



The Ratiocination Inculcator

1999-2000 Academic Year, Number 1

<http://www.clearlight.com/~ccs/logic/>

Welcome

Welcome to the first of what I hope will be many newsletters about the Calvary Covenant School logic class for the 1999-2000 academic year. I am very excited to have the opportunity to teach our 7th and 8th graders about logic. Although some of your children may be a bit apprehensive about the class right now, I pray that before the year is over, they will believe it was one of the most interesting and useful classes they've yet taken.

Huh?

Surely some of you looked at the title, and said either to yourself or out loud, "Huh?" Before I tell you what the words mean, let me explain why I chose *The Ratiocination Inculcator* as the title for the logic class newsletter.

Miss Bogue told me that when she announced to the class last year that Michael Holloway would be teaching their logic class in 1999-2000, students said such things as, "Oh no! He uses too many big words," "He sure is old," and "He's going to give us a lot of homework." Well, two of these simply aren't true. I am the *youngest* teacher these students will have this year, and I *don't* plan to give a lot of homework.

It seemed only fair to at least try to confirm the remaining fear. Thus, *The Ratiocination Inculcator* was born.

In case you don't have a dictionary handy, here's what the title means. *Ratiocination* is an old word that means simply "the logical processes of reasoning." It once was a fairly popular word—America's greatest theologian, Jonathan Edwards, used it frequently—but it has fallen into disuse.

Inculcator is derived from the verb *inculcate*, which means "to urge or impress (a fact, habit, or idea) persistently." As you might expect, an inculcator is simply one who inculcates. *Teacher* is a synonym.

So the idea of the title is that the newsletter is intended to help teach its readers about the logical processes of reasoning. That's not quite accurate, as the main purpose is to keep parents informed about

how their children are being taught, but it seems close enough. Also, from time to time, I will try to include some actual instruction in logic in the newsletter.

Although *The Ratiocination Inculcator* is the official name of the newsletter, in speech I plan to refer to it as simply *The Rat*. I'm also open to suggestions for another name, if anyone has any.

Class Objectives

By the end of the course this year, students should be able to do the following:

1. Explain the meaning of the phrase 'good and necessary consequence' in the Westminster Confession of Faith, and describe the relationship between logic and the Bible.
2. Enumerate the Biblical principles that should govern the use of logic.
3. Explain what a proposition is.
 - a. List all the propositions in a given written piece.
 - b. Recognize that propositions may also be called statements.
 - c. Distinguish between statements, questions, and imperatives.
 - d. Rewrite imperatives as propositions.
4. Explain the difference between deductive and inductive reasoning, and give examples of when each is required.
5. Diagram arguments in natural language.
6. Distinguish among validity, soundness, strength, and truth, and analyze arguments for each.
7. Explain different types of definitions and descriptions.
8. Define syllogism, explain the four categorical statements, and determine the validity of a syllogism.
9. Explain and use the square of opposition, and identify all the relationships between syllogisms on it.
10. Know the names of common informal fallacies and be able to recognize at least 7 different types of them.
11. Recognize and develop modus ponens and modus tollens arguments, and recognize the fallacious variations of both.
12. Create and use simple decision tables.
13. Know the basics of propositional logic.
 - a. Define the primitives and connectives.
 - b. Use truth tables to determine the truth of propositional logic formulas.

- c. Translate appropriate natural language arguments into propositional logic.
 - d. Recognize a propositional logic proof, and perform simple proofs.
14. Understand the relationship between logic and all other subjects.
 15. Recognize how to use logic to create jokes and funny stories.

Also, my plan is to give advanced students the opportunity to learn the basics of predicate logic.

Unless you've taken a course in logic, you probably noticed many things in these objectives that you do not understand yourself. From time to time during the school year, I hope to be able to have some evening sessions for parents who are interested in learning more about logic. I encourage you to come to these sessions if you can.

Work & Grade Expectations

Because I realize that not many parents will have taken a logic class in school, and thus will not be able to help students much with assignments, I do not plan to give much required homework. Instead, we will be completing most assignments during class time. Students will generally have several weeks to complete the homework assignments that I do give, but the actual amount of time required by these assignments should not be much.

The primary out-of-class work that students will need to do is reviewing the material covered in class. Regular review and practice is essential to learning logic. For most students, 10-15 minutes of careful review 2-3 nights a week should be adequate. To encourage this necessary regular study, I will not be giving any announced tests. We will have tests from time to time, but none of them will be announced in advance. (I expect that many of you probably do not like this. My wife doesn't like it, either. Please keep an open mind. I believe that it is the best approach for the class, and that the children will benefit greatly from it. If events prove me to be wrong in this belief, I'll make adjustments.)

Grades in the class will be determined by combining grades on individual assignments, group assignments, tests, and class participation. My initial plan is for individual and group assignments to each account for 30% of the quarter grade, with tests accounting for 30%, and class participation making up the remaining 10%. From time to time, I will also give students opportunities to earn extra credit.

I expect that any student who listens intently in class, completes all assignments, and reviews the

material regularly should be able to get at least a B each quarter.

If you find that your child is having to do more than this to get a B, please let me know right away. I will get together with you as soon as possible and analyze the situation carefully, and figure out what needs to be done to change it.

Because I don't yet know the children in the class well, I do not know how many of them should be able to get A's in the class. What I do know is that logic seems to be one of those classes that tend to be either quite easy or very hard to most people. If your child is one of those who finds it easy, he or she will be able to get an A without any more work than that described above. If your child is one of those who finds it hard, he or she probably can not work hard or long enough to enable him or her to get an A. As I get to know the children better, I'll let you know if I believe that your child isn't doing as well as he or she is capable of doing.

Getting in Touch with Me

My plan is to keep you all well informed about how your child is doing in the class. If at any time you're not getting as much information as you think you ought to be getting, or if you need to get in touch with me for any reason, here are the different ways to do that.

I love email! Feel free to send me email at <holloway@clearlight.com> as often as you like.

Although my work schedule will not allow me to be available in person at the school very often, I will try to have several days a month when I will be available to meet with parents after school, or during lunch time. I'll let you know when those days will be as soon as I set up the schedule.

My home phone number is 865-1082. Please try to call between 7:30 - 8:15 p.m. whenever possible. My work phone number is 864-1701. Please use this only in emergencies.

Whatever method you chose to use, please do not hesitate to criticize anything about the class that you think deserves criticism. I pledge to carefully consider any criticism that I receive, and to either make changes, or to explain to you why I decided to not make changes.

Looking forward to a great year, I am,



C. Michael Holloway