

A Review of Walden University's
Online MSED Science (K-8) Program

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ABSTRACT

This review is based on the experience of an adjunct professor teaching in the Walden University online MSED Science (K-8) program. The program described by Walden University and the actual implementation of the science component of the program as experienced by the Professor will be presented. The program, while a noble attempt at a completely online Master's degree, falls short in the scientific and academic rigor one would expect at the Master's level.

OVERVIEW

"For students to be competitive in the 21st-century global marketplace, they need strong scientific knowledge and abilities."¹...so begins the program description for the Walden University MSED Science (K-8) degree program. The part of the statement that will be focused on in this review will be "they need strong scientific knowledge and abilities". This review will reveal, that while it is a laudable goal that teachers give students strong scientific knowledge and abilities, Walden University does neither with its own graduate students who are in the MSED Science (K-8) program herein described. The level of science that is "taught" to the graduate students in this program is probably equivalent to that found in a middle school science curriculum²: ...hardly what one would expect at the graduate level in a degree that has Science in its title. It implies that the graduate students in the MSED program will gain a strong "scientific knowledge" when for some of the graduate students the scientific knowledge gained is probably less than the knowledge had by the students they are teaching.

WALDEN UNIVERSITY

Wikipedia describes Walden University as³:

Walden University is a private, for-profit, specialized distance learning institution of higher education. Headquartered in the Mills District in Minneapolis, Minnesota, Walden University offers Bachelor of Science, Master of Science, Master of Business Administration, Master of Public Administration, Master of Public Health, Ed.S. (Education Specialist), Ed.D. (Doctor of Education), D.B.A. (Doctor of Business Administration), and Ph.D. (Doctor of Philosophy) degrees in a number of academic fields.

Walden is a part of a network of campus- and online-based for-profit universities owned by Laureate Education Inc.

It was started by two teachers in the 1970s in Florida. Walden was accredited by the North Central Associations of Colleges and Schools (NCA) in 1995. Walden University has no brick and mortar campus.

THE NEW WALDEN UNIVERSITY MSED SCIENCE (K-8) PROGRAM

The cost for the MSED Science (K-8) is approximately \$17000.00 for the entire 2 year program.⁴ The program consists of 10 three credit courses⁵...five core courses that include *Teacher as Professional...Designing Curriculum, Instruction, and Assessment... Enhancing Learning through Linguistic and Cultural Diversity...Action Research for Educators...and Creating an Effective Classroom*. I cannot speak to the core courses.

The five Specialization Courses are *The Nature of Science... Exploring the Physical World... Investigating the Living World... Exploring the Earth and Beyond...Looking into the Future of Science and Education*. I can speak to the *Exploring the Earth and Beyond* because I was teaching that course. Notice that none of the specialization course titles have the term “for educators” included. A student might think that they are going to gain valuable “scientific knowledge” by taking these specialization courses.

There are three books used for all five of the science specialization courses.⁶ They are:

Tillery, B., Enger, E., & Ross, F. (2008). *Integrated science* (4th ed.). New York: McGraw-Hill.

Bryson, B. (2008). *A Really Short History of Nearly Everything*. London: Random House.

Richards, D. E. (2006). *The Prometheus Project: Trapped* (2nd ed.). Eagleville, PA: DNA Press. (ISBN: 0-9748765-4-2)

The Tillery book could be used in a one semester college freshman general science course. At Walden it is used for 5 semesters of specialized science courses. The Bryson book is an entertainment type/ coffee table generalization of “nearly everything”. It is filled with misconceptions but it passes as a science book for Walden students specializing in science education. The Richards book is a short sci-fi children’s book.

The program places a heavy emphasis on scholarly writing and expects the student to use the APA style perfectly. It is indeed a commendable goal to have the graduate student write well however this patina of academic legitimacy only serves to point out that the well written paper highlights how little the student has learned about the basic concepts of science that they need and should get from this program. Each course has an enrollment of 33 students.

TYPICAL WALDEN STUDENT

My experience gained from teaching for Walden during the past four years (2006-2010) reveals that a typical Walden student in this program is either a full time or part time teacher or may be an unemployed teacher between teaching jobs. Most have come by way of a college curriculum that offered courses such as “science for educators” and graduated with a degree in education not ever having taken a freshman level college Physics course. Occasionally there are students in the program who have a formal science or engineering background and would do well in any MSED program but probably chose Walden because of the flexibility of the online format of the program. Walden seems to have minimal, if any entrance requirements. Other than an application, anyone could be accepted into the program.

An e-mail I received from a student captures the background and the angst of a typical student in the program⁷:

How do you expect people to improve in a course if you do not address their concerns? I AM NOT an expert in Geology. I majored in Middle Grade Education (math and science) as my undergrad degree. NOT Geology. Within the program, I took geology and biology courses aimed towards educators to help them learn ways to teach information with a basic understanding of content. I did not take any physics classes because there were none available for education majors. I did not go to college to be an expert in all areas of science. I went to college to learn ways to teach science education to middle grade students and to promote an interest in science education within them. These courses through Walden's Graduate Science K-8 Program are aimed to do the same. However, you expecting us to be fluent in all areas of science as the experts the presidents' Administrations uses is ridiculous. I "lack" the knowledge you expect us to have because I am not an expert. Therefore, making up for my "deficiencies" in all areas of science is not needed.

This student was extremely upset that she was asked simple questions in order for me to assess her knowledge about a specific subject for the week's discussion. She is confusing a basic level of scientific knowledge with the level of knowledge known by an expert in a particular field. The concepts of earthquakes and tsunamis and weather were focused on that week.

Part of the angst felt by the student was that her expectations about the program as described by Walden were not the same expectations that I had when “teaching” the class as described to me by Walden. The student expects a continuation of the “science for educator’s” style course and the Professor expects to provide a masters’ degree level teaching experience. The fault is with Walden possibly misleading both the student and the Professor.

EXAMPLE OF A DISCUSSION SESSION

The course has discussion sessions each week. It is in the discussion sessions that the Professor has the ability to engage the student and assess their knowledge of the science content. Walden's description of a discussion is as follows⁸:

Discussion: Temperature Data

As you have explored this week, water plays a significant role in weather patterns. Consider the moderating influence that water has on the temperature at coastal locations or other areas near large bodies of water. In contrast, reflect on the temperature extremes from day to night and from season to season that typically occur in inland locations.

What other factors may influence weather and temperature in a given location?

In this Discussion, you will examine real temperature data to gain further insights about weather and the variables that affect it. You will measure the temperature of your local area to compare and contrast with data of your colleagues around the country and globe. You will then look closely at the factors that appear to be influencing the temperature variations.

The following is an actual exchange between the Professor and a more able student. The name of the student has been replaced with "Student 1" to protect the identity of the student. The Professor's responses are in bolt type⁹.

Student 1 10 Nov 10 6:04 PM MST

Temperature Data:

By examining real temperature data provided by colleagues, I had the opportunity to compare and contrast temperature readings in the sun and the shade for eight different locations. In addition, relevant variables that may be affecting the temperature were shared as well. After collecting all the data, I used a table to create an effective visualization of the data.

I noticed that temperatures in the sun were higher than the temperatures in the shade. The average difference between temperatures in the sun and shade is 7.25 °F. As I expected, temperature readings were higher in Florida and Texas and lower in New Jersey, Pennsylvania, and Ohio. Cloud coverage was minimal and wind speed ranged from calm to gusts of 18 mph.

Since areas of our planet are heated by either direct or slanted solar rays, the amount of heat energy received varies (Tillery, Enger, & Ross, 2008). Other than wind speed and cloud coverage, there was limited data expressing the variables that affect temperature in a specific location. With the limited data gathered, I am unable to reach any conclusions about any variables affecting the temperatures in these eight locations.

Reference:

Tillery, B., Enger, E., & Ross, F. (2008). Integrated science
(4th ed.). New York, NY: McGraw-Hill.

David Iadevaia 10 Nov 10 8:23 PM MST

Student1 you said..."Since areas of our planet are heated by either direct or slanted solar rays, the amount of heat energy received varies"...what does that mean?

Student 1 11 Nov 10 12:12 PM MST

Dr. Iadevaia,

Not all parts of the earth get the same amount of solar radiation. The tilt of Earth's axis effects the intensity of the solar radiation. Near the equator receives direct rays. However, in North America, due to the curve of the earth, we receive slanted rays from the sun. Although slanted rays cover more area, parts of the earth that receive direct rays have warmer temperatures.

Student 1

David Iadevaia 11 Nov 10 12:22 PM MST

Student 1 you said..." due to the curve of the earth, we receive slanted rays from the sun."...could you please elaborate on that statement?

Student 1 11 Nov 10 4:35 PM MST

Dr. Iadevaia,

I meant that the northern hemisphere and the southern hemisphere receive slanted solar rays because of Earth's tilted axis and the shape of the planet as well.

Student 1

David Iadevaia 11 Nov 10 10:57 PM MST

Student 1 you said..."slanted solar rays" ...what is a slanted ray?

You also said..."Earth's tilted axis and the shape of the planet as well."...what do you mean by that?

Student 1 12 Nov 10 12:01 PM MST

Dr. Iadevaia,

A slanted solar ray is an angled solar ray, not direct. If you take a flashlight and hold it parallel to the floor, the beam of light on the wall represents a direct ray. Hold the flashlight the same distance and angle it, the beam on the wall represents a slanted ray. You can easily notice that a slanted flashlight will cover more area but will not be as bright as a direct ray on the wall.

Earth's tilted axis and the round shape of our planet is responsible for the fact that some areas receive direct rays from the sun and other areas receive slanted rays from the sun. The angle of contact between Earth and the sun's solar rays is not the same in all areas of our planet.

Student1

David Iadevaia 13 Nov 10 8:30 AM MST

Student1 you said..."the beam on the wall represents a slanted ray"...but a beam is not a ray...this is where misconceptions occur.

Your student might ask, "Mr. Student 1 you drew a picture with lots of slanted rays to show the Sun's light on the Earth...what is in between the rays?"...how do you answer that?

Student1 13 Nov 10 10:30 AM MST

Dr. Iadevaia,

Please correct me if I am wrong, I thought a ray is a thin line or narrow beam of light??? If asked what is in between the rays, I would explain that sunlight includes infrared, visible, and ultraviolet light. Perhaps this topic could be an effective transition into our study of the electromagnetic spectrum. Just out of curiosity, how would you answer the question, "What is in between the rays?" I am thinking, radiant heat energy...

Student 1

Date Modified: 13 Nov 10 10:33 AM MST

David Iadevaia 14 Nov 10 4:04 AM MST

Student 1 you know see how science misconceptions start!

The use of the diagram showing rays is a convenient analog that we use, but as with all analogies it is very limited. It works well when we design optical systems.

If you use the "ray" diagram the answer would be more rays!

What I would like you and anyone in your course to do is give me a better way of explaining it. I will give you a hint: the surface of a sphere.

Student 1 it is always best to answer your student with "I don't know" instead of making stuff up...that just adds to the misconception! :-)

Student 1 14 Nov 10 7:47 AM MST

Dr. Iadevaia,

Instead of saying, "I don't know," I often ask students to look it up and share their findings with us during the next class. I understand your point very well.

Thank you,

Student 1

David Iadevaia 14 Nov 10 9:53 PM MST

Student 1...check my Walden blog I posted a video clip that you might find helpful.

The video clip posted to the blog was an explanation I gave about a better method to describe the transfer of energy from the Sun to the Earth without using "rays".¹⁰

This typical exchange between me and my students during the course caused some students consternation. As in the letter from the student previously referenced, this type of knowledge was not what a "science educator" should know...it was only to be known by an "expert".

WALDEN UNIVERSITY BUSINESS FIRST OR EDUCATION FIRST?

The problem or dare I say conflict between the business side and the academic side of Walden University as a for-profit business is such that the academic side will always loose. During the beginning of the fourth week of the eight week course an email was sent to me by an administrator who oversees the course. As some of the students, called candidates, began to level complaints against my style of teaching I was determined to maintain high standards of content and instruction in order to give the students the best possible experience. I was reminded by the administrator that, "No matter what anyone might feel about it, we have to remember we are a for-profit university. What candidates think about us does make a difference." Without any opportunity to present or defend my point of view on the subject I was told that my services were no longer required.

CURRENT THINKING ABOUT MSED DEGREE WORTH

In a speech given at the American Enterprise Institute in November 2010 US Secretary of Education Arne Duncan stated, "Districts currently pay about \$8 billion each year to teachers because they have masters' degrees, even though there is little evidence teachers with masters degrees improve student achievement more than other teachers--with the possible exception of teachers who earn masters in math and science." ¹¹ This is a powerful statement and if backed up with proper research, the implications for teachers to pursue a masters' degree in anything but math and science could be a waste of time. Secretary Duncan is preparing "tighter industry regulations and Senate and House committees examine how for-profit colleges mislead applicants..."¹².

CONCLUSION

At best the Walden program seems to be misleading...at worse it may be a fraud but in either case it should be avoided. The quality of the program is marginal and a teacher considering taking a MSED Science (K-8) at Walden University should probably look no further than their own local institutions that will probably offer flexible delivery formats, mixed face to face lecture/lab and online components, and possibly at a reduced cost.

David G. Iadevaia is a Professor of Astronomy and Physics at Pima College – East Campus in Tucson, Arizona. He has been a fulltime faculty member at Pima for the past 27 years. He taught for Walden University from 2006-2010 as an adjunct faculty member. Professor Iadevaia has personal experience with programs such as Walden's. In 1992 he received his Ph.D. in "science education" from the former Pacific Western University. Although at the time Pacific Western University was empowered to confer degrees by the State of California it was not an accredited institution...some even called it a diploma mill. The similarities between Walden University and Pacific Western University are striking.

Professor Iadevaia's website can be found at <http://www.davidiadevaia.com>. He can be contacted by e-mail at diadevaia@pima.edu

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