Counterbalanced design for IMT220 and CSE100 open-ended and computer attitude questions

					Sections/Courses	
Group	Pretest	Midquarter 1	Midquarter 2	Posttest	CSE100	IMT220
A	CA1-CA5, CL1-CL5 A1, B1, C1, D1	CA6-CA10, CL6-CL10	CA1-CA5, CL1-CL5	CA6-CA10, CL6-CL10 A2, B2, C2, D2	2 sections N=48	**ENVIR201** 2 sections N=48
B	CA1-CA5, CL6-CL10 A1, B1, C1, D1	CA6-CA10, CL1-CL5	CA1-CA5, CL6-CL10	CA6-CA10, CL1-CL5 A2, B2, C2, D2	2 sections N=48	**ESC110** all N=115
C	CA6-CA10, CL1-CL5 A2, B2, C2, D2	CA1-CA5, CL6-CL10	CA6-CA10, CL1-CL5	CA1-CA5, CL6-CL10 A1, B1, C1, D1	2 sections N=48	**HSTAA301** 2 sections N=48 **HSTAA321** all N=50
D	CA6-CA10, CL6-CL10 A2, B2, C2, D2	CA1-CA5, CL1-CL5	CA6-CA10, CL6-CL10	CA1-CA5, CL1-CL5 A1, B1, C1, D1	2 sections N=48	**GEOG205** 2 sections N=54

Pretest: *Student Background and Preferences*
Midquarter 1   *Midquarter 1* (CSE only)
Midquarter 2   *Midquarter 2* (CSE only)
Posttest   *Student Experiences*

OPEN-ENDED QUESTIONS (A & B re: info resources; C & D re: algorithmic thinking

A1. You are using a web search engine to find web pages relevant to a class research paper/project. List the steps or describe the strategies you would use to evaluate the quality of a site retrieved by your search. Be as specific as possible.

A2. A professor requires that you use scholarly articles for a class paper/project. After finding citations, you go to look at the articles. Describe the strategies or list the steps you would use to determine whether an article meets the requirement of being scholarly. Be as specific as possible.

B1. You need to search for articles for a class project using a bibliographic database you have not used before. Your first simple search yields far too many references. Describe the strategies or list the steps you would use to improve the quality and relevance to your topic of the search results. Be as specific as possible.

B2. A professor requires you to turn in a two-page written proposal with a preliminary bibliography for a research paper or project. Describe the strategies or list the steps you would take to develop the research question and proposal. Be as specific as possible.

C1. You are telling a friend how to make pepperoni pizza. They have all the ingredients, including a pre-made crust, but have never seen or even heard of pizza. List the exact steps needed to make a pizza. Be as specific as possible.

C2. You are telling a friend how to wrap a box containing a pair of shoes for mailing. They have everything they need, but have never seen anyone wrap a package or wrapped (or unwrapped) one themselves. List the exact steps needed to wrap the box for mailing. Be as specific as possible.

D1. You take your portable CD player out of your backpack at the library, put on the headphones. You turn on the disk player but don't hear anything. It was working fine earlier in the day. List the steps or describe the strategies you would take to figure out what is wrong. Be as specific as possible.

D2. Your teacher has asked you to listen to an interview of a famous person recorded on a tape cassette. You check out a tape player from the library, take it home, put on the headphones. You turn on the tape player but don't hear anything. It was working fine when you checked it out. List the steps or describe the strategies you would take to figure out what is wrong. Be as specific as possible.

COMPUTER ATTITUDE ITEMS

STEM

How much do you agree with each of the following statements?	Strongly Disagree 1	Disagree 2	Not Sure 3	Agree 4	Strongly Agree 5

COMPUTER CONFIDENCE/ANXIETY

	Strongly Disagree 1	Disagree 2	Not Sure 3	Agree 4	Strongly Agree 5
CA1. I'm not the type to do well with computers.	1	2	3	4	5
CA2. Computers make me feel uneasy and confused.	1	2	3	4	5
CA3. Generally, I would feel OK about trying a new problem on the computer.	1	2	3	4	5
CA4. Working with a computer would make me very nervous.	1	2	3	4	5
CA5. I feel aggressive and hostile toward computers.	1	2	3	4	5
CA6. I think using a computer would be very hard for me.	1	2	3	4	5
CA7. Computers make me feel uncomfortable.	1	2	3	4	5
CA8. I'm no good with computers.	1	2	3	4	5
CA9. I do not feel threatened when others talk about computers.	1	2	3	4	5
CA10. I get a sinking feeling when I think of trying to use a computer.	1	2	3	4	5

COMPUTER LIKING

	Strongly Disagree 1	Disagree 2	Not Sure 3	Agree 4	Strongly Agree 5
L1. When there is a problem with a computer that I can't immediately solve, I would stick with it until I have the answer.	1	2	3	4	5
L2. I would like working with computers.	1	2	3	4	5
L3. I do not enjoy talking with others about computers.	1	2	3	4	5
L4. The challenge of solving problems with computers does not appeal to me.	1	2	3	4	5
L5. Once I start to work with a computer, I would find it hard to stop.	1	2	3	4	5
L6. If a problem is left unresolved on a computer, I would continue to think about it afterward.	1	2	3	4	5
L7. I think working with computers would be enjoyable and stimulating.	1	2	3	4	5
L8. I will do as little work with computers as possible.	1	2	3	4	5
L9. Figuring out computer problems does not appeal to me.	1	2	3	4	5
L10. I don't understand how some people can spend so much time working with computers and seem to enjoy it.	1	2	3	4	5

Resources:

"Computer Attitude Scale (CAS)," by B.H. Loyd and C. Gressard. "Reliability and factorial validity of computer attitude scales." Educational and Psychological Measurement, 44, 501-505, 1984.

"Computer Confidence/Anxiety" and "Computer Liking" sub-scales as modified and reported by J.B. Nash and P.A. Moroz. "An examination of the factor structures of the Computer Attitude Scale." Journal of Educational Computing Research, Vol. 17(4) 341-356, 1997.