SKYTeach

SMED 210
Knowing & Learning in Mathematics and Science
Syllabus (Prototype)
(revised 1/7/10)

INSTRUCTOR: Lisa C. Duffin, Ph.D.  E-mail: lisa.duffin@wku.edu
Office: Tate Page Hall, 223  SKyTeach Office: Hardin, 608
Phone/Voice Mail: (270) 745-6324  Phone: (270) 745-3900
Office Hours: TTh, 4:00 – 5:00 p.m.  Office Hours: W, 8:00 – 11:00 a.m.
CLASS MEETING: Section 001 TTH 9:35 a.m. – 10:55 a.m., TPH 0240

Course Description: The goal of this course is to develop a powerful tool kit of approaches to knowing and learning in mathematics and science. This course is designed to give the student a thorough understanding of the theories and principles of psychology as applied to teaching and learning mathematics and science. The students will demonstrate knowledge, understanding, and application of theories and principles of development, learning, memory, motivation, individual differences, instruction, and measurement and evaluation.

Rationale: The primary aim of the Knowing and Learning Class is to provide students with experiences that will help them understand how students learn mathematics and science, to be able to assess learning and to be able to recognize when learning has occurred, and to understand the role of the teacher in creating instructional opportunities that are engaging and support student motivation and learning. The primary purpose of education is to prepare children to survive in the real world. SMED 210 is designed to provide the teacher candidate with knowledge, skills, and attitudes which will enable them to explore learning experiences by their students and to achieve greater understanding of the Kentucky Teacher Standards.

Kentucky Teacher Standards (KTS) Assessed: Below are the two required “Critical Performance” assessments and associated KTS. Instructions for completing these are available on the WKU E-PASS website (http://edtech2.wku.edu/portfolio/). Students must upload these to WKU E-PASS as part of their electronic portfolio documenting that they are meeting the Kentucky Teacher Standards.

Critical Performance 1: Video Clinical Interview of Student Learning – KTS 2 & 5
Critical Performance 2: Media Project – KTS 6 & 9

You will be given an incomplete in the course if you have not uploaded your critical performances to the electronic portfolio. Deadline for the critical performance upload will be discussed in class.

Prerequisites: Completion of SMED 101 (Step 1) with a B or better.


**It is strongly encouraged that you purchase the pass-key to access the online materials for this text.

Learning Objectives: Through a variety of course assessments, students completing this SMED 210 course will be able to demonstrate their understanding of learning theories and principles, apply these
theories and principles to teaching and learning contexts in mathematics and science, and process their understanding of course content through personal reflection.

COURSE OBJECTIVES:

By the end of this course, students will be able to:

1. Discuss the nature of effective teaching (KTS 5).
2. Explore scientific research methodology and its impact on teaching (KTS 5).
3. Distinguish among various forms of development and their impact on teaching and learning (KTS 1, 3).
4. Evaluate the influence of individual differences on teaching and learning (KTS 2, 3).
5. Apply behavioral theories of learning to the classroom (KTS 3).
6. Apply cognitive theories of learning to the classroom (KTS 3).
7. Discuss key theories and ideas concerning human motivation (KTS 5).
8. Examine and discuss various techniques of classroom management (KTS 1, 2, 4).
9. Debate the strengths and weaknesses of standardized testing (KTS 4).
10. Discuss key issues related to classroom assessment (KTS 4).
11. Complete and upload critical performances into their electronic portfolio (KTS 2, 5, 6, & 9).

Course Topics: Effective teaching, scientific research methodology, theories of Piaget, Vygotsky, Kohlberg, Erikson, learner diversity, behaviorism, social learning, information-processing, motivation theories, standardized testing, problem-based learning, and classroom assessment.

Instructional Methods and Activities: Discussion-based lecture, group activities, application exercises, textbook readings, observations, and critical performances (electronic portfolio).

SPECIAL INSTRUCTIONAL MATERIALS: None.

GRADING/EVALUATION:

<table>
<thead>
<tr>
<th>Assessment Measures</th>
<th>Points</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation (reading quizzes, in-class activities, discussion, etc.)</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>Exams (3) (1st = 100 pts, 2nd &amp; 3rd = 150 pts each)</td>
<td>400</td>
<td>40</td>
</tr>
<tr>
<td>Reaction Papers (6) (10 points each)</td>
<td>60</td>
<td>6</td>
</tr>
<tr>
<td>Video Clinical Interview of Student Learning (CP 1)</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>Final Project</td>
<td>300</td>
<td>30</td>
</tr>
<tr>
<td>Media Project (CP 2)</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>1000</td>
<td>100%</td>
</tr>
</tbody>
</table>

Grading Scale: A = 900-1000, B = 800-899, C = 700-799, D = 600-699, F = 0-599

COURSE POLICIES:

Expected Student Behavior: As you will soon learn, creating a classroom environment that is positive for student learning is an essential part of being a teacher. Therefore, in our classroom, it is expected that all members (including myself) respect one another’s points of view which are showcased through our actions.
- Active listening
- Being prepared
- Being prompt
- Using professional language
- Providing useful feedback
- Showing enthusiasm
- Responding without judgment
- Showing genuine interest
- Sharing knowledge or questions

Learning takes place when ideas are exchanged and challenged; therefore, open discussion and opposing viewpoints are encouraged. Because it is important for us to learn from one another, the format of this course will be one where we will have many opportunities for us to share ideas. In our classroom, I am an equal shareholder of the learning process; therefore, be prepared...there will be times during the course when you will be doing the majority of the talking.

Learning is more effective when students take ownership of their learning process. Therefore, you are expected to be active learners as you will be held accountable for your part of the learning process. As a professor, I hold high expectations for my students, but I also provide the necessary supports to aid them in their quest for knowledge. Expect to be challenged and to always put forth your personal best efforts.

Attendance: Just like you would a teaching job in the field, in this environment you are also expected to attend class on time every day and to come to class well-prepared to learn and contribute to the learning of others. If you miss a class, it is your responsibility to contact a classmate to get a copy of class notes and announcements. When you are not in class, you are missing out on a valuable learning opportunity, and those students who miss more than a couple of classes tend to fall at the lower end of the grade distribution. If you must miss a class (much like you might have to miss a day teaching), I would appreciate the professional courtesy of letting me know that you are missing and informing me of the reasons for your miss. When you are not in class, your contribution and dispositions are missed.

Participation: Participation is highly valued in this course. Because we all contribute to one another’s learning, please note that 10% of your final grade is based on your participation. In other words, the difference between one grade level and another (100 points) has a lot to do with how much you contribute to the classroom discourse. Participation will be evaluated through a variety of methods (e.g., reading quizzes, in-class activities, group work, and discussion). (For a full description and rubric for how participation will be calculated, see page 6 of the syllabus.)

Tardiness: Please make every effort to be seated in class 2-3 minutes before the official start time and be prepared to participate. When people enter the classroom after the class has begun, it is very disruptive and disrespectful to the other members in the learning community. Each student will have one “forgiven” tardy. More than one tardy will result in forfeiting the in-class participation marks for the day and will be prompted to identify a plan to alleviate future tardies.
Disability accommodations: In compliance with University policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in DUC A-200 of the Student Success Center in Downing University Center. Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.

Emergency Policy: In the event of major campus emergency, course requirements, deadlines, and grading percentages are subject to changes. This may be necessary due to a revised semester calendar or other circumstances. Here are ways to get information about changes in this course: Blackboard web page or email the instructor at lisa.duffin@wku.edu

Academic Dishonesty: Under no circumstances will acts of academic dishonesty be tolerated in this course. That means acts of plagiarism or any other form of cheating will not be allowed and anyone committing such acts will result in either a failing grade in that portion of the course or a failing grade in the course itself. Determination of the punishment will be handled on a case-by-case basis. Plagiarism detection software will be used in this course.

Professionalism: Teacher-candidates are expected to display exemplary levels of professionalism and dedication to becoming highly qualified, caring teachers. Unprofessional or disrespectful classroom behavior of any kind (e.g., sleeping in class, cell phone texting, reading the newspaper, gossiping with a classmate, playing on one’s computer, etc.) will result in forfeiture of the class participation credit for that day and could be asked to leave the class. Continued unprofessional behavior may lead to failing the course and having a formal complaint written for the student’s University record.

Expectations for Professionalism Include:
- Legal/Ethical conduct
- Good Attendance/Punctuality
- Professional Appearance and Demeanor
- Reliability/Dependability (Completes Assignments, Duties, or Tasks on Time)
- Positive and Professional Interactions with Students, Peers, Teachers, University Personnel, and Others.
- Fairness/Lack of Bias
- Safety/Responsible Conduct
- Flexibility/Adaptability/Openness to Feedback
- Effectiveness in Oral and Written Communications
- Commitment to Student Learning & Commitment to Improving Your Teaching Performance
- Positive Attitude toward Your Discipline and/or the Teaching Profession in General

Early dismissals: We have a lot of information to cover in this course. Therefore, please do not expect to be dismissed early as I tend to use up most of the class time. Packing up your things 10 minutes before the end of the class meeting time will not rush me into letting the class out early. In fact, it tends to have opposing effects (i.e., pop quiz). If you must leave early, please let me know before class begins. By leaving early, you not only miss out on important learning opportunities, but you also serve as a distraction to the rest of the learning community. Remember to act responsibly and communicate with me.
**Cell phones/Text messaging:** Cell phones are a part of our everyday lives; however, please respect the learning community by refraining from talking on, texting, or using your cell phone during class. In other words, put the phone on silent mode and leave it in your pocket/bag/purse. You will not need it during our class time. Please note that I reserve the right to confiscate the cell phones of students who are attending to them during class. If you are expecting a phone call or need to text someone, stay home so that you can tend to these matters and not disrupt class.

**Written assignments:** To promote the use of educational technology and to ensure that you have backed up your work, all assignments will be uploaded to Blackboard in the designated “Assignments” section. ALL files need to be saved using the following format: *lastname_firstinitial_nameofassignment*. Rubrics are to be included with ALL written assignments and are worth points towards your final grade. Please follow ALL of the instructions given for each assignment....including formatting requirements. Quality of written work is important and valued in this course. Spelling, grammar, punctuation, and word usage errors impede the quality of your work and will affect your grades. Proofread everything prior to submitting! More information will be given during the first few class meetings.

**Missed exams:** Students unable to attend exams should provide proper documentation regarding his or her absence as soon as possible. Appropriate documentation consists of a note from a physician documenting an illness or a letter from the Academic Advising and Retention Center. **Students that do not offer proper documentation will not be allowed to make up the exam.** If you know you cannot make it to an exam, please make arrangements to take the exam **BEFORE** the scheduled exam. Make-up exams will need to be scheduled during the first week you return (with proper documentation). This is your responsibility. If you miss an exam and do not provide the necessary documentation and/or do not schedule a make-up exam in the allotted timeframe, then you will receive a zero for that exam. Missed exams might not be in the same format as the exams given in class. In other words, if a multiple choice exam is given in class, the person missing the exam might get an essay exam. The decision will be made by the instructor.

**Late assignments:** All assignments must be turned in on time by the requested due date and time. If the assignment is late, your final grade will reflect a 10% automatic deduction per day in score. For example, if assignments are supposed to be in by 5:00 p.m. on a given day, and you post at 5:10, it will be considered late and your grade will receive a 10% deduction in score. The assignment link will close 3 days after the posted due date. Assignments will not be accepted after that point unless unusual circumstances (that can be documented) exist. There is no penalty for turning in an assignment early, however, so if you know that you are going to miss a class on the day an assignment is due, be responsible and take advantage of this policy.

**Student Resource:** The Learning Center (DUC A330) provides free supplemental education programs for all currently enrolled WKU students. TLC at DUC offers CRLA Certified, one-on-one tutoring in over 100 general education subjects by appointment or walk in and a hosts a branch of the English Department's Writing Center. TLC is a also a quiet study area, with side rooms designated for peer to peer tutoring, and offers a thirty two machine computer lab. Additionally, TLC has two satellite locations, one each in Douglas Keen Hall and in Pearce Ford Tower that provide computer and print service, tutoring, and quiet study areas. For more information, or to schedule a tutoring appointment, please call TLC at (270) 745 - 6254 or log on to our website at www.wku.edu/tlc. Hours TLC at DUC: Monday - Thursday 8:00am - 9:00pm; Friday 8:00am - 4:00pm; Sunday 4:00pm - 9:00pm TLC at Keen/PFT: Sunday - Thursday 6:00pm - 11:00pm
The Writing Center is available to help with all writing processes, and they have resources for instructions on all citation styles. Students of all levels are welcome. I highly recommend that you use this resource. Students can call for an appointment, walk-in, or schedule appointments online. Contact the Writing Center at 745-5719. The resources of the Writing Center can be found in Cherry Hall 123, Helm Library Reference Room, and The Learning Center located in DUC A330.

**Note:** Criminal check, TB test, and a health screening are required prior to any work in the schools. Additional information is available in TPH 408.

**Bibliography/References/Websites:** none

**Course Requirements and Assignments:**

**Requirements:** Students must have daily access to a computer capable of browsing the web, sending e-mail, and creating word documents. Students are also expected to provide their own transportation to area schools for required field experiences.

**Participation:** Participation in this course is worth 100 of the 1000 total course points and is extremely important to your quality of learning. Participation points will be distributed based on the total percentage of points that you accumulated over the course of the semester through a variety of means (i.e., reading quizzes, in-class activities, discussion, and group work). Participation points will be tallied and converted to a percentage. To figure your participation score, covert your percentage of total participation in the class to points by multiplying your percentage by 100. For example, if you have earned a participation score of 75%, then you will earn 75 points for participation that will be added into your total score at the end of the semester. Participation points will be given based on activity and will vary throughout the course. Take note, your participation grade could separate you from one grade to another, so come to class prepared every day, take each reading quiz, and participate fully to earn the “most accessible” points for the course!

- **Reading Quizzes:** You will be expected to complete topical reading quizzes on Blackboard prior to coming to class each day (see schedule). Each quiz will be worth 5 points and will contribute to your participation grade. Quizzes will be available to you on Blackboard for a specific period of time. You must take the quiz during the designated time BEFORE coming to class or you will forfeit your participation quiz grade at that time. Quizzes are intended to keep you accountable for reading the course materials assigned. Although you will have your materials with you when you take the quiz, you will not have a lot of time to take the quiz, hence, you should be actively reading your materials so that you have an understanding of the topic we are covering prior to coming to class. Details will follow.

- **Course Attendance:** Because the course is interactive, you will receive daily participation points for your contributions to the course dialogue. Most days, you will receive up to 5 daily participation points which will be allocated based on effort put forth. If you demonstrate that you have thoughtfully put forth effort in your verbal and written discourse, you will earn the full points for the day. Mistakes are a part of learning, so make them loud and proud so that we all can learn from them! Special in-class activities or group projects will be allocated more points. Details will follow.
**Exams:** There will be three unit exams given during this course. The first exam will be worth 100 points while the second and third exams will each be worth 150 points. The format of the exams could consist of multiple choice items, true/false items, matching, short answer, and/or essay. The actual format of the exam will be disclosed no later than the class meeting prior to the exam. Exams will cover topics covered in class and your text and will examine your capacity to apply what you have learned. For these exams, do NOT expect to regurgitate definitions that you have memorized from the text or from the class meetings. Expect to apply what you have learned! To be successful on the exams, you will need to engage in deep mental processing of information, not surface learning. Exams will account for **400 of the 1000 total points** earned in the course.

**Final Exam:** There will not be a comprehensive final exam, but a final project for the course.

**Reaction Papers:** Throughout the course, we will be learning about many different (and exciting) topics all related to teaching and learning. For each topic that we cover, there is a thinking prompt posed (see instructions on pages 11-13 of the syllabus). You are **required to submit** to Blackboard by the date assigned a reaction paper (1-page in length double-spaced using 12 point Times New Roman font) to 6 of the thinking prompts. The choice is up to you which prompts you choose to respond to (except for 1); however, you must meet the deadline given. ALL SMED 210 students MUST select and respond to the “Learner Diversity” topic due 2/16/2010. Reaction papers are worth **10 points each** for a total of **60 of the 1000 total points** for the course. See the rubric and grading key on page 11 of the syllabus.

**Video Clinical Interview of Student Learning (CP 1):** See WKU E-PASS for instructions for this assignment.

**Media Project (CP 2):** See WKU E-PASS for instructions for this assignment.

**Final Project:** There will be a final project focused on applying what you have learned throughout the course. The assignment is designed to provide you with practice in creating and developing lesson plans for a specific target audience. It is also designed to challenge your conceptions about effective teaching. Therefore, there will be four components to this final project: 1) Design an effective lesson plan for a specific target audience. 2) Write a paper justifying each and every instructional choice using research-based theory and concepts learned in the course. 3) Implement your lesson to a specified target audience (details to come later). 4) Write a paper reflecting upon the process of the entire project. The design, justification, and implementation will be done in a group format. The reflection component, however, will be done as an individual. Details of this project will be forthcoming in subsequent class meetings. This project in its entirety will be worth **300 of the 1000 total points** earned for the course. This project will serve as your final “exam” project for the course.

**Assignment Instructions, Grading Keys, and Rubrics:** For each assignment, I have included a set of instructions to complete the assignment, a grading rubric (a scoring tool with standard criteria) and the grading key (explicit criteria for point allocation). To do well in this course and on the assignments, it is vital that you read and follow these standardized pieces of information as I will be following them as I evaluate your work. Use them to your advantage! Procrastination is your enemy, so plan ahead, and read them in advance so that you can ask questions and be clear on the assignment expectations before you begin the project.
FINAL THOUGHTS:

The role of your textbook. The textbook in this course is integral to your learning. Because there are so many topics to cover, class time will be spent highlighting some key concepts and connecting the concepts with teaching practices. You are responsible for all that is presented in the text. In addition, the textbook will serve as a valuable resource as you prepare for the “Principles of Learning and Teaching” PRAXIS exam that you will need to take in order to receive your teaching license.

To be successful in this course, it is vital that you read the assigned readings before you come to class. I also recommend that you review the assigned readings again after we have covered the topic in class so that you can better understand the material. I also recommend that you utilize the online supplemental materials provided by the textbook publisher at MyEducationLab.com. You must purchase the access code to have access to these very helpful materials. Items on the exams will come from the textbook, supplemental course readings, and what we discuss in class.

The role of your instructor: My role as your instructor is to facilitate your learning through a variety of methods and to provide support as you connect theory to practice. I am a big proponent of practicing what I preach, so you will find that I cognitively model (i.e., talk about) my teaching processes throughout the course. When students attend to instructors who model the behaviors and attitudes that are encouraged in the classroom, learning is enhanced. Therefore, to do well in this class on assignments and exams, come prepared, take good notes, put forth your best effort, ask questions, communicate clearly, and engage in the learning process. I will do my best to provide engaging instruction and plenty of support for your learning; however what you get out of this course is ultimately up to you!

**Reaction Papers**

(10 points each x 6 papers = 60 total points)

Instructions: Reaction papers push you to think critically about the concepts that we are discussing as they apply to teaching and learning. They also give you practice clearly conveying your ideas in written form using the educational psychology language that you are developing throughout the course. With all papers that you write in this course, you must be thoughtful, clear, and concise when communicating your ideas; you must use professional, sophisticated language (i.e., do not write like you speak), and you must proofread your papers so they are free from grammatical, spelling, punctuation, and word usage errors. **The idea here is that you will read the chapter and then write your reaction prior to coming to class.** It is okay if you do not technically understand everything that you read; however, I want you to actively think about what you are reading and try to gain some understanding of the concepts prior to coming to class.

Listed below are the prompts from which you can select and the date the paper is due (in parentheses). Throughout the semester, you are required to complete a total of 6 reaction papers – however, as 1 of your 6 papers, you MUST complete the reaction paper for “Learner Diversity” due 2/16/2010. The remaining 5 papers are left for you to choose which topics you would like to respond.

**Format:** Papers are to be no longer than 1 page, double-spaced using 12-point Times New Roman font and no shorter than a half page in length. Save your file as: lastname_firstinitial_reactionXX (put the number of the reaction paper that corresponds from the list below).
**Submission:** Papers must be uploaded to Blackboard in the Assignments section by the date they are due (in parentheses) **BEFORE** our class meeting.

**Evaluation:** Each paper is worth 10 points and will be evaluated based on completion. In other words, a complete paper (i.e., one that thoughtfully responds to all questions being asked) receives full credit (i.e., 10 points). A paper that requires more thought and effort will receive partial credit (i.e., 7 points), while lack of submission will receive no credit (i.e., 0 points).

1. **Piaget (2/2)**
   Piaget’s theory introduces us to the idea of our “drive for equilibrium” and how we maintain that equilibrium through the process of adaptation. Based on your understanding of these processes, how might this information be useful to you as a math or science teacher?

2. **Vygotsky (2/4)**
   Vygotsky’s theory introduces us to the idea of each learner having a “zone of proximal development” and how working with “more knowledgeable others” benefits the process of internalization. Based on your understanding of these concepts, how might this information be useful to you as a math and science teacher? Think about how you might construct learning opportunities in your classroom (i.e., group work).

3. **Physical Development (2/9)**
   Why is it important for a math or science teacher to have a relatively firm grasp or solid understanding of physical development as it pertains to school-aged children? Consider the instructional choices that a teacher makes in the classroom and how a child’s level of physical development (many domains) might impact or influence these choices.

4. **Parenting or Teaching Styles? (2/11)**
   Chapter 3 introduces us to the idea of parenting styles, which can be applied to teaching. Use what you have learned about parenting styles to describe, in your own words, the teaching styles, the characteristics of the affiliated teaching styles, and the potential student outcomes for each.

5. **Learner Diversity (Mandatory Reaction Paper to be completed by ALL SMED 210 students) (2/16)**
   Chapter four talks about learner diversity. As a math or science teacher, you will inevitably bring with you to your classrooms certain biases towards others. You are aware of some of these biases; however, there are others that you might not be aware of. In other words, these biases might be implicit. Together, these biases (i.e., beliefs and attitudes) influence your choices. Therefore, for this reaction paper, you will take a series of implicit association tests (IAT). IATs are designed to measure implicit attitudes and beliefs that people are either unwilling or unable to report. For this reaction paper, select 3 IATs from the website below. After completing the 3 tests, discuss your reaction to the findings. Were they what you had expected? Were they different? How did the results make you feel? Think about how these implicit biases might affect your interactions with your students and how you create your classroom environment and instructional opportunities. Be thoughtful in writing your paper.

   [https://implicit.harvard.edu/implicit/demo/selectatest.html](https://implicit.harvard.edu/implicit/demo/selectatest.html) **(CLICK ON THE “DEMONSTRATION” LINK ONCE YOU HAVE ACCESSED THIS WEB SITE)**
6. Exceptional Learners (2/18)
As a math or science teacher, you will encounter children in your classrooms with a wide range of abilities. Some students have mathematics or science aptitudes that are well beyond the level you are teaching (i.e., gifted and talented) while others might have mathematics or science aptitudes that are well below the grade level that you are teaching (i.e., retardation). You will also have students in your classroom with the cognitive abilities to learn at the level you are teaching; however, there might be cognitive barriers (i.e., learning disabilities) that hinder their learning processes. In the "real world," you cannot just rid these students of your classroom. Based on your Chapter 5 reading, identify the characteristics of students that cause you most concern in terms of teaching to meet their needs and explain why these concerns are present. Also, provide a brief "plan" as to how you would address the variety of learners in your classroom.

7. Behaviorism (2/25)
Chapter 6 presents two very different theoretical perspectives on learning - Behaviorism and Social Cognitive Theory. For this discussion, I want you to only concentrate on Behaviorism. Certainly, the principles of learning that Behaviorism presents are prevalent in PK-12 education. In thinking about your own classrooms, what are some specific techniques used in the classroom inspired by this theory? What are some benefits to using these principles or techniques in your classroom? What are some detrimental effects of using these principles or techniques? What is missing from this theoretical perspective?

8. Social Cognitive Theory (3/2)
Chapter 6 also introduced you to Social Cognitive Theory and the importance of modeling in learning. Think about teaching the students in your own classrooms, how might principles of Social Cognitive Theory play out in students learning your material and what specific teaching strategies might you employ from this theoretical perspective to help your students gain a deep understanding of your math or science content? What areas of learning are not explained by this theoretical perspective?

Chapter 7 introduced how learning can be better explained through cognitive learning theories instead of theories focused solely on behavior. Think about the chapter you read. How do cognitive learning theories differ from Behaviorism and/or Social Cognitive Theory? Also, what key ideas were you "drawn to" from the theory? Describe those key ideas and discuss how those ideas would be applied to your "virtual" classroom of students. Provide real life examples.

10. Constructing Knowledge (3/16)
Chapter 8 brings many ideas together that we have already discussed and is the product of the works of Piaget and Vygotsky. What specific ideas from Piaget and Vygotsky were used? Connect these ideas with the new concepts presented in Chapter 8. Also from this chapter, tell me what principles, ideas, or specific skills you would like to adopt for your own set of classroom practices. Define these concepts (in your own words!!!!), tell me why they were important to you, and provide an example or two of how you would specifically use them in your math or science classroom.
11. Designing Instruction (3/23)
What does it mean when I say that the instructional opportunities that a teacher creates must be effective for learning to take place? How does effective instruction affect the quality of student learning versus instruction that is ineffective? What does an effective lesson (i.e., instruction) look like in your classroom? Explain your answers using EP concepts (defined in your own words!) and concrete examples.

12. Assessment (4/1)
After reading Chapter 14, you gained a lot of insight to the complexity of assessment. Based on your active reading of this research, what is the best type of assessment for your age level and content (i.e., math or science) and why? (Be careful. The research didn't say there was one type of assessment that was "best," so you will have to think about this question critically before responding.) Make sure to justify your response using your EP language and knowledge of the research in this area.

13. Motivation (4/8)
What can math and science teachers do in the classroom (instructional choices) to positively affect students’ motivation to actively learn (to engage in the learning process) math and/or science? ** Be specific. Use your EP knowledge and language (in your own words) to explain your responses. Think about your specific target audience and subject areas. ** Learning = deep, conceptual understanding (Using active processing strategies); Teacher instructional choices = ACTIVE (conscience) ATTEMPTS