinking are well documented; continued studies into the efficacy of the Community of Inquiry method (used in the Philosophy for Children programs) have been done internationally since the 1970s – I suggest we start doing the same, to test whether it is something that is universally applicable.

There are a lot of really 'fun' classes that encourage a skeptical outlook and enjoyable methods to apply. But I wonder if they are really improving students' abilities and do same students continue to look skeptically at ghosts, homeopathy and the rest after they leave our schools. Or do they just become chiropractors and fortune tellers, blithely discarding the 'science class fun' as an anomaly in an otherwise dull subject area?

Most importantly – what assume that it's just about resources. That a list of instructions on a website, just a book or just a series of lessons. Let us not forget that teachers and a supportive school are just as, if not more important. Unless you have delivery, you will never get the product out.

Future Directions and Getting Started

So I'm now starting to question even more. Questioning what current methods of 'doing skepticism in the classroom' really brings to young people. Sadly, I found few academic papers done in recent years that come even close to the likes of Paul Revere Priest's study of secondary public school chemistry students and their beliefs [Priest, 1995].

In comparison to many teachers, I know that I'm in an extremely privileged position with my students. I have an opportunity to run a similar study to Priest's, in a privileged, all-girls' school. But students and schools are so very different and one method may not suit them all. Can I confidently say that Methodist Ladies College is in any way comparable to a high school in the Bronx? Or a bible-belt community primary school in Toronto? What about the local high school here in Las Vegas? Or a home schooled teen? Shouldn't we be wondering if we're really helping these students as confidently as we measure our test-tube levels or our ranking on schools' achievement tables?

We can then go from there to other differences between our cohorts. I teach at an all girls'-school. I intend to see whether an all-boys' school differs in beliefs to my students

- and why. What if you're in an inner-city New York school and live on the upper west side – or a lower-socioeconomic area of the same island? Should we not be encouraging and testing the efforts of Maira Benjamin, the head of Skeptical Community who chose to become a tutor of critical thinking in a New York public school? And will all of this guarantee one child will be a better critical thinker and less subject to falling for a fraud in comparison to another child who is a homeless street kid in Melbourne?

I am wary of 'quick solutions' and even more skeptical of the broad brush that people assume will guarantee critical thinkers – like popular figures, TV shows and 'sexing up science'. Education is too vital to treat as just another 'communication device' with showy magic tricks to lighten up the image of skeptics.

Education Isn't Just A Website, A Lesson Plan or a Good Book – Using Our Human Resources

So many questions I have written – and yet there are still more. There are also so many different educational settings, like integrating the teaching of skepticism through the Theory of Knowledge component in the International Baccalaureate. Then I question again - would a Gifted and Talented program gain better grades in Science than the same age and gender children who are attending school in a remand center? Lee Grahame, another speaker this Sunday, has done such a course in Canada for G&T children.

I also question the thousands of dollars we spend on taking children to camps, to retreats, to tutoring sessions and excursions... if we created an Amazing Meeting catering only to children, would we be able to test what actual empirical advantage those students have in regards to their critical thinking ability? Could we? Or is just about feeling like we've exposed them to a few Ouija boards and beds of nails and so that's all it really takes?

We have plenty of studies that look at the efficacy of museums and outreach programs; I would suggest that perhaps skeptics start suggesting and supporting more. As for resources, magic tricks, videos, games, books - see how many resources I have collected already, from the Australian Skeptics Science CD to the Mac King suitcase of magic tricks. Is that all I really need?

And what about the West Australian Skeptics' initial idea to have a student do the awards with no teacher help whatsoever. Could a child indeed do this, do it well and then would it lead them continue to question similar topics they haven't investigated? I wonder if time is all we need to tell.

Already you can see what points I've made could become excellent research areas for a dissertation. What sort of phenomenon / phenomena poses the greatest risk for young people and should be concentrated on in our classes? And as I've stressed before - testing and measuring the effectiveness should be a priority.

I was particularly intrigued by recent studies at the University of South Australia and hoping that a look at who is teaching our children and what they may be imparting

would pique some interest. The title of the paper has implications for secondary schools too: *'Where Have all the Skeptics Gone?: Patterns of New Age Beliefs and Anti-scientific Attitudes in Preservice Primary Teachers'* by Gregory Yates and Margaret Chandler, of the University of South Australia.

Finally and even more importantly, when the teaching of skepticism is opposed (or even silenced outright) – where can you gain much needed resilience and support from academia, fellow skeptics and support groups? Is a forum board, a blog, a podcast (or a conference) really good enough? We should be questioning ourselves - our role models who are skeptics and our methodology as much as we question weird claims. I honestly don't see any online skeptical forum community that truly tackles any of these issues or has demonstrated any serious study into what is being faced by teachers beyond vague 'let's do something! Anything!' or 'Educate your children to enjoy science!' statements that are soon forgotten in favor of what appears to be 'promoting skepticism for the already skeptical'.

Finally – networking, networking, networking. I question whether the case of 'Ouija In The Classroom' might have never been shut down if online teachers stood together, if a coordinated skeptic group questioned the decision or if there was a program that depended on students passing the course.

Educating and Skepticism - It's Not Enough to be Noticed

I stand here with a lot of enthusiasm and a rather disillusioned view of what skeptics really do for young people. I don't see that there's anything wrong with questioning how much we really contribute to skepticism in the long term. Why shouldn't we be like the WA Skeptics, challenging the educational system to teach children to be critical thinkers and in the process find out if what we have to offer as skeptics actually works to their benefit?

As I said before, the WA Skeptics have demonstrated that there are ways that non-teachers can contribute to the education of young people and offers more to schools than just looking like skepticism is a fun thing or a sexy thing but an appreciated and serious process that is proven to target an area of need. We clearly don't need more bandwagons which have little research and a lot of time wasting. Let's be more about questioning whether teaching children to be critical of credulous claims really works and how to do it well if it does. Especially for those of us who are gathering resources and never quite feeling that we have enough.

Michael Shermer says *"If we can offer a natural explanation for apparently supernatural phenomena and make three or four simple points about science and critical thinking, so that listeners can learn how to think instead of what to think, then I believe it is well worth the effort"* [Shermer, 2002]. But as a group, as skeptics – I sometimes wonder about OUR effort. Are we sometimes doing something for the sake of something rather than checking for long-term efficacy? I wonder if our sound and fury is doing anything more than just gaining detractors.

I admit - I'm more inclined to keep in mind what Dr Mark Henn of the University of New Hampshire says in comparison:

"It's not enough to be noticed; it's not enough to simply have an audience. Paris Hilton has an audience. What we as skeptics need is empirical data showing the effectiveness of what we are doing. We don't want to make a big splash; we want to make a big difference."

Here's to making a difference - effectively.

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