

Toward a Critical-PBL: Centering a Critical Consciousness in the Middle Grades

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Abstract

The dual pandemic of 2020 that includes racism and COVID-19 demonstrates the need for students to become socially responsible and critically conscious world citizens. Students in the middle grades are developing their sense of identity while concomitantly trying to understand the complex world around them. While many teachers understand the need for critical pedagogy, many still struggle to find time to teach rigorous content standards while integrating social justice education. In this article, we propose the four pillars of Critical-Problem Based Learning (Critical-PBL). Using critical standards, critical problems, critical content, and critical discourse, we offer a framework to support teachers in creating a space for students to learn how to name injustices and work toward social transformation.

*As a white male, it is easy during these times for people to say, "These issues don't apply to me..." I shy away from those comments, and instead, place the responsibility on me to teach students culturally diverse and sensitive topics in order to empower more to learn about perspective and social studies as it applies to them. As I have started doing this more and more, I feel like I have touched many people, and made them excited to learn in my content area...
(Personal communication, teacher candidate, winter 2020 cohort)*

Introduction

The purpose of this article is to introduce a framework for Critical Problem-Based Learning (Critical-PBL) to empower students to become socially responsible and critically conscious world citizens. One of the key demandsⁱ of the Black Lives Matter movement in schools is to mandate the teaching of black history and ethnic studies. In Oregon, where the present project is situated, recent legislation (e.g., Senate Bill 13; House Bill 2023) also mandates the teaching of tribal and LGBTQ+ histories. As teacher educators, Critical-PBL is, in part, our response to these national and local mandates. Our teacher candidates need frameworks to redesign how content is delivered to achieve two ends: meet grade-level content standards and develop socially responsible youth. What follows is a description of the background and need for this work, an introduction to the four pillars of Critical-PBL, and a presentation of lessons constructed with and by teacher candidates.

The Need to Redesign PBL with Critical Pedagogy

This work posits that Problem-Based Learning (PBL) could serve as a powerful vehicle for critical pedagogy *if designed with social justice*

in mind. PBLⁱⁱ is "a teaching method in which complex real-world problems are used as the vehicle to promote student learning of concepts and principles as opposed to direct presentation of facts and concepts" (Center for Innovation in Teaching & Learning, n. d.). PBL, as a whole, has the potential to provide access to rigorous instruction while enabling students to be seen as "creators of knowledge" (Lapek, 2018, p. 7). However, it is not always the case that teaching and learning environments are arranged in ways conducive for PBL nor that all PBL instruction is inclusive of multicultural perspectives (Caires-Hurley et al., 2020). In a recent review of the design, implementation, and outcomes of PBL, Condliffe et al., (2017) found that PBL has promising but not proven effectiveness across k-12 contexts. Their review of research included studies that disaggregated outcomes by socioeconomic status, race/ethnicity, language, and gender. It concluded that PBL should be adapted to local contexts (Anderson & Shaltuck, 2012, as cited in Condliffe et al.), and that "researchers should develop clear hypotheses about how and why a specific PBL approach would benefit certain subgroups" (Condliffe et al., p. 54). In response, this project aims to contribute a framework for redesigning PBL to prepare teachers with justice-oriented pedagogies.

Students as Socially Responsible and Critically Conscious World Citizens

We argue that teacher preparation should be inclusive of critical pedagogy. Critical pedagogy provides for the development of the various dimensions of a critical consciousness in adolescence: critical reflection, critical motivation, and critical action (Tyler et al., 2020). Critical reflection refers to an awareness and examination of inequitable social conditions, while critical motivation involves a commitment to creating positive social change resulting in more equitable and just structures and outcomes (Tyler et al.). Critical action includes behaviors supporting change accompanied by actions explicitly addressing social inequities (Tyler et al.). Middle school students, specifically, may benefit from critical pedagogy as they are naturally beginning to ask questions about who they are in relation to others and about their place in the world (Block, 2011; Erickson, 1968). Additionally, scholars have documented that by early adolescence, students' cognitive skills and perspective-taking allow them to be conscious of social issues (Suárez-Orozco et al., 2011). Because middle school students are already wrestling with tough questions, teachers should know how to center these experiences in the classroom with instruction that enables students to make sense of the world around them.

The Four Pillars of Critical PBL

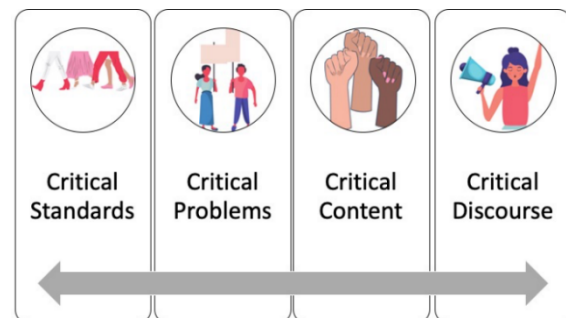
Critical-PBL is based on research that problematizes how PBL has been designed for culturally and linguistically diverse learners (Caires-Hurley et al., 2020). In this work, we found that PBL experiences are often driven by mainstream-centric problems resulting in missed opportunities for transformational learning. We found PBL experiences to be designed around character education, improving scores on standardized tests, and planning luxury vacations. Scant, in our analysis, were the opportunities for students to take action on legitimate social problems. Further, in our practice as teacher educators, we have observed the need to push new teachers beyond practices for simply celebrating diversity. Understanding that multicultural education is “a valuable and necessary orientation towards teaching and learning that needs to be embraced by all educators” (Au, 2014, p. 89), the current work emerged as ways to move our field forward toward a more just and equitable design of PBL

experiences.

To deliver critical-PBL, lessons should include critical standards (pillar one), critical problems (pillar two), critical content (pillar three), and critical discourse (pillar four). Critical-PBL is a framework for teacher education aiming to help new teachers put criticality front and center in the classroom.

Figure 1

The Four Pillars of Critical-PBL



Pillar One: Critical Standards

The pillar of critical standards seeks to remedy a key issue at the intersection of multicultural education and content instruction: rigor. A fundamental characteristic of multicultural education is that all students should have access to rigorous content instruction (Au, 2014). However, for many secondary teachers, it is a challenge to attend to critical pedagogy while aligning to goals for their content. One strategy we use to address this is to integrate social justice standardsⁱⁱⁱ (Teaching Tolerance, 2016) alongside content standards. The Social Justice Standards include four domains (identity, diversity, justice, and action) and “allows educators to engage a range of anti-bias, multicultural, and social justice issues” (Teaching Tolerance, p. 2). Social justice standards contextualize lesson design and they provide a frame so that content instruction can produce explanations for social issues. As such, PBL becomes a vehicle for meeting both content and social justice standards simultaneously.

Pillar Two: Critical Problems

Critical problems are problems that enable criticality in teaching and learning. “Criticality is the capacity and ability to read, write, and think,

in the context of understanding power, privilege, and oppression. Criticality is also related to seeing, naming, and interrogating the world to not only make sense of injustice, but also work toward social transformation” (Muhammad, 2020, p. 12). As we have seen in many PBL lessons, without critical problems, PBL is simply a vehicle for solving “first world” problems (e.g., How can we plan a \$5,000 spring break trip?) or problems that are teacher-centered (e.g., lesson pendulum experiments). Because *meaningful* problems drive engagement for PBL experiences (Center for Innovation in Teaching & Learning, n. d.), teachers should unpack how meaningful problems are defined and for whom these problems are most meaningful. A way to ensure criticality with a problem selection is to identify if and to what extent problems allow students to examine and take action on issues of race, civil liberties, social injustices, disproportionality, and on political and environmental concerns.

Pillar Three: Critical Content

Critical content transforms the curriculum in ways that go beyond heroes, holidays, and hallway multiculturalism. Rather, it is content where “the basic goals, structure, and nature of the curriculum are changed to enable students to view concepts, events, issues, problems, and themes from the perspectives of diverse cultural, ethnic, and racial groups” (Banks & McGee Banks, 2016, p. 164). Critical content is the opposite of *patriotic education* and the *pro-American curriculum* recently proposed by the Trump administration. Critical content is aligned, instead, to such curricular goals as the 1619 project^{iv} and is an idea grounded in Banks & McGee Banks’ transformation level of integration of multicultural content. To begin applying this pillar, teachers should be encouraged to integrate in lesson design the lived experiences of minoritized voices and identities, privilege the contributions of people of color, and re-dresses bias in the way history is presented in the United States context.

Pillar Four: Critical Discourse

Critical discourse attends to big /D/ Discourse and little /d/ discourse. Big /D/ Discourse means that instruction should capture the voices of many kinds of people in terms of the

language, beliefs, experiences, tools, and technologies represented in the classroom (Gee, 1996). Multiple discourses and literacies used by the teacher can contextualize the way language is used within a lesson (little /d/ discourse). While most teachers are trained to teach academic vocabulary and to use techniques for sheltering language during content instruction, the concept of critical discourse encourages teachers to think about the social *and* cognitive variables in language learning. By attending to big and little /d/ Discourse, Critical-PBL aims to represent a variety of voices and to foster interactions where students have the opportunity to expand definitions of academic language to include the words, syntax, and discourse needed to name injustice and discuss social change.

Preparing Teachers with Critical-PBL

The following lessons demonstrate how critical-PBL is supporting teacher candidates in becoming social justice educators. The first lesson (Table 1) on wage inequalities in math was written with teacher candidates. The second lesson (Table 2) on colorblind racism in social studies was written by teacher candidates after seeing the first lesson modeled.

To prepare the first lesson, teacher candidates explored potential topics and ideas and they discovered how the social issue of wage inequality could be explored through math (Teaching Tolerance, 2012). Then, professors worked with teacher candidates to align the social issue of wage inequality to content standards and to use the framework for critical-PBL as a heuristic for designing a lesson that uses math to explain why a local example of wealth distribution is unjust.

In the second lesson, teacher candidates, who are in their first 10 weeks of their teacher education program, generated the topic and were coached toward making connections between the declarations of “all men are created equal” and “all lives matter.” They understood how colorblind racism played a role in the framing of the Declaration of Independence, and they learned how to teach colorblindness as academic vocabulary and as a frame for presenting the overarching problem.

Table 1

Project Swoosh, 8th Grade Critical-PBL Math Lesson

Lesson Title: Project Swoosh		Grade/content: 8th grade/math	
<u>Content Standards</u>		<u>Social Justice Standards</u>	
8.EE.C.8.c Solve real-world and mathematical problems leading to two linear equations in two variables.		Justice.6-8.12 I can recognize and describe unfairness and injustice in many forms including attitudes, speech, behaviors, practices and laws.	
SMP 2: Reason abstractly and quantitatively.			
SMP 3: Construct viable arguments and critique the reasoning of others.			
<u>Content Objectives</u>		<u>Critical Problem</u>	
Students will use linear equations to model a given scenario.		Due to a trade war, “Swoosh, Inc.” is moving production of their shoes closer to their company headquarters in Oregon. How can we help the CEO decide how much to pay their workers?	
Students will use linear models to make claims about how best to compensate workers.			
<u>Critical Content</u>			
<p>This lesson considers the context for learning occurring at the foothills of the Nike headquarters in Beaverton, Oregon. There are intense economic disparities (specifically when data is disaggregated by race) in the city of Beaverton where many of our pre-service teachers live and aim to work. Students are presented with the area’s cost of living and wage data and are then asked to compare the area’s minimum wage, the CEO’s wages, and the worker’s wages. The critical problem for students is: Swoosh, Inc claims that \$15 per hour is a fair wage to pay their workers. In order to afford this, the CEO has been asked to reduce their wage to \$400/hour.</p>			
<ol style="list-style-type: none">1. Is this a fair wage for the CEO? Use a table, equation, and/or graph to support your claim.2. Is this a fair wage for their workers? Use a table, equation, and/or graph to support your claim.			
Students aim to answer this question by constructing an argument and then backing the claim with mathematical evidence drawn from the lesson exploration.			
<u>Critical Discourse</u>			
<p>Central to this lesson is the representation of students experiencing poverty. Because schools in this area are highly segregated by SES, teachers should reflect on their comfort level when addressing tough questions and comments about low wage jobs. Namely, teachers should not imply a good/bad binary between people with high/low paying jobs. The central focus of the lesson should be on questioning the system that creates extreme wage distribution. Students experiencing poverty should feel empowered to acquire language to explain the injustice that is workers not earning a living wage for essential work. Students should learn to reframe their discourse and move away from the notion of “low-skilled” workers toward “essential” workers. Students will also learn how to compare wages across jobs and build academic language around discussing these comparisons. Academic vocabulary</p>			

includes wage, wealth, slope, and linear equations. This vocabulary will help students in their comparisons and to understand the phenomenon of wage inequalities.

Table 2

Silences in the Declaration of Independence, 8th grade Social Studies (by Tonya Bradley, Alexandra Spencer)

Lesson Title: Silences in the Declaration of Independence	Grade/content: 8th grade/Social Studies (Distance Learning)
<u>Content Standards</u>	<u>Social Justice Standards</u>
OR History-8.26. Analyze the figures, groups, events, and philosophies that led to United States colonial independence from British Rule	DI.6-8.9 I know I am connected to other people and can relate to them even when we are different or when we disagree. JU.6-8.15 I know about some of the people, groups and events in social justice history and about the beliefs and ideas that influenced them.
<u>Content Objectives</u>	<u>Critical Problem</u>
Students will analyze language within the Declaration of Independence Students will critically examine the phrase, “all men are created equal” and make connection to examples of color-blind racism today	How can we use knowledge of colorblind racism to identify voices left out of the Declaration of Independence?
<u>Critical Content</u>	
The critical problem we are addressing in this lesson are the massive silences in the Declaration of Independence, the same document that claims that “all men are created equal.” This lesson is part of a three-piece lesson, in which students will evaluate the people represented and the process in drafting the Declaration of Independence. A key feature of this assignment will be to analyze the original intent of the phrase, “all men are created equal.” We will draw upon Dr. Martin Luther King, Jr.’s “I have a dream” speech, in which he quotes the Declaration of Independence pointing to the social implications of our nation’s founding documents and subsequent calls for individual equality. In this discussion, students will learn about color-blind racism and make connections to today’s declaration of “all lives matter.” For a summative assessment at the end of the 3-day unit, students will work on a propaganda poster that advocates for a group of people left out of the drafting. The students have to ask: Who was left out? How can we advocate for and represent issues affecting these voices?	
<u>Critical Discourse</u>	
Inherent in this lesson is the representation of voices left out of the original framing of the Declaration of Independence. Students will be able to problematize our founding documents and build language for naming colorblind and racist ideas in our nation’s history. Given that this lesson occurs during a heated election year following a year of Black Lives Matter protests, teachers will prepare for tough conversations by practicing strategies for questioning students (e.g., “What do you mean when you say _____?”) and educating students on the social meaning of discourse involving	

colorblind statements. The students, who are from a small, primarily white school in rural Oregon, will be given avenues to explore examples of inequality across social groups in our nation's history. These examples will enable students to see history from a variety of perspectives and enable them to understand why such discourse (e.g., "All Lives Matter") is reflective of racist ideas.

Discussion

Using the Critical-PBL framework, teacher candidates have been able to move away from such additive approaches of multicultural education as celebrating heroes and holidays (Banks & McGee Banks, 2016) toward presenting legitimate social issues and asking critical questions. Implications for future work include documenting conversations with teacher candidates as they process their readiness to handle tough conversations in the context of social justice teaching. Overall, we are encouraged by the transformation in the quality of lessons designed by our teacher candidates. As one teacher candidate wrote:

Early on in the process of becoming a teacher, I struggled with the question "How do we keep our students motivated to learn?" ...I found this answer to be more simple than I initially realized, and we can sum it up in one word. Empowerment. When we practice culturally responsive teaching in a classroom setting, we are practicing empowering our students to learn, with content that is relevant to them, and a process that they can understand. (personal communication, teacher candidate, winter 2020)

Finally, while we are encouraged by the response by teacher candidates, future research is needed to measure outcomes after the implementation of Critical-PBL in the k-12 classroom.

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- ⁱⁱ [https://citl.illinois.edu/citl-101/teaching-learning/resources/teaching-strategies/problem-based-learning-\(pbl\)](https://citl.illinois.edu/citl-101/teaching-learning/resources/teaching-strategies/problem-based-learning-(pbl))
- ⁱⁱⁱ [https://www.tolerance.org/sites/default/files/2017-06/TT Social Justice Standards O.pdf](https://www.tolerance.org/sites/default/files/2017-06/TT_Social_Justice_Standards_O.pdf)
- ^{iv} <https://pulitzercenter.org/lesson-plan-grouping/1619-project-curriculum>