## IL 2432 and 2478 Spring 2019

## TEACHING AND LEARNING IN SECONDARY SCIENCE AND MATHEMATICS 3

**Wed 4:30 – 7:05 WWPH 4120**

#### Instructor: Dr. Kokka kokka@pitt.edu

#### Office Hours: by appointment Phone: (412) 648-1079

## COURSE DESCRIPTION AND REQUIREMENTS

**COURSE OBJECTIVES AND DESCRIPTION:**

The major goals of this course are to help you:

1. Understand how assessment(formative, summative, performance assessment) can support learning goals.
2. Adapt and design various forms of assessments that support student learning.
3. Use course readings to explore how assessment and pedagogy connect to equity and social justice goals.
4. Use case studies to consider how to respond to the learning needs of all students.
5. Participate respectfully in a professional learning community.

**Course Concepts**

**Pedagogical Approaches**

* Equitable Approaches
* Inquiry based learning
* Complex Instruction
* Culturally Relevant Pedagogy
* Social Justice Pedagogy Mathematics/Science

**Assessment**

* Student Feedback
* Formative Assessment
* Performance Based Assessment
* Standards Based Grading

The course is intended to contribute to your development as a critical, equity-oriented, supportive, reflective, and effective mathematics/science teacher. We will use, in connected ways, readings, assignments, projects, your experiences from your field-placements (if applicable), mathematics and science projects, and our classroom discussions to help you develop knowledge of important issues related to the above course objectives.

This [link](http://bit.ly/PittMathTeachershttp%3A/bit.ly/PittMathTeachers) will bring you to a folder of teaching resources including those related to Complex Instruction, Performance Assessment, Equity and Social Justice Resources, and Beginning of the Year materials: http://bit.ly/PittMathTeachers

**REQUIRED TEXTS:**

**Common Formative Assessment : A Toolkit for Professional Learning Communities at Work** Kim Bailey, Chris Jakicic, and Rebecca DuFour [(available online from ULS)](https://ebookcentral.proquest.com/lib/pitt-ebooks/detail.action?docID=3404932)

Performance Assessment: Showing What Students Know and Can Do by Susan Brookhart

We will read a number of articles, which will be available through Courseweb/Blackboard. Below you will see a tentative schedule for reading assignments, but dates or even the readings themselves may change as we progress through the term. Please check the Courseweb site for updates. Please let your instructor know if you have any difficulty accessing an assigned reading. Additionally, we will make use of Cohen and Lotan’s (2015) Designing Groupwork book and Smith and Stein’s (2011) *5 Practices for Orchestrating Productive Mathematics/Science Discussions*.

## INSTRUCTOR INFORMATION:

## Dr. Kari Kokka is an Assistant Professor of Mathematics Education in the Department of Instruction and Learning at the University of Pittsburgh. She studies Social Justice Mathematics, longevity of STEM teachers of color in urban schools, and STEM teacher activism. She has been teaching for the past 20 years in public high schools and university teacher education programs at the University of California Berkeley, St. Mary’s College, San Francisco State University, the University of San Francisco, and the Harvard Graduate School of Education. Prior to her doctoral studies, she was a math teacher and math coach for ten years, 2001-2011, in New York City at Vanguard High School, a Title I public school and member of the New York Performance Standards Consortium, where she used Complex Instruction and Performance Assessment. She began her teaching career a mathematics teacher and diving coach at Berkeley High School in Berkeley, CA in 1999. She was also a Mathematics Performance Assessment Development and Research Associate at the Stanford Center for Assessment, Learning, and Equity (SCALE) from 2013-2016. She completed her doctorate at the Harvard Graduate School of Education, her M.A. with the Stanford Teacher Education Program with advisors Dr. Jo Boaler, Dr. Rachel Lotan, and Dr. Linda Darling-Hammond, and her B.S. in Mechanical Engineering at Stanford University. She was born and raised in San Jose, CA and attended Title I K-12 public schools in East Side San Jose, CA. She is also co-founder of the Creating Balance in an Unjust World Conference on STEM Education and Social Justice: <http://creatingbalanceconference.org/> and co-chair (co-president) of the Critical Educators for Social Justice Special Interest Group of the American Educational Research Association.

(Dr.) Paulette Vincent-Ruz, science education scholar and PhD candidate, will also join selected class sessions, as indicated by the asterisked dates on the syllabus (this is subject to revision). She studies the ways in which intersectional, attitudinal, and environmental factors affect the experience individuals have with science, particularly the development of science identity. This development is often hindered in ways that systematically disadvantage different minoritized populations like women or students of color. She can be reached at pvincentruz@pitt.edu.

**OFFICE HOURS:** By appointment. Email Dr. Kokka at kokka@pitt.edu to schedule an appointment.

**COURSE REQUIREMENTS AND ASSIGNMENTS:**

The course schedule lists the major activities and assignments that will form the basis for your grade in the course. *The schedule indicates the dates when these items will be due.* Please be sure you complete each assignment or reading by the date indicated in the syllabus. You will submit assignments on Courseweb unless otherwise indicated.

* **Class Participation, In class reflections and other assignments: (10%):** You are expected to attend ALL classes, ***having completed reading (and any other preparatory) assignments***, and participate in activities and discussions in ways that indicate a commitment to establishing and maintaining a professional learning community (e.g. awareness of “airtime”). See below rubric.
* **Mid semester and Final Reflections (10%):** You will reflect on your progress and your final performance for the course
* **Formative Assessment Assignment (20%):** You will develop a formative assessment and lesson plans with a partner for one important concept within what your students are currently learning and you will conduct a formative assessment utilizing the five “key strategies” summarized by Wiliam (2007). This work will include collecting and analyze a class set of student work before and after providing feedback. You will present in class on this, and this assessment may also be used for your Unit Plan.
* **Performance Assessment Project (30%):** You will work with a team to develop a Performance Assessment and Rubric. You will also apply to present at CGSE or the Inclusive Innovation PGH Summit. You will present in class on this, and this assessment may also be used for your Unit Plan.
* **Unit Plan (30%):** Over the course of the semester, you will develop unit plan with a partner on a topic you will teach in your classroom in late spring. You will present on this in class. It will be completed in 3 phases:
	1. *Phase 1*: Working through a commercially available instructional unit both (a) as a student, and (b) as a teacher considering the implications for student learning;
	2. *Phase 2*: Unit Planning - developing a detailed overview of the sequence, including its primary instructional goal(s) and subgoals, timeline, and formative and summative assessments.
	3. *Phase 3*: Lesson Planning – developing linked lesson plans.

**COURSE GRADE:**

Your grade will be calculated on standards based rubric as seen on page 8 of this syllabus. For every assignment you turn in you will also evaluate yourself with the assignment rubric. We will discuss this in class.

A: Meets Expectations/Exceeds Expectations

B: Meets Expectations

C: Meets Expectations/Needs Improvement

D: Needs Improvement

## ACADEMIC INTEGRITY

As a student, you have the responsibility to be honest and to conduct yourself in an ethical manner while pursuing academic studies. You should cite sources of information for papers, projects, and lesson plans (if, for example, you obtain an activity from a teacher’s edition of a text, give the source). Since a major purpose of written course assignments is to give you experience in using various available resources, incorporating ideas from the other sources is encouraged and will not lower the evaluation of your work. In some cases, collaboration with peers will be encouraged/expected. In other cases, you will be expected to work alone. Please ask if you have doubts about what counts as acceptable collaboration. Should you be accused of a breach of academic integrity, procedural safeguards including provisions of due process have been designed to protect student rights. These may be found in guidelines on academic integrity: *Student and Faculty Obligation and Hearing Procedures*. This information may be accessed online at <http://www.pitt.edu/~graduate>.

Please note the following academic integrity issues related to plagiarism are especially relevant within the context of this program—

* **You may not represent ideas, text, or other products/work that was created by others as being your own.**
	+ This means that you must provide appropriate and complete citations when incorporating ideas of others. Moreover, you should put the ideas of others into your own words when incorporating them into documents. Even so, it is appropriate to cite the source of the idea (honor intellectual ownership).
	+ This also means that you may not represent yourself as having contributed to a project when you have in fact not done so.
	+ Related to this, you may not allow another class member to represent him/herself as a fully contributing partner on a group project if you have knowledge that his/her contributions were minimal or nonexistent.
	+ Finally, you may not submit work that you have submitted previously (in other courses or professional contexts) to fulfill the requirements of a course without obtaining express permission from the instructor(s).

**STUDENTS WITH DISABILITIES**

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services (DRS), 216 William Pitt Union, (412) 648-7890 or (412) 383-7355 (TTY), as early as possible in the term.  DRS will verify your disability and determine reasonable accommodations for this course.

**Sexual Harassment**

The University of Pittsburgh is committed to the maintenance of a community free from all forms of sexual harassment. Sexual harassment violates University policy as well as state, federal, and local laws. It is neither permitted nor condoned. It is also a violation of the University of Pittsburgh’s policy against sexual harassment for any employee or student at the University of Pittsburgh to attempt in any way to retaliate against a person who makes a claim of sexual harassment. Any individual, who, after thorough investigation and an informal or formal hearing, is found to have violated the University’s policy against sexual harassment, will be subject to disciplinary action, including, but not limited to, reprimand, suspension, termination, or expulsion. Any disciplinary action taken will depend upon the severity of the offense. For more information, see the Web site: http://www.pitt.edu~provost/har.html.

The University of Pittsburgh policy for reporting sexual harassment is also described in the *New Student Handbook*, pg. 24.

**G-GRADES**

If unforeseen events (such as major illness) prevent a student from timely completion of course work, he/she may request a meeting with the instructor to discuss the possibility of earning a “G” grade for the term. If both student and instructor agree to the “G” grade, they collaboratively write a document that describes exactly what the student needs to do to complete the required course work and the time frame within which he/she must do so.

“G” grades are rarely given and only in unusual circumstances.

IMPORTANT NOTE: The federal government’s policies governing educational loans stipulate that a student must be making good progress toward his/her degree in order to continue to be eligible for financial assistance. “Good progress” is measured in part by the student’s completion of at lest 2/3 of all credits for which he/she is registered. Thus, receiving a “G” grade—which indicates that the course has NOT been completed—may negatively impact a student’s ability to receive federally-subsidized loans.

**Course Policies**

**ATTENDANCE**: The expectation is that you will be **present**, **on time**, and **prepared** for every class.  Attendance is expected at all scheduled classes.  Just as any professional does, in the event of an emergency or other special circumstances, please contact the instructor if you will not be present in class for any reason.  Overall, **missing more than one class** will be considered excessive and will result in a lower grade for the course (i.e., one letter grade per absence beyond one).

**LATE ASSIGNMENTS:** Assignments are due by midnight of the indicated dates. **Late assignments will not be accepted.** However, you may email the instructor to request an extension under extenuating circumstances (e.g. health related issue with a doctor’s note, family emergency). Keep in mind that computer problems and the like are not considered extenuating circumstances. Please plan to turn in your assignments 1-2 days early.

**WRITING CENTER**

I highly encourage you to take advantage of the writing center. You may schedule an appointment online, but I called, and they suggested that you give them a call in order to schedule a phone appointment with them for those who do not live in the Pittsburgh area. They can be reached at (412) 624-6556. <http://www.writingcenter.pitt.edu/graduate-services>

**STATEMENT ON CLASSROOM RECORDING**

 To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student’s own private use.

**DEPARTMENT GRIEVANCE PROCEDURES**

The purpose of grievance procedures is to ensure the rights and responsibilities of faculty and students in their relationships with each other. When a student in DIL believes that a faculty member has not met his or her obligations (as an instructor or in another capacity) as described in the Academic Integrity Guidelines, the student should follow this procedure:

1. The student should talk directly to the faculty member to attempt to resolve the matter.
2. If the matter cannot be resolved at that level, the student should talk to the relevant program coordinator.
3. If the matter remains unresolved, the student should talk to the associate chair of DIL (currently Dr. Patricia Crawford).
4. If needed, the student should next talk to the SOE associate dean of students (currently Dr. Michael Gunzenhauser).
5. If the matter still remains unresolved, the student should file a written statement of charges with the dean’s designated Academic Integrity Administrative Officer (currently Dr. Michael Gunzenhauser).

# IL 2432 and 2478 Spring 2019

**TENTATIVE SCHEDULE OF TOPICS, READINGS AND ASSIGNMENTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **WEEK** | **2019 DATE** | **TOPIC** | **READINGS (complete by class meeting date)** | **ASSIGNMENTS** |
| 1 | 1/9\* | Introductions, Team Building, Norm Setting | Browse this website:[Stanford D School K12 Resources](https://dschool.stanford.edu/resources?tag=Program:%20K12%20Lab&category=K12%20Lab) |  |
| 2 | 1/16\* | Feedback | Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004). Working inside the black box: Assessment for learning in the classroom. *Phi delta kappan*, *86*(1), 8-21.Ch 1- 4 Bailey, K., & Jakicic, C. (2011). *Common formative assessment: A toolkit for professional learning communities at work*. Solution Tree Press.Guest speaker: Todd Smith Inclusive Innovation PGH |  |
| 3 | 1/23\* | Formative Assessment | Ch 5-7 Bailey, K., & Jakicic, C. (2011). *Common formative assessment: A toolkit for professional learning communities at work*. Solution Tree Press.Wiliam (2007) Five Key Practices for Effective Formative AssessmentOptional: Wiliam, D. (2008). Improving learning in science with formative assessment. *Assessing science learning: Perspectives from research and practice*, 2-20.Brookhart Chapter 2[NCTM Formative Assessment Position Statement](https://www.nctm.org/uploadedFiles/Standards_and_Positions/Position_Statements/Formative%20Assessment1.pdf) | Share formative assessment and expectations/rubric in class for feedback |
| 4 | 1/30 | Formative Assessment | Leahy, S., Lyon, C., Thompson, M., Wiliam, D. (2005). Classroom Assessment Minute by Minute Day by Day. Educational Leadership, November 2005, 18-24.Framing Equity: Helping Students“Play the Game” and “Change the Game” by Gutiérrez STEM-Rich Maker Learning by Calabrese Barton and TanGuest speaker: Jordan Mroziak Create Lab CMU | 2/2 Homewood Community Center 10a-2p |
| 5 | 2/6\* | Equity and Justice Goals for Assessment;Black Lives Matter in Schools Week | [Kinloch, V. (2018) Necessary Disruptions: Examining Justice, Engagement, and Humanizing Approaches to Teaching and Teacher Education. Teaching Works.](http://www.teachingworks.org/images/files/TeachingWorks_Kinloch.pdf) Aguirre et al. (2013) Mathematics Assessment within Equity Based PracticesUntold by Leon Ford Browse these sites: [National Education Association Ed Justice](https://neaedjustice.org/black-lives-matter-at-school/) [Black Lives Matter At School](https://blacklivesmatteratschool.com/)[2019 BLM Week of Action Challenge Submission](https://goo.gl/forms/XnrLoWwyoxBvr3L92)Guest speaker: Chris Rogers, Leon Ford |  |
| 6 | 2/13 | Cognitive Demand and Lesson Planning | Tekkumru‐Kisa, M., Stein, M. K., & Schunn, C. (2015). A framework for analyzing cognitive demand and content‐practices integration: Task analysis guide in science. *Journal of Research in Science Teaching*, *52*(5), 659-685.Wiggins & McTighe (2011) Understanding by Design Optional: Assessing 21st Century Skills National Academies PressAlonzo Learning ProgressionsNRC (2012) Framework for K-12 Science EducationGuest: Dr. Mary Kay Stein |  |
| 7 | 2/20 | Performance Assessment   | Darling Hammond (1994) Performance Based Assessment and Educational EquityBrookhart Chapter 1Optional:[What does a Performance Assessment Look Like?](http://cce.org/thought-leadership/blog/post/performance-assessment-six-examples) SCALE (2016) [*Evaluating Item Quality in Large-Scale Assessments, Phase I Report of the Study of State Assessment Systems*](https://scale.stanford.edu/sites/default/files/Evaluating%20Item%20Quality%20in%20Large-Scale%20Assessments_v19.pdf)(Science chapter) | **Formative Assessment Assignment due with presentations (partner and individual portions)** |
| 8 | 2/27 | Performance Assessment   | Kokka (2017) Alternatives to Standardized TestsBrookhart Chapter 2Choose Brookhart Chapters 3 and 4 ORBrookhart Chapters 5 and 6 | **Midsemester Reflection Due (individual)** |
| 9 | 3/6\* | Curricular Examples | Brookhart Chapter 7A People’s Curriculum for the EarthRethinking Mathematics | **Phase 1 of Instructional Sequence due (individual)**Share drafts of Performance Assessments in class for feedback |
| **Spring Break** |
| 10 | 3/20\* | Transformative Education | Justice-centered science pedagogy: A catalystfor academic achievement and socialtransformation by Dr. Daniel Morales-DoyleBang, M., Warren, B., Rosebery, A. S., & Medin, D. (2012). Desettling expectations in science education. *Human Development*, *55*(5-6), 302-318.Optional: [Abolition Science Podcast](https://www.abolitionscience.org/home/2018/11/27/abolition-science-praxis-pt-2-dr-danny-morales-doyle) [listen]Students as curriculum critics: Standpoints withrespect to relevance, goals, and science Daniel Morales-DoyleGuest speaker: Dr. Morales-Doyle |  |
| 11 | 3/27 | Standards Based Grading   | Scriffiny, P. L. (2008). Seven reasons for standards-based grading. *Educational Leadership*, *66*(2), 70-74.Swan, G. M., Guskey, T. R., & Jung, L. A. (2014). Parents’ and teachers’ perceptions of standards-based and traditional report cards. *Educational Assessment, Evaluation and Accountability*, *26*(3), 289-299.Optional: Muñoz, M. A., & Guskey, T. R. (2015). Standards-based grading and reporting will improve education. *Phi Delta Kappan*, *96*(7), 64-68. | **Performance Assessment Project and Rubric due with presentations** (CGSE, Inclusive Innovation PGH) (group and individual portions) |
| 12 | 4/3 | Equity and Justice  | Kokka, K. (2018). Healing-Informed Social Justice Mathematics: Promoting Students’ Sociopolitical Consciousness and Well-Being in Mathematics Class. *Urban Education*, 0042085918806947.The Equity Principle (Principles and Standards for School Mathematics, 2000, pp 12 – 14)Charges of the NGSS Diversity and Equity Team (Ch. 4)by Rita Januszyk, Okhee Lee, and Emily MillerOptional:Benjamin, R. (2016). Interrogating equity: a disability justice approach to genetic engineering. *Issues in Science and Technology*, *32*(3), 51. |  |
| 13 | 4/10 | Culturally relevant pedagogy Fostering a Learning Culture | Ladson‐Billings, G. (1995). But that's just good teaching! The case for culturally relevant pedagogy. *Theory into practice*, *34*(3), 159-165.Shepard, L. A. (2000). The role of assessment in a learning culture. *Educational researcher*, *29*(7), 4-14.Optional: Romagnano, L. (2001). The myth of objectivity in mathematics assessment. *Mathematics Teacher*, *94*(1), 31-37. |  |
| 14 | 4/17\* | International and national assessmentsTeacher Evaluation | [Comparing NAEP, TIMSS, and PISA in Mathematics and Science](https://nces.ed.gov/timss/pdf/naep_timss_pisa_comp.pdf)Darling-Hammond et al. (2013) Evaluating Teacher EvaluationOptional: Ladson-Billings (1998) Teaching in Dangerous Times: Culturally Relevant Approaches to Teacher AssessmentGates Foundation Measures of Effective Teaching (MET) Project | **Instructional Sequence Phases 2, 3 assignment due with presentations (partner and individual portions)**  |
| 15 | 4/24 | Equity Pedagogy | Boaler Mathematics and the Path to EquityCh 8-9 Bailey, K., & Jakicic, C. (2011). *Common formative assessment: A toolkit for professional learning communities at work*. Solution Tree Press.Optional:Developing Mathematics Identity by Allen and SchnellBoaler (2016) From Tracking to Growth Mindset Grouping | **Final Reflection due (individual)** |

# The Class Participation Rubric (shown below) provides guidelines for the evaluation of participation.

|  |  |
| --- | --- |
|  | **Participation** |
| Above Expectations | * Offers comments on a regular basis
* Aware of how much “space” or “airtime” one takes up, ***invites new voices*** to the conversation
* Refers to specific passages from class readings and other sources
* Contributions “push” the conversation by adding to, questioning, considering other viewpoints related to concerns of equity and social justice.
 |
| Meets Expectations | * Offers comments on a regular basis
* Aware of how much “space” or “airtime” one takes up
* Refers to specific passages from class readings
* Contributions demonstrate that the individual has been following the “flow of the conversation”
 |
| Needs Improvement | * Unaware of how much “space” or “airtime” one takes up (talking too often or not enough)
* Does not refer to specific passages from class readings, relies too much on personal experiences
* Contributions do not demonstrate that the individual has been following the “flow of the conversation”
 |

Overall Course Feedback/Rubric/Grade

|  |  |  |  |
| --- | --- | --- | --- |
| **Area of Growth/****Development** | **Revisions Suggested/****Needs more attention in this area** | **Meets Expectations** | **Exceeds Expectations** |
| Assessments | Assessments are created mainly to **evaluate (rather than support)** student **learning**. Assessment and lesson plan goals are not clearly aligned.Missing listed requirements. | Assessments are created to **support** student **learning**, with learning goals, opportunities to elicit student thinking, with multiple ways to be successful, and with considerations of equity and social justice. Assessments and lesson plans goals are aligned.All requirements completed. | Assessments are created to **support** student **learning**, with clear learning goals, opportunities to elicit student thinking, provides evidence that moves students’ learning forward, activates students as owners of their learning and as resources to each other, with multiple ways to be successful, and with considerations of equity and social justice. Assessments, learning progression, and lesson plan goals are clearly aligned.All requirements completed. |
| Lesson Planning | Lesson plans include learning goals, some equitable pedagogical practices, consideration of students’ backgrounds (tailored to your specific context, setting, culture) with attention to detail, anticipated student responses, supports for students with IEPs, multilingual students, students who may struggle. Lesson plans may not clearly align with assessment practices that inform future plans/revisions of plans depending on what is learned from assessments.Missing listed requirements. | Lesson plans include clear learning goals, equitable pedagogical practices, thoughtful task creation or selection, consideration of students’ backgrounds (tailored to your specific context, setting, culture) with attention to detail, anticipated student responses, supports for students with IEPs, multilingual students, students who may struggle. Lesson plans align with assessment practices that inform future plans/revisions of plans depending on what is learned from assessments.All requirements completed. | Lesson plans include clear learning goals, equitable pedagogical practices, thoughtful task creation or selection, consideration of students’ backgrounds (tailored to your specific context, setting, culture) with attention to detail, anticipated student responses, supports for students with IEPs, multilingual students, students who may struggle. Lesson plans align with assessment practices that inform future plans/revisions of plans depending on what is learned from assessments. Plans may also be ambitious, innovative to support student engagement, higher order thinking, and ownership of learning.All requirements completed. |
| Reflections | Minimally reflective in assignment submissions and in classroom discussions. Minimally draws on course readings. | Consistently reflective in assignment submissions and in classroom discussions. Open to new ideas and critique of own lesson plans, assessments, etc. Draws on course readings. | Highly reflective in assignment submissions and in classroom discussions. Seeks out additional opportunities for feedback (e.g. videotaping classroom, asking cooperating teacher and others to observe, etc.) Draws on course readings. May draw on readings outside of class in addition to course readings. |
| Equity and Social Justice Goals | Minimally analyzes lesson plans, assessments course materials, textbook materials, policies procedures at placement, etc. to consider equity and social justice goals. Minimally draws on course readings. | Analyzes lesson plans, assessments, course materials, textbook materials, policies procedures at placement, etc. to consider equity and social justice goals. Draws on course readings. | Consistently analyzes lesson plans, assessments, course materials, textbook materials, policies procedures at placement, etc. to achieve equity and social justice goals. Draws on course readings. Goes above and beyond to seek out additional resources. |
| Classroom Discourse/ Participation | Unaware of how much “space” or “airtime” one takes up (talking too often or not enough). Does not refer to specific passages from class readings, relies too much on personal experiences. Contributions do not demonstrate that the individual has been following the “flow of the conversation” | Offers comments on a regular basis. Aware of how much “space” or “airtime” one takes up. Refers to specific passages from class readings. Contributions demonstrate that the individual has been following the “flow of the conversation.” | Offers comments on a regular basis. Aware of how much “space” or “airtime” one takes up, ***invites new voices*** to the conversation. Refers to specific passages from class readings and other sources. Contributions “push” the conversation by adding to, questioning, considering other viewpoints related to concerns of equity and social justice. |
| Professional Community | Does not meet professional obligations (e.g. inappropriate comments, disrespectful of the class community, does not arrive prepared and on time, does not complete readings, assignments are late or missing) | Meets professional obligations (e.g. being respectful of the class community, arriving prepared and on time, turning assignments in on time, and completing readings). | Exceeds professional obligations (e.g. being respectful of the class community, arriving prepared and on time, turning assignments in on time, and completing readings). Goes out of their way to be supportive of classmates. |

Overall Feedback:

# WEBSITES OF INTEREST

**Complex Instruction**

YouCubed (Jo Boaler) <https://www.youcubed.org/> (tasks, videos, etc.)

Complex Instruction (Cohen, Lotan, Boaler) <http://cgi.stanford.edu/group/pci/cgi-bin/site.cgi>

NRich Jo Boaler and Complex Instruction <http://nrich.maths.org/7011> (papers, videos, etc.)

Video of Jo Boaler explaining Complex Instruction <https://www.youcubed.org/introduction-complex-instruction/>

CPM Study Team Strategies <http://cpm.org/study-team-support/?rq=team%20strategies>

E. Cohen; Designing Groupwork: Strategies for the Heterogeneous Classroom; Teachers College Press 1994.

Center for Multicultural Education <http://www.uvm.edu/complexinstruction/about_ci.html>

University of Vermont <http://depts.washington.edu/centerme/complex.htm>

National School Reform Faculty Protocols <http://www.nsrfharmony.org/free-resources/protocols/a-z>

**Complex Math Tasks and other Curricular Suggestions/Supplements**

Math Forum <http://mathforum.org/>

Illustrative Mathematics <https://www.illustrativemathematics.org/>

MARS Shell Center <http://map.mathshell.org/index.php>
Classroom Challenges[http://map.mathshell.org/lessons.php](https://www.youcubed.org/)

Math Design Collaborative [http://k12education.gatesfoundation.org/student-success/high-standards/literacy-tools/mathematics-design-collaborative/](https://www.youcubed.org/)

Chicago Grassroots Curriculum Taskforce <http://grassrootscurriculum.org/>

Understanding Language (supports for emergent multilingual students in the content areas) <http://ell.stanford.edu/>

**Performance Assessment and Project Based Learning**

New York Performance Standards Consortium <http://performanceassessment.org/index.html>

Center for Collaborative Education <http://cce.org/>

Stanford Center for Assessment Learning and Equity <https://scale.stanford.edu/>

Buck Institute Project Based Learning <http://bie.org/>

**Formative Assessment**

Dylan Wiliam <http://www.dylanwiliam.org/Dylan_Wiliams_website/Presentations.html>

**Free Online Classes**

Designing for Deeper Learning: How to Develop Performance Tasks <https://novoed.com/learning-design-common-core>

Integrating English Language Development and Content Area Learning: A Conversation-Based Approach <http://ell.stanford.edu/content/moocs>

**Social Justice Resources**

Social justice magazine and book publisher, tons of great resources

Contact: Jody Sokolower jody@rethinkingschools.org

<http://www.rethinkingschools.org/index.shtml>

Dr. Frances Harper’s CI and SJM resources<https://francesharper.com/social-justice-math/>

A People’s Curriculum for the Earth <https://www.rethinkingschools.org/books/title/a-people-s-curriculum-for-the-earth>

**Textbook Suggestions**

Mathematics Modeling Our World Textbooks <http://www.comap.com/mmow/>

College Preparatory Mathematics <http://cpm.org/>

Interactive Math Program <http://mathimp.org/>

**Videos of students working on math tasks**

<https://www.teachingchannel.org/videos?page=4&categories=subjects_math,topics_common-core&load=4>

<http://k12education.gatesfoundation.org/student-success/high-standards/literacy-tools/mathematics-design-collaborative/>

**Creating Balance in an Unjust World Conference on STEAMM Education and Social Justice**

[www.creatingbalanceconference.org](http://www.creatingbalanceconference.org/) Please follow us on Twitter @MathEdSJ, Instagram @MathEdSJ, "like" our [Facebook](https://www.facebook.com/creatingbalanceinanunjustworld/?fref=ts) page. CURRICULAR RESOURCES <http://creatingbalanceconference.org/resources>

Pennsylvania Standards Aligned System [www.pdesas.org](http://www.pdesas.org)

National Academies Press <http://www.nap.edu/topics.php?topic=282>