

CULTURALLY RESPONSIVE TEACHING AND SECONDARY MATHEMATICS

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INTRODUCTION

This goal of this poster is to outline what culturally responsive teaching is, why it is used, and how it can be applied to a high school mathematics classroom.



DEFINITION

Every culture has funds of knowledge that are built over time and passed down between generations. Students gain a better understanding of the curriculum and learn more efficiently when their cultural funds of knowledge and backgrounds are both valued and used within the classroom. Using this knowledge is the core of culturally responsive teaching. Culturally responsive teaching uses students' cultural perspectives, experiences, and characteristics to help culturally scaffold learning to promote student engagement, achievement, and empowerment.

TPEP ALIGNMENT

Culturally responsive teaching aligns well with Criterion 3 and Criterion 7 of the Teacher/Principal Evaluation Program (TPEP).

INQUIRY QUESTIONS

- What is culturally responsive teaching?
- How can culturally responsive teaching be effectively used in a math classroom
- What challenges and supports can teachers expect when implementing culturally responsive teaching?

COMPETENCIES

FORMING RELATIONSHIPS WITH STUDENTS AND PARENTS

Culturally responsive teachers must have a positive relationship with students and their families to understand students' individual cultures at a deep enough level to apply them to the classroom and curriculum. Without a relationship between the teacher and students, culturally responsive teaching is simply not possible. It is important to note that culturally responsive teaching is not easy and will take trial and error. Teachers who are learning how to become culturally responsive should heavily involve students and their families to create a curriculum and environment that accurately works with students' cultures.

REFLECTING ON ONE'S CULTURAL LENS

Teachers should reflect on their own cultural lens to begin understanding other cultures. Culturally responsive teachers are aware of their cultural frame of reference and can reflect on their identity and teaching practices to help them consider how their perspective is received from the perspectives of their students. One strategy for teachers to reflect is to self assess their knowledge about their own culture as well as the knowledge they have of student cultures.

DRAWING ON STUDENT'S CULTURE TO SHAPE CURRICULUM

Culturally responsive teachers use their knowledge of their students' cultures to develop culturally relevant learning strategies and a culturally relevant curriculum. Using cultural scaffolding to connect new ideas with existing cultural knowledge is extremely beneficial for students with diverse cultural backgrounds. This scaffolding cannot take place without a relationship between the teacher and their students, which highlights the importance positive relationships have in culturally responsive teaching.

RECOGNIZING AND REDRESSING BIAS IN THE SYSTEM

Recognizing and redressing bias in the system is crucial to culturally responsive teaching. Culturally responsive teachers acknowledge that they themselves and the school system have biases that directly impact the students, especially when teachers don't make a distinct effort to revert said biases. Culturally responsive teaching actively brings change both socially and academically to students' lives by eliminating biases in classrooms and schools.

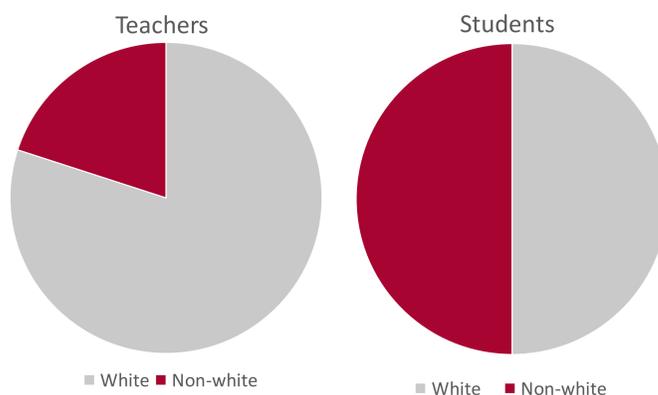
SUPPORTING THEORY: CRITICAL RACE THEORY

Critical race theory is a form of social justice that creates rights for all students which is done through a curriculum that opposes racism. To apply critical race theory teachers must openly discuss race in the classroom and understand that there are systematic problems that need to be solved. Culturally responsive teaching and critical race theory tie in very well together because they both involve recognizing and redressing bias in the system and they both have the overall goal of creating a more equitable classroom for all students.

IMPLICATIONS FOR MY CLASSROOM

Students of diverse cultural backgrounds more frequently struggle with a white teacher as compared to a teacher of the same cultural background. As a white secondary mathematics teacher, I want to do everything in my power to make learning equitable to all students. The best way for me to create an equitable classroom for diverse students is by being a culturally responsible teacher. To become a culturally responsive teacher I plan to form positive relationships with my students to better understand their cultures and further be able to apply that knowledge to the curriculum. Culturally responsive teaching is not an easy task, but I will put in effort to learn and grow as a culturally responsive teacher. Through my many setbacks and failures, I will rely on student input to ensure culture is accurately and efficiently being represented within the classroom. My main goal as a math teacher is for all students to feel welcome and grow in their mathematical understanding. Culturally responsive teaching will help me achieve this goal.

IMPORTANCE OF CULTURALLY RESPONSIVE TEACHING



In urban schools in the United States around 80% of teachers are white whereas around 50% of students are white. This discrepancy is a major issue because students learn best when their teachers are of the same culture as them. Culturally responsive teaching is one way for teachers to tackle this issue. By applying culturally responsive teaching, teachers are attempting to make the classroom more equitable for students of diverse cultures.

SECONDARY MATH APPLICATIONS

Incorporating multicultural content into curriculum

Center entire lesson around student culture:

- In a class with many Alaskan Native students the teacher could give a lesson connecting the abstract systems of numbers and measurements used in hunting and gathering to abstract systems of mathematical equations.

Connect real life problems with mathematics

Teachers can find social justice or equity related events that are taking place in the nation or community and apply them to a mathematical perspective:

- Black Lives Matter protests – build a lesson around the number of people needed and the area needed to fit those people for a protest
- Use data from a census to graph a scatter plot of the number of teachers of a specific culture in schools across the state. Compare to number of students of the same culture and discuss the implications of the findings.

Involve student interests in curriculum

- In basketball touching the line is out, but in volleyball touching the line is in, this can be used to explain less than or equal to in math.

