Pre-service elementary school teachers have a critical need to be aware of the importance of scientific literacy and the variety of Earth-science related alternative conceptions (AKA misconceptions) that your future students will bring to the classroom. As a future teacher, you also need to be aware of your own alternative conceptions.

Throughout the semester, you will be required to read five Earth science related articles and to write an annotation for each of article. The articles can be downloaded from D2L. Due dates are listed in the D2L dropbox.

**What is an annotation?** An annotation is a concise summary of an article. The components of an annotation are:

1. Describe the main purpose of the article (1 to 2 sentences).
2. Describe the content of the article (1 to 2 sentences).
3. Note the major points or findings of the article (1 sentence).
4. Note any shortcomings that you feel are appropriate from your perspective as a future teacher (1 to 2 sentences).
	1. What else might you have liked the author(s) to have included in the article?
	2. This can be, “I did not notice any shortcomings.”
5. Give your own impression of the article. (2 to 3 sentences).
6. In total, each annotation should be between about 100-150 words.

**What is the format for submitting your annotations? (See example on next page.)**

1. Provide your name in the upper right-hand corner of your assignment.
2. On a new line, provide the author’s name, year of publication, **title of article** (bold), *name of journal* (italics), volume, issue/number, and page range of article.
3. Write your annotation. The annotation is to be written in a paragraph form, not as a numbered set of responses to the guidelines.
4. Submit your completed assignment as a Word.doc or Word.docx.
5. Save your file as follows: “Your\_last\_name Author\_of\_journal.docx”

For example, if I wrote an annotation of an article written by Schoon, the file’s name would be: Clark\_Schoon.docx

1. Use 12 point, Cambria or Times New Roman font.
2. Double-space your annotation.
3. Use the D2L drop box to submit your completed assignment.

**My grading rubric for your annotations is based on:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Grading component** | **Fraction of grade** | **3** | **2** | **1** |
| Following format directions  | 20% | Directions were followed | Most directions were partially followed | Only a few directions were followed |
| Appropriate spelling and grammar  | 30% | Spelling and grammar were appropriate | Contains a few spelling and grammatical errors | Contains more than a few spelling and grammatical errors |
| Original, thoughtful answers to questions  | 50% | Student submitted an original and thoughtful annotation | Student submitted an original annotation | An annotation that is not original is plagiarism and receives a zero. |

**EXAMPLE:** The following is only an example. Use this as a template for what you will write. Your annotation is your own interpretation of the article and it should not look like anyone else’s annotation.

Bob Johnson

Schoon, K.J. (1995) **The origin and extent of alternative conceptions in the Earth and space sciences: A survey of pre-service elementary teachers**. *Journal of Elementary Science Education*. v. 7, n. 2, p. 27-46.

The main purpose of is article was to … (Tell me why you think the author(s) wrote the article.) This article presented data about … OR This article described/explained … (Tell me what was in the article.) The author(s) interpreted their data to indicate… OR The author(s) concluded that … I think it would have been helpful if the author(s) had included more information about their study population. Overall, I liked/did not like the article. I thought that the author(s) showed …

**LIST OF ARITICLES:**

Spring 2011 reading list:

Schoon, K.J. (1995) The origin and extent of alternative conceptions in the Earth and space sciences: A survey of pre-service elementary teachers. *Journal of Elementary Science Education*. v. 7, n. 2, p. 27-46.

Libarkin, J.C. (2006) College student conceptions of geological phenomena and their importance in classroom instruction. *Planet*. v. 17, p. 6-9.

Kusnick, J. (2002) Growing pebbles and conceptual prisms – understanding the source of student misconceptions about rock formation. *Journal of Geoscience Education*. v. 50, n. 1, p. 31-39.

Bybee, R.W. (2009) Program for International Student Assessment (PISA) 2006 and scientific literacy: A perspective for science education leaders. *Science Educators*. v. 18, n. 2, p. 1-13.

Hassol, S.J. (2008) Improving how scientists communicate about climate change. *Eos*. V. 89, n. 11, p. 106-107.

Fall 2011 reading list:

Kortz, K.M. and Murray, D.P. (2009) Barriers to college students learning how rocks form. *Journal of Geoscience Education*. v. 57, n. 4, p. 300-315.

Bybee, R.W. (2009) Program for International Student Assessment (PISA) 2006 and scientific literacy: A perspective for science education leaders. *Science Educators*. v. 18, n. 2, p. 1-13.

Libarkin, J.C. (2006) College student conceptions of geological phenomena and their importance in classroom instruction. *Planet*. v. 17, p. 6-9.

Shepardson, D.P. and Pizzini, E.L. (1992) Gender bias in female elementary teachers’ perceptions of the scientific ability of students. *Science Education*. vol. 76, no. 2, p. 147-153.

Schoon, K.J. (1995) The origin and extent of alternative conceptions in the Earth and space sciences: A survey of pre-service elementary teachers. *Journal of Elementary Science Education*. Vol. 7, No. 2, pp. 27-46.