



NEW JERSEY CENTER
FOR TEACHING & LEARNING

Progressive Science Initiative® (PSI®)
Progressive Mathematics Initiative® (PMI®)
MET6121: Secondary PSI-PMI Teaching Methods

Instructors/Email: Dr. Robert Goodman bob@njctl.org
Dr. Rosemary Knab rosemary@njctl.org
Melissa Axelsson melissa@njctl.org
Kristin DeAngelis kristin@njctl.org

Alternate Course Numbers/Titles:

- PHYS6621: Secondary PSI-PMI Teaching Methods for Physics
- CHEM6721: Secondary PSI-PMI Teaching Methods for Chemistry
- BIOL6821: Secondary PSI-PMI Teaching Methods for Biology
- MATH6421: Secondary PSI-PMI Teaching Methods for Mathematics
- CSCI64321: Secondary PSI-PMI Teaching Methods for Computer Science

Course Credit: 4.0 NJCTL credits

Dates & Times:

This is a 4-credit, self-paced course, covering 17 modules of content. The exact number of hours you can expect to spend on each module will vary based on the module coursework and your study style and preferences. You should plan to spend 12-20 hours per module, completing the module slides, readings, short answer assignments, labs, mastery exercises, practice problems, and module exams.

LMS Link: <https://moodle.njctl.org/course/view.php?id=159>

COURSE DESCRIPTION:

This course prepares secondary school teachers to instruct students using research-proven methods; methods that were initially developed for the Progressive Science Initiative® (PSI®) and are now being successfully extended to other domains. Teachers will learn best practices for curriculum, pedagogy, technology, formative and summative assessment, grading, and pacing and how those are woven together to create a highly effective teaching and learning environment. Specific topics include best practices for brief direct instruction, inquiry, modeling, facilitating group discussion, social constructivism and frequent formative assessment, inquiry-based science labs, mastery-based summative assessment, and appropriate use of retakes to encourage persistence and mastery. Instruction will also focus on using student polling devices to drive instruction through formative assessment.

Prerequisite: None

STUDENT LEARNING OUTCOMES:

Upon completion of the course, the student will be able to:

1. Evaluate your own teaching practice and how to incorporate the PSI-PMI methodology into your classroom.
2. Justify the use of formative assessment as a critical teaching tool to guide teaching and learning.
3. Create a positive classroom learning environment that supports risk-taking and growth.
4. Evaluate which technology options will best allow you to incorporate PSI-PMI in your classroom.
5. Combine short direct instruction with demos and hands-on activities that engage learners.
6. Develop ideas for differentiating lessons in your classroom.

TEXTS, READINGS, INSTRUCTIONAL RESOURCES:

This course uses free, digital textbook and ancillary materials accessible at:

<https://njctl.org/materials/categories/teaching-methods/>

Recommended Readings:

- [New Jersey Center for Teaching & Learning - Course Materials, Media Videos, and Instructional videos](#)
- [Common Core Mathematics Standards](#)
- [New Jersey Professional Standards for Teachers and School Leaders](#)
- [New Jersey Student Learning Standards for Mathematics](#)
- [Framework for 21st Century Learning](#)
- [Next Generation Science Standards](#)

COURSE REQUIREMENTS:

Consistent attendance in your online courses is essential for your success. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact the Dean of Students.

Students should interact with fellow students and course instructors via the discussion boards within the course modules. These discussion boards are monitored by your course instructor and you can post questions or thoughts on module learning here.

Online classes have assignments and participation requirements just like on-campus classes. Budget your time carefully. If you have technical problems, problems with your assignments or other problems impeding your progress, let your instructor know as soon as possible.

GRADE DISTRIBUTION AND SCALE:

In order to receive a Passing grade, the participant must complete the following course requirements: all short answer assignments, critical thinking assignments, and the final reflection outlined in the *Assignments* section of the Class Schedule (below).

Grade Distribution:

Critical Thinking Assignments	60%
Final Critical Thinking Assignment	10%
Short Answer Assignments	30%

Grade Scale:

A	93 – 100
A-	90 – 92
B+	86 – 89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	73 – 76
C-	70 – 72
D	60.0 – 69.9
F	59.9 or below

GRADING RUBRIC:

The following rubrics are used to score:

- Short Answer Assignment – 30% of grade
- Critical Thinking Assignments – 60% of grade

MET 6121
Short Answer Rubric

	Meets Expectations	Approaches Expectations	Below Expectations	Limited Evidence
	7 Points	5 Points	3 Points	1 Point
Content	Demonstrates excellent knowledge of concepts, skills, and theories relevant to topic.	Demonstrates fair knowledge of concepts, skills, and theories.	Demonstrates incomplete or insubstantial knowledge of concepts, skills, and theories.	Demonstrates little or no knowledge of concepts, skills, and theories.
Depth of Reflection	The content is well-supported and addresses all required components of the assignment.	Content is partially supported; addresses most of the required components of the assignment.	Content contains major deficiencies; addresses some of the required components of the assignment.	Content is not supported and/or includes a few of the required components of the assignment.

Evidence and Practice	Response shows strong evidence of synthesis of ideas presented and insights gained throughout the entire course. The implications of these insights for the respondent's overall teaching practice are thoroughly detailed, as applicable.	Response shows some evidence of synthesis of ideas presented and insights gained throughout the entire course. The implications of these insights for the respondent's overall teaching practice are detailed, but the response is brief.	Response is missing some components and/or does not fully meet the requirements indicated in the instructions. Some questions or parts of the assignment are not addressed. Some attachments and additional documents, if required, are missing or unsuitable for the purpose of the assignment.	Response excludes essential components and/or does not address the requirements indicated in the instructions. Many parts of the assignment are addressed minimally, inadequately, and/or not at all.
	4 Points	3 Points	2 Points	1 Point
Writing Quality	Writing is well-organized, clear, concise, and focused; no errors.	Some minor errors or omissions in writing organization, focus, and clarity.	Some significant errors or omissions in writing organization, focus, and clarity.	Numerous errors in writing organization, focus, and/or clarity.

The minimum possible score for this rubric is 4 points, and the score will be converted to the minimum grade available in this module (which is zero unless the scale is used). The maximum score of 25 points will be converted to the maximum grade.

Intermediate scores will be converted respectively and rounded to the nearest available grade. If a scale is used instead of a grade, the score will be converted to the scale elements as if they were consecutive integers.

MET 6121
Critical Thinking Rubric: Modules 1-16

	Meets Expectations	Approaches Expectations	Below Expectations	Limited Evidence
Content, Research, and Analysis				
	13-15 Points	10-12 Points	7-9 Points	4-6 Points
Requirements	Includes all of the required components, as specified in the assignment.	Includes most of the required components, as specified in the assignment.	Includes some of the required components, as specified in the assignment.	Includes few of the required components, as specified in the assignment.

	13-15 Points	10-12 Points	7-9 Points	4-6 Points
Content	Demonstrates strong or adequate knowledge of the materials; correctly represents knowledge from the readings and sources.	Some significant but not major errors or omissions in demonstration of knowledge.	Major errors or omissions in demonstration of knowledge.	Fails to demonstrate knowledge of the materials.
	17-20 Points	13-16 Points	9-12 Points	5-8 Points
Critical Thinking and Analysis	Demonstrates strong or adequate critical thinking and analysis of concepts and applications.	Some significant but not major errors or omissions in critical thinking and analysis.	Major errors or omissions in critical thinking and analysis.	Fails to demonstrate critical thinking and analysis.
Mechanics and Writing				
	9-10 Points	7-8 Points	5-6 Points	3-4 Points
Demonstrates college-level proficiency in organization, grammar, and style	Project is clearly organized, well written, and in proper format (including APA as applicable) as outlined in the assignment. Strong sentence and paragraph structure; few errors in grammar and spelling. Proper APA formatting when applicable.	Project is fairly well organized and written, and is in proper format (including APA as applicable) as outlined in the assignment. Reasonably good sentence and paragraph structure; significant number of errors in grammar and spelling.	Project is poorly organized; does not follow proper paper format (including APA as applicable). Inconsistent to inadequate sentence and paragraph development; numerous errors in grammar and spelling.	Project is not organized or well written, and is not in proper paper format (including APA as applicable). Poor quality work; unacceptable in terms of grammar and spelling.

Total possible points: 60

ACADEMIC STANDING:

NJCTL has established standards for academic good standing within a student's academic program. Students enrolled in any NJCTL online course must receive an 80 or higher to successfully complete a course and receive credit for that course. An 80 is equivalent to a GPA of 2.7 or B-. Additionally, students in an endorsement program must receive a cumulative GPA of 3.0 for all courses combined in order to successfully complete the program.

ACADEMIC INTEGRITY:

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /re-purposing your own work, unauthorized possession of academic materials, and unauthorized collaboration.

CITING SOURCES WITH APA STYLE:

All students are expected to follow proper writing and APA requirements when citing in APA (based on the APA Style Manual, 6th edition) for all assignments.

DISABILITY SERVICES STATEMENT:

We are committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Dean of Students, Dr. Rosemary Knab, for additional information to coordinate reasonable accommodations for students with documented disabilities (rosemary@njctl.org).

NETIQUETTE:

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults, or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom.

If you have concerns about something that has been said, please let your instructor know.

ASSIGNMENT SCHEDULE (READING SCHEDULE FOLLOWS IN TABLE):**Module 1: Introduction and Philosophy**

Short Answer Assignment: Introduce yourself. What grade and course do you teach? Why did you decide to register for this course? Look at the provided teaching materials on the NJCTL website for your area of instruction. How do you anticipate using these resources?

Short Answer Assignment for Alternate Route Candidates: Introduce yourself to your course instructor and fellow alternate route teacher candidates. Why did you decide to become a teacher? What are you looking forward to as a teacher? What are you apprehensive about?

Module 2: Information Literacy for Graduate Students

Critical Thinking Assignment: To check your understanding of this module, you will be choosing a research topic of your choice and searching for reputable sources. Your chosen topic should relate to your professional development as a teacher and require you to find several professional/practitioner or scholarly sources. For example, you may want to find "strategies for

teaching students with ADHD" or "research that addresses departmentalization in elementary schools". In this activity, you will need to: Describe your topic of choice and how it applies to your classroom. Search for at least two resources (articles, books, blog posts) that relate to your topic using the NJCTL library. Explain where you searched, what steps you took to conduct your search, and why. Discuss the terms you input into the search bar and any filtering options that you used. If you searched multiple times using synonyms or looked at the reference list of a book or article, describe what you did and why. Be as detailed as possible when describing your search. Which types of sources were most useful for your search? Did you find popular, professional/practitioner, and/or scholarly sources to be best? Did you look for books, articles, and/or blogs? Describe why the resources meet your needs. How are they relevant, and how do you know that they are reputable or reliable sources?

Module 3: Grading

Short Answer Assignment: Describe the current grading practices and policies in your classroom. Which pieces of these are district-mandated? What steps can you take towards moving to align with the PSI-PMI philosophy of grading and retakes? What challenges do you anticipate? What benefits do you anticipate?

Short Answer Assignment for Alternate Route Candidates: In a discussion board post, identify which aspect of grading are you most apprehensive about. Name two strategies that you are excited to implement in your classroom.

Critical Thinking Assignment: Create a letter to parents and students that explains what your grading and retake policy will be.

The letter must be 1-2 pages in length and clearly communicate your message. The letter must be formatted in a professional style. Be clear, concise, and focused.

Module 4: Direct Instruction

Short Answer Assignment: Choose one PSI-PMI lesson appropriate to the grade and course you teach. Complete the "Why, What, How?" planning sheet.

<https://njctl.org/courses/teaching-methods/classroom-coaching/attachments/what-why-howprotocol/>

Your answers must be written in complete sentences and thoroughly answer the question prompts.

Critical Thinking Assignment: Describe the difference between direct instruction and lecture. What strategies will you employ during your lessons to be sure that you are keeping your direct instruction focused and limiting the amount of "teacher talk"?

Module 5: Social Constructivism

Critical Thinking Assignment: Explain how you will introduce the idea of social constructivism to your students. Provide three strategies that you will provide to your students to help them engage constructively with peers. Identify each strategy in a short phrase that you can hang on the wall of your classroom as a reminder to students.

Module 6: Formative Assessment

Short Answer Assignment: On a scale of 1-5 with 5 being “daily and throughout my lessons”, how often do you use quality formative assessment questions in your classroom? Describe the current forms of formative assessment that you use and their strengths and weaknesses. In using PSI-PMI, how do you see the use of formative assessment in your classroom changing?

Short Answer Assignment for Alternate Route Candidates: There are many different forms of formative assessment. Which method(s) do you foresee yourself trying first and how will you prepare ahead to ensure it is as successful as possible?

Module 7: Response Options

Critical Thinking Assignment: Create a one-page letter to your students explaining why the response option you are choosing will help improve the teaching and learning and the classroom. Explain to students your expectations for the use and why.

Module 8: Data-Driven Decision Making

Critical Thinking Assignment: Student assessment data can be used at a district level, school level, class level, and individual level. Here we want to focus on the class and individual levels. The fact that not all students harbor the same learning modalities is ubiquitously accepted by educational scholars. In addition, it is well-documented that students learn at different paces. This problem highlights the importance of effective scaffolding and differentiated instruction within the classroom.

Briefly explain how the following two goals can be achieved via the utilization of Student Response Systems such as SMART Response or Turning Point Clickers:

- Using formative assessment data to dynamically guide Direct Instruction.
- Support a socially constructivist environment that maintains students in their individual Zones of Proximal Development (ZPD).

Module 9: Metacognition, Problem Solving, Pitfalls

Short Answer Assignment: Think of your current classroom environment, for each of the following, rate yourself on a scale of 1-5, with 5 being “daily throughout my lessons”:

1. Model metacognitive thinking and strategies
2. Encourage productive struggle
3. Anticipate student misconceptions

For each of the above, explain the rating you gave yourself and identify one strategy for each that you can implement to improve in each area.

Short Answer Assignment for Alternate Route Candidates: Pick one metacognition strategy that you feel you could incorporate into your classroom on day one. How will you know when to use them?

Critical Thinking Assignment: Choose a unit you would teach and identify three potential concepts that you believe may be difficult for your students. What would you do to address them ahead of time? Where and how would you model metacognition, provide at least three examples.

Module 10: Demonstrations, Labs, and Hands-on

Short Answer Assignment: How often do you currently use demos, hands-on activities, and labs in your classroom? Identify any barriers to your incorporation of these activities in the past and what you can do to overcome them.

Short Answer Assignment for Alternate Route Candidates: What obstacles do you think you may encounter when implementing demos and labs in your classroom? How could you overcome these obstacles?

Critical Thinking Assignment: Choose one unit from our website www.njctl.org and write a description of 3 additional demos (REMEMBER DEMOS ARE DIFFERENT THAN LABS) that you would include in your teaching of the unit. Your description should include all necessary materials when during the unit and lesson you would do the demo, and what you would want the student “take-away” to be from the demo.

Module 11: Differentiation

Critical Thinking Assignment: Choose a PSI-PMI lesson from our website www.njctl.org and explain at least 3 specific ways you would differentiate it for your current class of students. If you would create different assignments or questions, then include those resources. Remember that differentiation should occur not just for students with IEPs, but for all learners. Explain each differentiation you made and why.

Critical Thinking Assignment for Alternate Route Candidates: Choose a PSI-PMI lesson from our website <https://njctl.org/materials/categories/> and explain at least 3 specific ways you would differentiate it for ELL students. If you would create different assignments or questions, then include those resources. Remember that differentiation should occur not just for students with IEPs, but for all learners. Explain each differentiation you made and why.

Module 12: Classroom Environment

Short Answer Assignment: Explain three strategies you will use to create a positive and productive classroom environment.

Module 13: Pacing and Planning

Short Answer Assignment: Explain the current culture of teacher collaboration in your school and where you would like to see growth and improvement.

Short Answer Assignment for Alternate Route Candidates: What is your collaboration style? How would you handle a colleague who does not agree with your teaching style?

Module 14: Culturally Responsive Teaching

Short Answer Assignment: How do you ensure all students feel welcomed and safe to be themselves in your classroom? Identify two new strategies you would like to incorporate in your classroom to improve your culturally responsive teaching. After you post, comment on a previous post on the thread.

Module 15: 21st Century Learning

Critical Thinking Assignment: In a recent study by the Partnership for 21st Century Skills and three other organizations, business leaders identified the work skills that new entrants—recently hired graduates from high school, two-year colleges or technical schools, and four-year colleges—need to succeed in the workplace. Among the most important skills cited by employers are the following:

- Professionalism/Work Ethic
- Oral and Written Communications
- Teamwork/Collaboration
- Critical Thinking/Problem Solving

Explain how your PSI-PMI classroom addresses each of these skills.

Module 16: Information Literacy

Critical Thinking Assignment: Look over the Teaching Tolerance Digital Literacy Framework website (<https://www.learningforjustice.org/frameworks/digital-literacy>).

Read the objectives for your grade level and pick a lesson you can use in your class.

Identify which lesson you chose. When might you use this lesson in your classroom? How does it connect with the other objectives that you are teaching? What content and academic standards will this activity address? What background knowledge do students need to be successful in this activity? Where might you need to build your own background knowledge, and how will you do so? How will you know that your students have learned what you were trying to teach? What does mastery look like? How will you adapt this lesson to meet the unique needs of the students in your classroom?

Module 16B: A New Teacher's Guide to the Classroom for Alternate Route Candidates Only

Short Answer Assignment: Read through the hypothetical situations on the following website:

<https://blog.advancementcourses.com/articles/hypothetical-situations-classroom-1/>

Choose one of the situations and explain how you would handle the situation. Then comment on another post on the discussion board.

Module 17: Self-Reflection

Short Answer Assignment: After reviewing modules #1-16, identify and describe three major take-home points that you have learned from this course. Do you have any lingering questions about PTI's methodology and pedagogy?

Final Critical Thinking Assignment: Using NJCTL's Self-Reflection Checklist, check off all of the boxes that you feel you are currently consistently doing.

Identify two boxes that you did not check, and that will be your focus goals. Explain two strategies for each goal that you could use to help you reach that goal.

<https://njctl.org/courses/teaching-methods/classroom-coaching/attachments/self-reflection-checklist/>

READING SCHEDULE:

Required readings are available within each module by clicking the links where materials are listed under the “Readings:” tab. There are additional recommended readings listed for each module under “Readings”.

Module	Required Readings	Assignments
2 – Intro & Philosophy	<ul style="list-style-type: none">Goodman, R. (2011). The Progressive Teaching Initiative (PTI): A New Paradigm for Education	<ul style="list-style-type: none">Short Answer Assignment
2 – Information Literacy for Graduate Students	<ul style="list-style-type: none">Learning, T. and Libraries, U., 2021. When to Quote, Paraphrase, or Summarize. [online] OhioState.pressbooks.pub. Available at: <https://ohioState.pressbooks.pub/choosingsources/chapter/quote-paraphrase-or-summarize/> [Accessed 18 May 2021].	<ul style="list-style-type: none">Critical Thinking Assignment
3 – Grading	<ul style="list-style-type: none">Dueck, M. (2011). How I Broke My Own Rules and Learned to Give Retest. <i>Educational Leadership</i>, 69(03), 72-75.Fisher, D., Frey, N., & Pumpian, I. (2011). No Penalties for Practice. <i>Educational Leadership</i>, 69(03), 46-51.Wormeli, R. (2011). Redos and Retakes Done Right. <i>Educational Leadership</i>, 69(03), 22-26.	<ul style="list-style-type: none">Short Answer AssignmentCritical Thinking Assignment
4 – Direct Instruction	<ul style="list-style-type: none">Rosenshine, B. (2008). Five Meanings of Direct Instruction.	<ul style="list-style-type: none">Short Answer AssignmentCritical Thinking Assignment
5 – Social Constructivism	<ul style="list-style-type: none">Teaching, U. (1997). Education Theory/Constructivism and Social Constructivism in the Classroom – UCD-CTAG.Wass, R., & Golding, C. (2014). Sharpening a tool for teaching: the zone of proximal development. <i>Teaching in Higher Education</i>, 19(6), 671–684.	<ul style="list-style-type: none">Critical Thinking Assignment
6 – Formative Assessment	<ul style="list-style-type: none">Alber, R. (2011, February 15). Why formative assessments matter.Chappuis, S., & Chappuis, J. (2007). The Best Value in Formative Assessment. <i>Educational Leadership</i>, 65(4), 14–19.Trumbull, E., & Lash, A. (2013, April). Understanding Formative Assessment: Insights from Learning Theory and Memory Theory.	<ul style="list-style-type: none">Short Answer Assignment
7 – Student Polling Options	<ul style="list-style-type: none">Fisher, D., & Frey, N. (2014). Show & Tell/Midcourse Corrections. <i>Educational Leadership</i>, 72(2), 80–81.	<ul style="list-style-type: none">Critical Thinking Assignment

8 – Data-Driven Decision Making	<ul style="list-style-type: none"> Alber, R. (2011, December 6). 3 ways student data can inform your teaching. Retrieved July 19, 2016, from Assessment, http://www.edutopia.org/blog/usingstudent-data-inform-teaching-rebecca-alber. Fuglei, M. (2014, July 02). How Teachers Use Student Data to Improve Instruction. Retrieved July 19, 2016, from Concordia University, http://education.cuportland.edu/blog/news/how-teachers-use-student-datato-improve-instruction/ Guskey, T. (2003). How Classroom Assessments Improve Learning. <i>Educational Leadership</i>, 60(5), 6–11. Protheroe, N. (2001). Improving Teaching and Learning with Data-Based Decisions: Asking the Right Questions and Acting on the Answer. Retrieved from http://www.rogersschools.net/common/pages/DisplayFile.e.aspx?itemId=3497164 	<ul style="list-style-type: none"> Critical Thinking Assignment
9 – Metacognition, Problem Solving, & Pitfalls	<ul style="list-style-type: none"> Chick, N. (2013). Metacognition. Vanderbilt University Center for Teaching. Retrieved [May 6, 2022] from https://cft.vanderbilt.edu/guides-sub-pages/metacognition/. 	<ul style="list-style-type: none"> Short Answer Assignment Critical Thinking Assignment
10 – Demonstrations, Labs, & Hands-on		<ul style="list-style-type: none"> Short Answer Assignment Critical Thinking Assignment
11 – Differentiation	<ul style="list-style-type: none"> Schmoke, M. (2010, September 27). When Pedagogic Fads Trump Priorities. <i>Ed Week</i> 	<ul style="list-style-type: none"> Critical Thinking Assignment
12 – Classroom Environment	<ul style="list-style-type: none"> Johnson, B. (2013, March 12). Building a Sense of Urgency in the Classroom. <i>edutopia</i>. Retrieved June 6, 2022, from https://www.edutopia.org/blog/building-sense-of-urgency-classroom-ben-johnson 	<ul style="list-style-type: none"> Short Answer Assignment
13 – Pacing & Planning	<ul style="list-style-type: none"> Cox, J. (2014, October 24). Teaching Strategies: The Value of Self-Reflection. <i>TeachHub.com</i>. Retrieved June 6, 2022, from https://www.teachhub.com/teaching-strategies/2014/10/teaching-strategies-the-value-of-self-reflection/ 	<ul style="list-style-type: none"> Short Answer Assignment
14 – Culturally Responsive Teaching	<ul style="list-style-type: none"> Ferlazzo, E. (2020, May 26). Ways to Make Lessons ‘Relevant’ to Students’ Lives. <i>Ed Week</i>. https://www.edweek.org/teaching-learning/opinion-ways-to-make-lessons-relevant-to-students-lives/2020/05 	<ul style="list-style-type: none"> Short Answer Assignment
15 – 21st Century Learning	<ul style="list-style-type: none"> Collier, J. (2021, May 6). Creativity: A skill to cultivate in the 21st century. <i>Develop Intelligence</i>. Retrieved June 6, 2022, from https://www.developintelligence.com/blog/2017/09/creativity-skill-cultivate-21st-century/ Goertz, P. (2015, April 7). What does a 21st-century classroom look like: Collaboration. <i>Edutopia</i>. Retrieved June 6, 2022, from 	<ul style="list-style-type: none"> Critical Thinking Assignment

	<p>https://www.edutopia.org/discussion/what-does-21st-century-classroom-look-collaboration</p> <ul style="list-style-type: none"> • Mugabi, T. (2022, May 26). How to incorporate 21st-century skills into the classroom - classcraft blog. Resource hub for schools and districts. Retrieved June 6, 2022, from https://www.classcraft.com/blog/how-to-incorporate-21st-century-skills-into-the-classroom/ • Century standards and curriculum: Current research and practice - ed. (n.d.). Retrieved June 6, 2022, from https://files.eric.ed.gov/fulltext/EJ1083656.pdf 	
<p>16 – Information Literacy</p>	<ul style="list-style-type: none"> • Nsta.org. 2021. Scientific Media Literacy. [online] Available at: <https://www.nsta.org/science-teacher/science-teacher-january-2020/scientific-media-literacy> [Accessed 18 May 2021]. • Gretter, Sarah & Yadav, Aman. (2016). Computational Thinking and Media & Information Literacy: An Integrated Approach to Teaching Twenty-First Century Skills. TechTrends. 60. 10.1007/s11528-016-0098-4. • Commonsensemedia.org. 2021. 5 Myths and Truths About Kids' Internet Safety. [online] Available at: <https://www.commonsensemedia.org/blog/5-myths-and-truths-about-kids-internet-safety> [Accessed 18 May 2021]. • Learningforjustice.org. 2021. [online] Available at: <https://www.learningforjustice.org/sites/default/files/TT-Digital-Literacy-Taking-Action-Online-Oct2017.pdf> [Accessed 18 May 2021]. • Education Week. 2021. The Overlooked Front in the War on Misinformation: Science Class (Opinion). [online] Available at: <https://www.edweek.org/teaching-learning/opinion-the-overlooked-front-in-the-war-on-misinformation-science-class/2019/10> [Accessed 18 May 2021]. • Psufys.pressbooks.com. 2021. Four Moves and a Habit. [online] Available at: <https://psufys.pressbooks.com/chapter/information-literacy/> [Accessed 18 May 2021]. • Nsta.org. 2021. What biases are in my internet searches? [online] Available at: <https://www.nsta.org/what-biases-are-my-internet-searches> [Accessed 18 May 2021]. • Copyright & Creativity. 2021. Why Teach Copyright: Copyright & Creativity. [online] Available at: <https://www.copyrightandcreativity.org/why-teach-copyright-2/> [Accessed 18 May 2021]. 	<ul style="list-style-type: none"> • Critical Thinking Assignment

	<ul style="list-style-type: none"> Oremus, W., 2021. It's Time to Stop Saying "If You're Not Paying, You're the Product". [online] Slate Magazine. Available at: <https://slate.com/technology/2018/04/are-you-really-facebooks-product-the-history-of-a-dangerous-idea.html> [Accessed 18 May 2021]. 	
16B: A New Teacher's Guide to the Classroom	<ul style="list-style-type: none"> Seril, L. (n.d.). Six Lesson Planning Tips for First Year Teachers. Study.com. https://study.com/academy/popular/6-lesson-planning-tips-for-first-year-teachers.html 	<ul style="list-style-type: none"> Short Answer Assignment
17 – Self- Reflection	<ul style="list-style-type: none"> Review key readings/topics from the course 	<ul style="list-style-type: none"> Reflection Paper Final Exam