
SUPPORTING STUDENTS IN SYNTHESIZING RESEARCH TO CONSTRUCT CONCEPTUAL UNDERSTANDING:

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INTRODUCTORY ESSAY

The need for racially-privileged educators to reflect on our role in reinforcing white supremacy has again been made painfully clear in light of the murder of George Floyd and the uprising that has followed. While the education system may appear on the surface to be benevolent compared to the criminal justice system, racism is systematically implemented in schools in ways that are connected to the criminal justice system, resulting in harm and trauma to students. Bettina Love has referred to educational racism as spirit murder, "a slow death, a death of the spirit, a death that is built on racism and intended to 'reduce, humiliate, and destroy' (Coates, 2015, p.7)" (Love, 2016, p.1-2). The school-to-prison pipeline is just one manifestation of this problem.

Educators need to recognize educational racism and work to dismantle it, but researchers have observed that white pre-service teachers often resist grappling with racism in school (Jupp, Leckie, Cabrera & Utt, 2019). This lesson attempts to lower student resistance by challenging them to consider data-driven evidence of systemic racism in schools. Because the method is student-centered rather than teacher-imposed, it more effectively destabilizes pre-existing thought patterns and breaks down resistance. It is important to note that this tool is not a quick fix for combating resistance to thinking about and discussing racism. Cultivating students' capacities to engage with issues of oppression requires purposeful and ongoing work¹.

BACKGROUND

This tool promotes understanding of a complex concept or process by challenging students to synthesize findings from a number of research studies. I provide an example of how I use it in an Elementary Education teaching methods course in which students learn about the school-to-prison pipeline. However, it can be used to allow students to synthesize disparate research findings on other complex concepts or other multi-step processes.

The activity follows the Learning Cycle or 5e model, which guides students through exploring data to answer an inquiry question (Bybee & Landes, 1990). The instructor designs an inquiry question that drives students' exploration of the central concept. Students read very brief summaries of a number of studies and then physically group and organize the summaries, creating a concept map that illustrates the relationships between various components of the concept. Students' understanding is refined as they articulate their answers to the inquiry question to the whole class, and the instructor provides formal

¹ For more discussion of pedagogic approaches, see Harbin, Thurber & Bandy, 2019; Sue, 2016.

instruction on the concept. Finally, the concept is applied to a specific case illustrating one student's experience of the school-to-prison pipeline, and the instructor provides additional resources for students to pursue.

When scholars endeavor to understand a complex issue, we complete a literature review by reading, connecting, and synthesizing existing research about the issue. Learning about a concept by conducting a literature review is not the typical process for understanding a concept in undergraduate education. Literature reviews are time-consuming, and some research papers can be difficult for undergraduate students to understand, making the process especially infeasible in undergraduate courses that need to address a broad range of concepts within one term. Often, the textbook author or the course instructor works to synthesize existing research and then presents their synthesized explanation to students.

This activity challenges students to emulate the thinking that scholars do in a literature review. However, it makes that thinking work more manageable and accessible by providing a high level of structure and condensing research findings into brief summaries. This makes it possible for undergraduate students to engage deeply in synthesizing the findings of different studies within one class session. It is beneficial for students to have more opportunities to synthesize research findings. Through this constructivist learning process (Richardson, 1997), students play an active role in constructing an understanding of the concept. They gain skills that the AAC&U has identified as essential for meeting 21st century challenges, such as inquiry and analysis, critical and creative thinking, information literacy, and skills for lifelong learning ([AAC&U, Essential Learning Outcomes](#)).

CONTEXT

I use this tool in a lesson from *EEd 3101: Teaching & Learning Strategies*, a teaching methods course in the first semester of an elementary education teaching licensure program. The class is typically predominantly white, with many students coming from rural parts of the Midwestern state. The lesson is part of a unit on classroom management. Some students begin the unit with a simplistic view of classroom management: classrooms have rules; teachers apply consequences objectively and fairly when students break them. The goal of this lesson in the unit is for students to understand that (1) the broader social context influences school disciplinary practices in ways that can reinforce systemic inequities, and (2) school disciplinary practices can have long-term consequences that reach beyond the confines of the classroom. In addition to these two main goals, I want students to feel a sense of agency, as teachers, to disrupt the school-to-prison pipeline. The lesson also models the Learning Cycle instructional strategy, which I teach and encourage students to use in their teaching. The lesson takes up one full class session, which lasts 65 minutes.

PREPARATION

I compiled a list of research findings related to the school-to-prison pipeline. The list includes studies on:

- factors that directly or indirectly affect school suspension rates, such as administrator beliefs, police presence in schools, use of security equipment, school engagement practices;
- the relationship between school suspension and outcomes such as school dropout and incarceration;
- racial disparities in perceptions of students and behaviors; and
- interventions that reduce suspension rates.

I include about 20 studies, and the findings of each study are summarized in about one to four sentences. I excerpted most of the summaries of research findings from reports published by the Schott Foundation

(Jackson, Beaudry & St. John, 2015), the ACLU ([2008](#)), and The Civil Rights Project ([School-to-prison Pipeline](#)). I supplement these with statistics specifically from our state and update the list with newly published research.

I print the full list of summaries and then cut the pages into slips of paper with one summary on each slip. I prepare one set of these summaries for each group of four students. Each group also gets a large piece of poster paper, glue, and some markers. This activity could be done digitally, but I prefer to have students work with physical copies to make it easier for students to spread the slips out as much as they need and to move slips around as they change their thinking.

PROCEDURE

1. ENGAGE – SET UP THE PROBLEM

Before this lesson, students spend two class sessions reflecting on their prior experience, values, and beliefs regarding classroom management and critically examine dominant classroom management practices. These activities and discussions activate students' prior knowledge about classroom management. We start this lesson by recalling some of the main themes from these prior sessions.

Then, I display graphs that illustrate the disparities in incarceration rates in our state, taken from the Prison Policy Initiative profiles of incarceration in each state ([State Profiles](#)). I ask students to consider possible explanations for the disparities and encourage them to write down their thoughts. I do not ask them to share their hypotheses yet at this point. Students will be able to have a more informed discussion about this question at the end of the activity. Without reviewing the research to gain a more nuanced understanding of the issue, students are more likely to voice racial stereotypes or racist ideas that could be harmful to other students in the class.

I introduce the idea that schools play a role in the incarceration disparities and share this definition of the school-to-prison pipeline from the ACLU ([School-to-prison Pipeline](#)): "The school-to-prison pipeline is a disturbing national trend wherein children are funneled out of public schools and into the juvenile and criminal justice systems. Many of these children have learning disabilities or histories of poverty, abuse, or neglect, and would benefit from additional educational and counseling services. Instead, they are isolated, punished, and pushed out."

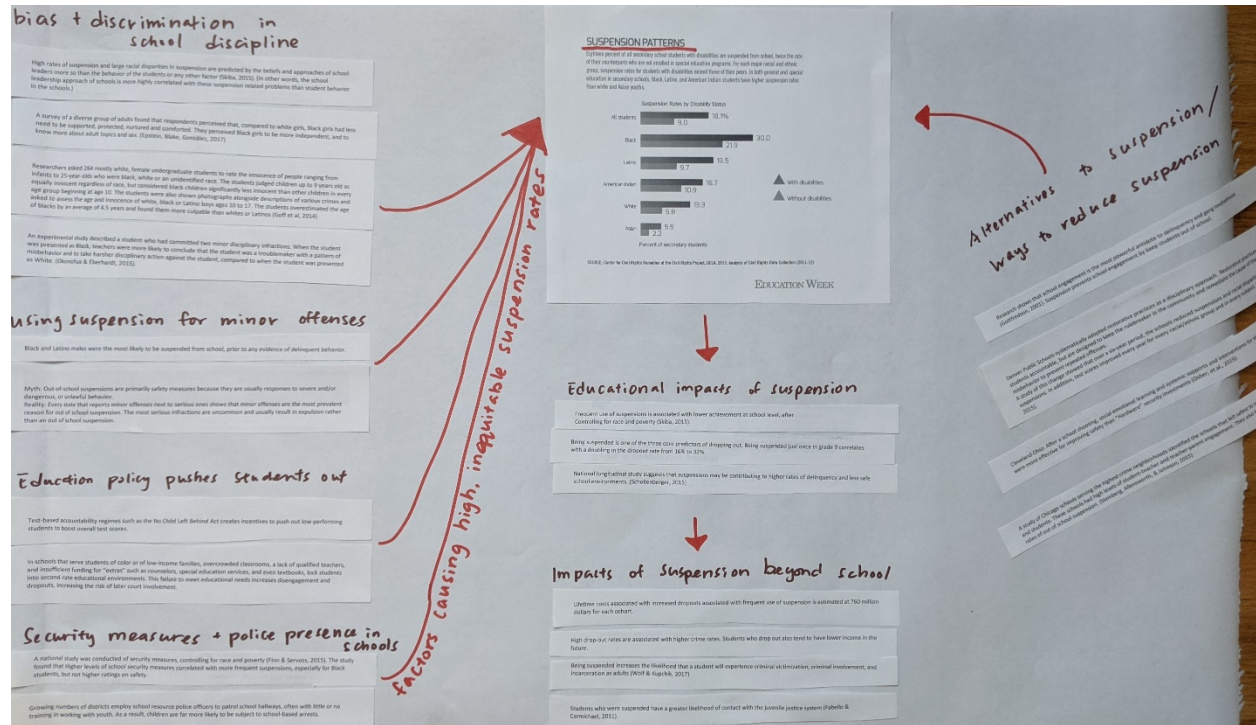
I pose the main inquiry question for the lesson: How does this happen? What is the process through which schools contribute to the incarceration of youth of color and youth with disabilities? I ask students to keep this question at the forefront of their minds as they engage in the activity and prepare a succinct answer of about five sentences to share with the class.

2. EXPLORE – REVIEW AND CONNECT RESEARCH SUMMARIES

In groups of about four, students first read the research summaries. Then they work together to build connections between the findings of different studies. Having taught this lesson three times, I have found that participation during group work time is higher than usual. The large number of research summaries and the time constraints of the activity create a pressure to fully participate. Presenting the findings on separate slips of paper rather than giving each student a full list of the findings allows each student to play a role in reading and sharing unique findings.

Most groups start by grouping findings that address similar issues. Students often need prompting to dig deeper by establishing relationships between groups of findings. In the activity instructions and while I circulate during the activity, I encourage students to do this by drawing arrows between findings or groups of findings and labeling them to describe the relationship. For example, one group of studies might

examine factors that cause, exacerbate, or mitigate effects described in another group of studies. The image below shows a sample concept map from this activity.



Some common questions that I ask groups as I circulate include:

- What does this study tell us?
- Why did you decide to group these together?
- How does this group relate to that group?
- How does this group of studies help us answer the inquiry question?

Toward the end of the group work time, I also ask groups to share their preliminary answer to the inquiry question. I challenge them to keep their answers concise. Sometimes I ask follow up questions to deepen their thinking.

3. EXPLAIN – SHARE ANSWERS TO THE INQUIRY QUESTION

The groups take turns sharing their response to the inquiry question based on their concept maps. Their concept map is displayed while they present. As the groups share their answers, my role is to:

- ask clarifying questions;
- ask groups to identify specific studies that support certain parts of their explanation;
- address inaccurate interpretations of research findings; and
- compare and connect the explanations provided by different groups.

After the groups have shared their answers to the inquiry question, I provide my prepared explanation of the role that schools play in disparities in incarceration rates.

4. ELABORATE – EXAMINE A CASE AND SHARE RESOURCES

Up to this point, we have discussed the school-to-prison pipeline in a general and abstract way. We then look at one particular case to help students understand how anti-Black aggression at macro, institutional and micro levels together affected particular students on a personal level (Hines & Wilmot, 2017). I use an incident that occurred in Spring Valley High School in South Carolina in 2015. A high school student, Niya Kenny, spoke up when a police officer entered her classroom and assaulted her classmate. As a result, she was arrested, jailed, and charged with "disturbing a school" (Blad, 2017; ACLU, 2016). She felt that she could not continue her schooling at the school. She left school and ended up earning a GED instead. She went on to become an activist for youth rights as a speaker, an intern at the African American Policy Forum, and the lead plaintiff in an ACLU lawsuit challenging the law that allowed her to be charged with a criminal offense for "disturbing a school" (AAPF, Niya Kenny). I chose this case because there is a lot of publicly available information about it, including an interview in which Ms. Kenny shared her perspective on the incident. Furthermore, it illustrates both the disruption that such an event could have on a student and also that marginalized youth can and do take action to advocate for change.

I provide some information about the incident and show a video captured by students in the class. I give students a trigger warning in the previous class session, at the beginning of this class session, and before showing the video. I facilitate a discussion using these questions:

- What are your thoughts and feelings about this incident?
- How might this have affected the students involved?
- What factors contributed to this happening?
- Could it have been avoided? How?

After the discussion, I give students an update of what Ms. Kenny went on to do after the incident.

Finally, I present some information and resources to students about what teachers can do to disrupt the school-to-prison pipeline, including:

- practice pedagogies that support the flourishing of BIPOC students (Ladson-Billings, 1995, 2009; Paris & Alims, 2017; Muhammad, 2020);
- creating a positive school and classroom climate (Webber-Ndour & Losen, 2015);
- analyzing classroom and school disciplinary data to identify and combat inequities (Myer & Finnigan, 2018); and
- using restorative practices (González, 2015).

We further address practical approaches in later lessons of the classroom management unit.

5. EVALUATE – ASSESS STUDENT LEARNING

During the lesson, I informally assess student learning by asking them to share their thinking during group work time, through their group answers to the inquiry question, and by observing their responses to the case.

At the end of the lesson, if time permits, I ask students to do a quick-write addressing these questions:

- Has your thinking about school discipline changed? How?
- What will you do differently in your teaching as a result?
- What questions do you have about the school-to-prison pipeline?

At the end of the unit, students complete an assignment in which they develop their classroom management models and discuss their model about an in-depth portrait of a child who some adults see

as a troublemaker (Shalaby, 2017). They are required to incorporate concepts from this lesson in the assignment.

CONCLUSION

The tool described in this paper supports students in synthesizing findings from various studies in order to understand a complex concept. This paper explains how I apply it to teach about the school-to-prison pipeline in a teacher education course. This issue is important for pre-service teachers who understand but often overlooked. The tool can be applied to complex concepts from any discipline. It takes a constructivist approach as students start from their prior conceptions of the main concept and then actively engage with disparate research findings and synthesize them to construct an understanding of concept. The learning process involved is social as students work under the guidance of the instructor and in collaboration with peers. It is visual as students work with printed research summaries and organize them spatially to illustrate their relationships. In contrast to textbooks and lectures through which students consume pre-synthesized explanations, this approach enables students to engage in some of the rigorous intellectual work that scholars undertake in the literature review process during a single class session.

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