

# Large Class Pedagogy: Teaching Through Interactions Framework

Presented by: Sydney Feldman & Yoonho Hwang

Research Mentor: Dr. Adrienne Barnes-Story

**Introduction:**

Existing Facts

- The mean class size in Malawi is 120 students (Mlanjira, 2025).
- The population of Sub-Saharan Africa is set to double by 2030 (UNICEF, 2017), meaning the number of teachers will likely stay the same, as classroom sizes only increase.
- Reading proficiency in Malawi among children was lower by approximately 400% compared to U.S. students' average (Mlanjira, 2025).

Previous Shortcomings

- Past research has focused mainly on limited educational resources rather than classroom interactions.
- Few studies examine teachers' perspectives or which teaching practices work best in large classes.
- TIF addresses this gap by observing student-teacher interactions to identify ways to improve the learning environment.

TTIF's Purpose

- Show that classroom emotional climate can be observed and improved, helping guide teacher training toward effective behaviors.
- Identify low-cost, scalable interaction strategies for teachers in large or resource-limited classrooms.
- Better understand students' needs and the most effective instructional approaches.

**Methods:**

Participants

- 10 higher-performing government primary schools
- 10 grade two teachers, and 10 grade four teachers
- 80+ learners per class (not considered formal participants)

Measures

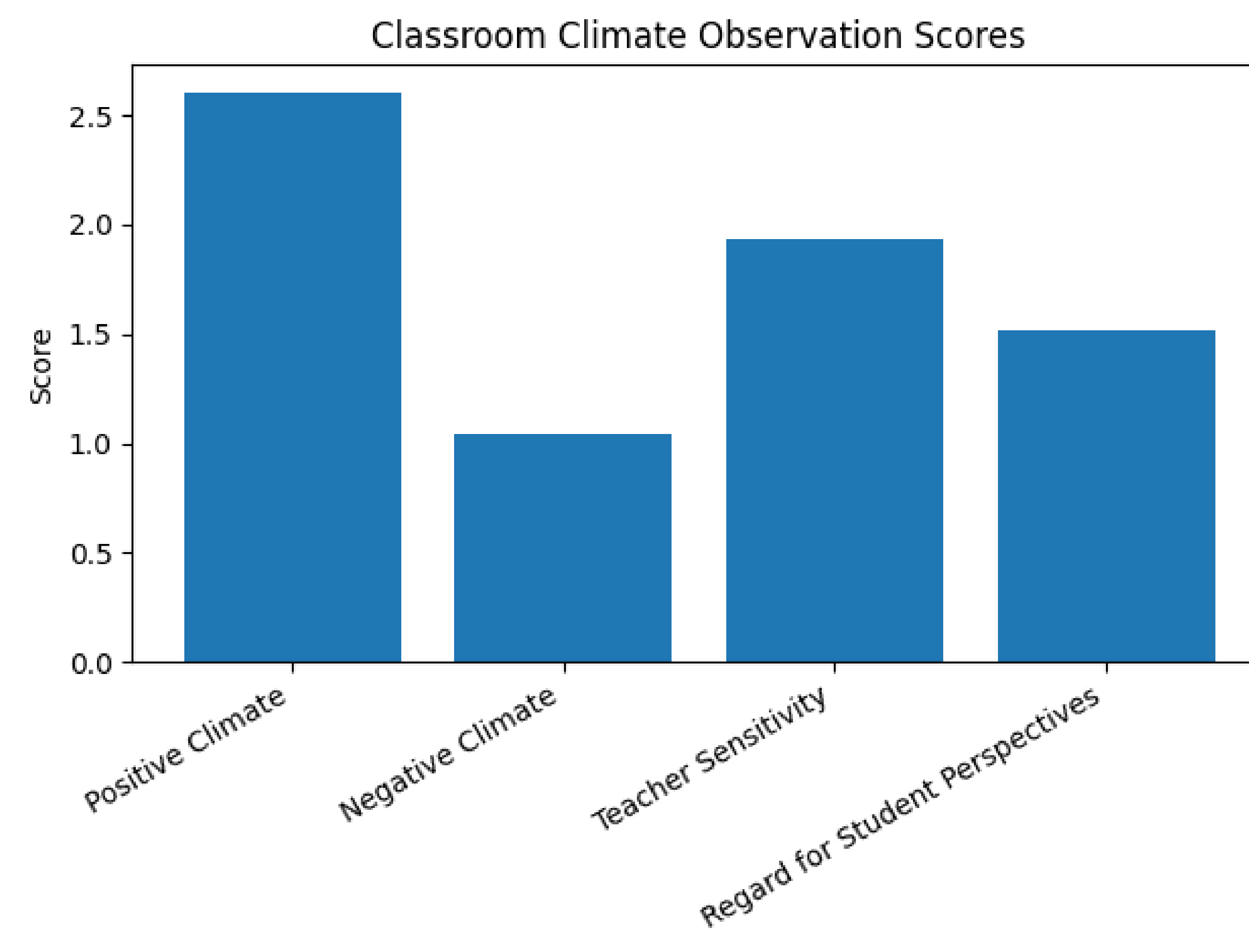
- This study looked at which teaching methods participants considered to be most effective, specifically the importance of group work on classroom engagement, and assessment on knowledge acquisition.
- To assess the effectiveness of teaching methods, classroom practices were organized into 4 indicators: *Positive Climate*, *Negative Climate*, *Teacher Sensitivity*, and *Regard for Student Perspectives*.

Procedures

1. Our research mentor, and her team travelled to Malawi and Kenya and recorded 40+ videos of classrooms, ranging in subject and age.
2. As a UROP team, we then practiced coding classroom videos to build our coding reliability.
3. Videos were viewed in 5-minute cycles, and each cycle received its own code of large classroom pedagogy indicators.
4. Each indicator was ranked on a scale of 1-7 (1 being the lowest, and 7 the highest).
5. Once we became reliable coders, we were paired off to code 5 videos of our choosing.
6. When disagreements on scores would arise between partners, we would each defend our score, point out what the other person may have missed, and typically come to a compromise

TTIF Component	Description	Mean Score	Trends in data
Positive Climate	Reflects the emotional connection among students and between students and the teacher, expressed verbally and nonverbally.	2.60	<ul style="list-style-type: none"> <li>•Limited interactions between students</li> <li>•High teacher proximity of front and side rows of class</li> <li>•Frequent opportunities for peer support and praise</li> </ul>
Negative Climate	Measures the overall level of negativity in the classroom, based on the frequency and intensity of teacher and student negativity.	1.04	<ul style="list-style-type: none"> <li>•No aspects observed</li> </ul>
Teacher Sensitivity	Emphasizes the teacher's awareness of and responsiveness to students' academic and emotional needs, including providing reassurance and support.	1.93	<ul style="list-style-type: none"> <li>•Limited emotional support</li> <li>•Rare individualized support</li> <li>•Limited problem resolution</li> <li>•Frequent free participation and risk taking by students</li> </ul>
Regard for Student Perspectives	Captures how much the teacher's interactions and lessons value students' perspectives and promote autonomy.	1.52	<ul style="list-style-type: none"> <li>•Predominantly teacher led lessons</li> <li>•Infrequent group/pair work</li> <li>•Occasional periods for student expression</li> <li>•Highly controlled movement</li> </ul>

Note: Framework credited to Pianta et al., 2012.



**Results:**

Positive Climate

- Positive climate was most typically seen through a teacher's calm or enthusiastic tone of voice, and their movement around the classroom.
- Rare to see expressions of physical affection.
- Rare to see signs of laughter or social conversation among students and teachers.

Negative Climate

- While rare instances of aggression between students, or teacher strictness was observed, none of these behaviors qualified as fostering a negative climate.

Teacher Sensitivity

- Oftentimes when students were put into groups and assigned a task, teachers typically walked around to each group, clarifying instructions and answering questions.
- Any individualized or group attention was focused on academic support.
- While students freely participated, their responses were followed by a structured discourse pattern, rather than free expression.

Regard for Student Perspectives

- When teachers created lesson plans that involved activities like partner work, student led lessons, and movement, regard for student perspectives was the highest.
- However, most teachers utilized highly prescriptive lesson plans where students were expected to interact and think in a very specific pattern.

**Discussion:**

- Through our findings we discovered that a positive climate can be maintained, even in overcrowded classrooms through the teacher's tone, and physical proximity to their students.
- In contrast to a positive climate, the sheer number of children in the classroom was likely a large inhibitor of teaching strategies or behaviors contributing to teacher sensitivity, or a regard for student perspectives.
- Activities such as group work were seen as the most effective in promoting all 4 indicators as students were autonomous, as the teacher ensured focus and clarity.

Cultural Norms

- Sociocultural norms are significant in the expression of each indicator, and the overall classroom environment.
- Unlike the U.S, it is abnormal for a teacher to make physical contact or provide physical affection to a student for emotional support.
- Similarly, it is not typical for a student to show up to the classroom carrying their emotional issues, the classroom is solely a place to learn, and the teacher is not seen as emotional support.
- The hierarchical culture in African culture leans into the classroom as children are taught not to question authority, and follow structure, limiting free thought and discussion.

Limitations

- Becoming a reliable and consistent coder takes time and practice, allotting less time for partner coding.
- Rather than focusing our videos on a specific subject or grade level, my partner and I coded any video regardless of class type. Keeping a specific category may have resulted in more consistent or just different results.
- The TTIF framework has only been validated in high-income contexts.

Future Directions

- To take this further, future studies can look at the links between TTIF-guided instruction and student outcomes.
- The TTIF should be tested across varied sociocultural contexts.

**References:**

