



Becoming a Culturally and Linguistically Responsive Science Teacher: A Descriptive Study

Erin Kirkpatrick, John Adams Middle School, Rochester, Minnesota



Background

This study was conducted at John Adams Middle School in Rochester, MN. The school district began an initiative to bring culturally and linguistically responsive teaching (CLRT) into all classrooms in effort to bridge the achievement and discipline gap seen among minority students in our district. The purpose of CLRT is to help students feel validated, affirmed, and to bridge the gap that many students feel because of cultural differences. It incorporates validation of culture through the way we teach, such as literacy, vocabulary, and management strategies.

The primary goal of my action research (AR) is to determine the impact of CLRT on the classroom environment. This was a descriptive study in which I documented, analyzed, and reflected on my journey to becoming a culturally and linguistically responsive educator. Since my entire district is implemented CLRT, this study aligned with the goals of my district, and my experience and findings could help other teachers as they implement CLRT into their classrooms.

Research Matrix

Primary Question: What are the effects of CLRT on the classroom environment?

Data Collection Instruments

- 1. Student Surveys
- 2. Student Interviews
- 3. Instructional Coach Observations
- 4. Personal Journal

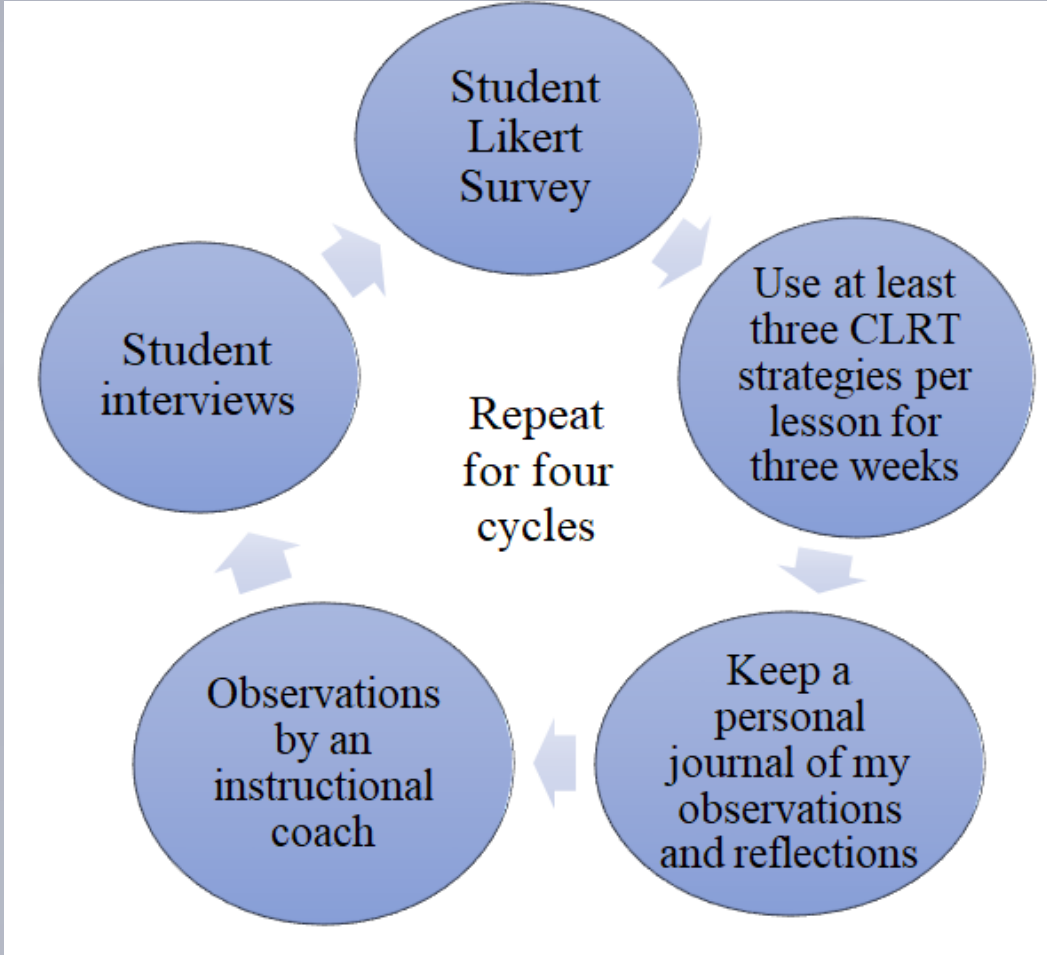
Sub-Question 1: What are student attitudes toward CLRT?

Sub-Question 2: What are the effects of CLRT on student learning?

Sub-Question 3: How does implementing CLRT impact me as a teacher?

Methodology

- The study was conducted on 146 seventh graders
- Data collection focused on one class of 32 students
- Implementation lasted the entire school year
- Data collection occurred over twelve weeks



Data and Analysis

Student Attitudes Toward CLRT

- In five out of seven surveyed activities, students felt that they learned better through CLRT activities.
- Students commented that activities that involve movement help them stay attentive and on-task. Activities that involve partner work, such as Three Step Interview and Jigsaw, students felt that talking to someone else helped them make sense of the content and get more ideas.
- The area that students did not respond positively to was non-volunteerism. An example is Roll ‘em, which uses dice rolls to call on students to share their ideas.

Table 1. Student quotes

“[CLRT activities] make me actually think, which I guess is good, but they are also kind of fun, so then I remember it more.”
“I think partner work is great because we can give each other new ideas to think about while we work together.”
“I feel like you are really thinking about what will help us learn and what we like.”
“If a video is playing I will watch it, or if you are talking I’ll listen. It might be good or not. If we are moving around, I like that so then I like learning more.”
(in regards to non-volunteerism) “I don’t like not knowing if I’m going to get called on.” When I asked this student if the possibility of getting called on increased their attention, and therefore increased their learning, they responded, “Maybe, but I get more anxiety so probably not.”

Impact of CLRT on Student Learning

- CLRT and traditional strategies generated similar percentages of on-task students.
- Data from the student self-assessment of engagement showed that there is a large difference in engagement levels for the learning strategies.
- Students were more likely to consider themselves engaged in learning during CLRT activities.

Table 2. Average results of student self-assessment of engagement survey
N=32

	Engaged	Compliant	Off-Task
CLRT	62%	20%	18%
Traditional	35%	45%	20%

Impact of CLRT on Myself

- I gained skill at planning with a purpose and balancing the validation of different cultures (Table 3).
- I discovered the value of explaining the purpose of learning activities to students.
- I helped students grow in a variety of real-life skills such as confidence, communication, and cooperation.

Table 3. Example of purposeful lesson planning from my personal journal. (January 15, 2020).

Fill-in Reading	Card sort	Use of a timer	Gallery Walk	Raise hands
-Verbal overlapping -Cooperative -Stationary	-Subjectivity -Sociocentric	-Precise time -Standardized	-Spontaneous -Sociocentric -Kinesthetic -Nonverbal	-Verbal expressiveness -Turn taking -Individual

Conclusion & Value

Survey data supported the need for CLRT in my classroom because the majority of my students expressed underserved cultural behaviors. The data from this study indicates a positive increase in student attitudes and engagement during lessons. Understanding student’s cultural backgrounds allow for purposeful lesson planning. I look forward to helping others understand that CLRT is not a set of activities, but a valuable mindset. CLRT utilizes students’ cultural knowledge, behavior, and frames of references to make content relevant and accessible. When implemented purposefully, CLRT is a rigorous framework to help students with information processing and to become independent learners. Future research could involve collecting content assessment data to quantitatively measure student learning.