SYLLABUS

ADVANCEMENT COURSES™
A Wiley Brand

Social Justice in the Math Classroom

15 Clock Hours
Why should teachers take our courses?

A Focus on Student Success
Fostering student success in both academics and social-emotional growth is the main focus of all of our courses. Our courses are filled with strategies, techniques, and activities that are directly tied to improving student achievement in the classroom.

Classroom Applicable
We believe that professional development should be directly related to the classroom, so our courses are designed to include valuable resources for the classroom, innovative strategies and perspectives, and activities aimed at developing content teachers can use in the classroom immediately.

Authentic Assessments
As every subject and grade range has its own needs, we have designed our courses to include authentic assessments that mirror the type of work teachers do in the classroom. With case studies, active reading exercises, and time for developing student-facing activities, our courses provide consistent opportunities to express learning in an authentic manner.

Reflective Practice
A key component of all of our courses is time dedicated to reflective practice. Each course includes a journaling component, which prompts the teacher to connect the reading to their practice, experiences, student population, and school community.

Connection to Special Populations
While many professional development courses may tack on a section on special populations at the end, we believe that knowledge of special populations is integral to all subjects and grade ranges. The majority of our courses include direct strategies for working with exceptional students (special needs, English Language learners, at-risk students, and gifted and talented students).

Professional Learning Community
A dedicated online community space allows teachers to interact with course instructors and their peers, sharing resources, exploring new ideas, and connecting with other educators from across the country.
Social Justice in the Math Classroom

Course Description

Often, we think of social justice topics as belonging most naturally in an ELA or social studies classroom. After all, don’t numbers and math formulas work the same regardless of your background or circumstances? However, when done correctly, discussions about social justice issues can actually contribute to a more authentic and relevant learning experience in mathematics.

In this course, you’ll learn how to implement social justice in the math classroom, with concrete strategies and activities spanning from early childhood to high school. You’ll examine how implicit bias has impacted education, particularly mathematics. In addition, you’ll see how to incorporate real-world topics in social justice into your math lessons, as well as introducing students to diverse trailblazers in the field.

Using the strategies from this course, you’ll be able to create a more academically, culturally, and socially sound environment for teaching and learning mathematics.

Connections to Practice

This course provides the following classroom connections:

- Practices for using a social justice lens in your math program and classroom
- Models for leveraging common mathematical problem-solving to incorporate concepts of social justice
- Strategies for integrating social justice discussions into your math classroom
- Considerations for discussing and improving equitable math outcomes

Course Outcomes

In this course, participants will:

- Appraise the impact of implicit bias in mathematics curriculum, teaching, and learning by evaluating historical and contemporary movements in math education.
- Examine approaches to math curriculum and instruction through a social justice lens.
- Propose ways to improve math instruction using a social justice approach.
- Examine guidelines for integrating social justice topics into the math classroom respectfully.
- Evaluate instructional models to integrate diversity and social justice into the math classroom.
- Outline plans for long-term work with social justice to improve engagement and equity in the math classroom.
Charlotte Danielson Framework for Teaching Alignment

Domain 1: Planning and Preparation
1e Designing Coherent Instruction

Domain 2: The Classroom Environment
2b Establishing a Culture for Learning

Domain 3: Instruction
3b Using Questioning and Discussion Techniques
3e Demonstrating Flexibility and Responsiveness

Course Engagement and Resources

The activities and engagement options for the course have been designed to align with guidelines and considerations of Universal Design for Learning. This course aims to:

- Provide the learner with multiple means of representation.
- Provide the learner with multiple means of action and expression.
- Provide the learner with multiple means of engagement.

Your course facilitator will be available to you to answer questions and provide written feedback on your final project. Additionally, within the Moodle LMS, you will have access to a collection of community resources through which you will be able to further explore course concepts through collaboration with facilitators and peers.

Materials

- Online reading, viewing, and listening resources will be provided in each module.

Method of Evaluating Student’s Performance

<table>
<thead>
<tr>
<th>Assignment Category</th>
<th>Total Point Value</th>
<th>Percentage of total possible points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>5 points</td>
<td>30%</td>
</tr>
<tr>
<td>Assignment: Self-reflection and goal setting, concept practice questions, and discussion forums</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Project</td>
<td>10 points</td>
<td>70%</td>
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</tbody>
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*Please note that you must receive a percentage of 80% or higher for successful completion of this course. Completion of all activities is required to receive credit.*
Assessments

Self-Reflection and Goal Setting
This course will include a self-reflection and goal setting assignment in the first module, in which each learner will articulate what he or she hopes to learn and achieve by taking the course. Learners will be guided to reflect briefly upon their intentions for the course and to set one to two specific (SMART) goals for their learning.

Concept Practice
These automatically scored questions will appear in each module and will cover concepts discussed in the module. Immediate feedback will be provided for each question.

Discussions
Discussions will appear in each module and include questions about concepts that appear in the module. Learners will be expected to post one original response to the prompt and respond to two peers.

Discussions will be evaluated on a pass–fail basis, per the following guidelines for completion:

- Participant satisfactorily shares thoughtful reflections and responds to colleagues in a respectful and engaging way.
- Participant provides an adequate level of detail in entries.
- Examples are satisfactorily helpful and informative and foster discussions or demonstrate substantial reflection.
- Participant’s responses are clear and well written and employ proper APA citation.

Final Project
The final project for each course will appear in the final module and include a prompt that aligns with each category (including the “evaluate” and “create” categories) of Bloom’s taxonomy, building on the concepts from each module.

Final projects will be designed for the learner to create an implementation plan that demonstrates application and understanding of concepts and skills learned through each module of the course.
The final project will be evaluated using the following rubric:

<table>
<thead>
<tr>
<th>Focus Areas</th>
<th>Does Not Meet Expectations (1 point)</th>
<th>Partially Meets Expectations (3 points)</th>
<th>Meets Expectations (4 points)</th>
<th>Exceeds Expectations (5 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Course Content</td>
<td>Project relates incomplete or incorrect information about course concepts.</td>
<td>Project relates superficial information about course concepts.</td>
<td>Project relates clear information about course concepts.</td>
<td>Project relates detailed and thorough information about course concepts.</td>
</tr>
<tr>
<td></td>
<td>The learner provides an unclear reflection upon how he or she will evaluate personal progress toward established course goals.</td>
<td>The learner provides a superficial reflection upon how he or she will evaluate personal progress toward established course goals.</td>
<td>The learner provides a satisfactory reflection upon how he or she will evaluate personal progress toward established course goals.</td>
<td>The learner provides a detailed reflection upon how he or she will evaluate personal progress toward established course goals.</td>
</tr>
<tr>
<td>Alignment of Student Outcomes</td>
<td>Project’s alignment to course learning outcomes is unclear or absent.</td>
<td>Project aligns with 1–2 course learning outcomes.</td>
<td>Project aligns with 2–3 course learning outcomes.</td>
<td>Project aligns with 3–5 course learning outcomes.</td>
</tr>
</tbody>
</table>

Course Outline

Module 1

Math may be made up largely of numbers and systematic approaches to applying those numbers, but it is taught and used by human beings. Unlike numbers, human beings are impacted by all that is around them, and as such, our application and instruction of mathematics, as well as what we take away from numbers, is inevitably connected to our experiences. In this lesson, we will examine research on implicit biases in an effort to identify potential barriers to student learning in math. Then, we will consider how to use a social justice lens to propose ways to bridge gaps in equitable experiences with mathematical learning in schools. Finally, we will look at large-scale and long-term approaches to fusing and fueling your classroom’s and program’s approach to math with social justice in the real world.

Learning Outcomes

By the conclusion of this module, you will be able to do the following:

- Appraise the impact of implicit bias in mathematics curriculum, teaching, and learning by evaluating historical and contemporary movements in math education.
- Examine approaches to math curriculum and instruction through a social justice lens.
- Propose ways to improve math instruction using a social justice approach.
Agenda

Review the reading, viewing, and listening resources provided in Module 1, and complete the:

- **Self-Reflection and Goal Setting Activity**: in this discussion forum, you will articulate what you hope to learn/achieve because of the course. Please reflect briefly upon their intentions for the course and to set 1-2 specific (SMART) goals for your learning.
- **Introductory Forum**: in this discussion forum, you will have an opportunity to introduce yourself and meet other learners in the course.
- **Module 1 Content Lesson**: The content lesson serves to introduce and explain the topics and concepts for the module, and their applications in the classroom setting.
- **Module 1 Discussion Forum**: in this discussion forum, you will provide an original response to a question posed about topics in the Module 1 Content Lesson and respond to the original postings of your peers.

Module 2

Infusing social justice into classroom instruction probably sounds great in concept, but you may still be wondering how to do it meaningfully. In this lesson, we will examine specific vehicles for integrating social justice into the curriculum: graphing, modeling, research assignments, story problems, and project-based learning. We will establish some guidelines to help ensure you are meaningfully yet carefully integrating these ideas into your instruction. Finally, we will look at bigger ideas for engagement, equity, and long-term integration of social justice in instruction.

Learning Outcomes

By the conclusion of this module, you will be able to do the following:

- Examine guidelines for integrating social justice topics into the math classroom.
- Evaluate instructional models to integrate diversity and social justice into the math classroom.
- Outline plans for long-term work with social justice to improve engagement and equity in the math classroom.

Agenda

Review the reading, viewing, and listening resources provided in Module 2, and complete the:

- **Module 2 Content Lesson**: The content lesson serves to introduce and explain the topics and concepts for the module, and their applications in the classroom setting.
- **Module 2 Discussion Forum**: in this discussion forum, you will provide an original response to a question posed about topics in the Module 2 Content Lesson and respond to the original postings of your peers.
- **Final Project**: For your final project, you will construct a plan for how you will implement the course concepts with an audience of your choosing. The plan you create and the audience that you choose should be designed to suit your professional role.
- **Course Evaluation Survey**
Technology Requirements

Please review the System Requirements for Moodle.

Netiquette Policy

Anyone enrolled in online courses has the right to learn in an environment where all individuals are treated equitably and with respect. Behaviors in the course that interfere with the learning experience are not permitted. Disruptive or disrespectful behaviors may result in dismissal from the course.

To maintain a positive, professional, and supportive online environment for this class, learners should adhere to the following standard guidelines. Everyone is expected to:

- Show respect for the facilitator and for other learners in the class, including use of polite, professional tone, respecting and valuing the privacy of other learners, and expressing differences of opinion in a polite and rational way.
- Maintain an environment of constructive criticism when commenting on the work of other learners by offering feedback that is supportive and helpful in nature.
- Contribute relevant topics and ideas when involved in group discussions or other collaborative activities.
- Use appropriate grammar and structure in online communication and refrain from use of all capital letters, as this equates to and can be interpreted as shouting in the online environment.

Compliance With the Americans With Disabilities Act

In compliance with Section 504 of the Rehabilitation Act and the Americans With Disabilities Act, participants who have any condition, either permanent or temporary, that might affect their ability to complete this course are encouraged to reach out to support@advancementcourses.com at the beginning of the course. We will make reasonable academic and accessibility accommodations to the course.

Academic Integrity

Honesty is an essential aspect of academic integrity. Individual students are responsible for doing their own work and submitting original assignments per the course directions. Plagiarism and cheating of any kind will not be tolerated.

Plagiarize: “To steal and pass off (the ideas or words of another) as one’s own without crediting the source; presenting as new and original an idea or product derived from an existing source” (Webster’s new collegiate dictionary, 1973, p. 870). This includes using information from the Internet without citing the website. Avoid plagiarism by appropriately acknowledging the source of the author’s words and ideas.

Cheating: Submitting or presenting an assignment as your own when it was written or created by someone else is not permissible in this class.
References


Burdman, P. (2019, June 30). *Can math be a vehicle for social justice?* Medium.


PBLWorks. (n.d.). *Video: March through Nashville* [Video].


University of Wisconsin–Milwaukee School of Education. (2020, October 6). *How mathematics plays a role in social justice and racial equity*.


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