



Evaluation Plan

Research Question and Hypothesis

Questions around the effectiveness of RPIA activities were proposed as followed:

Question 1:

What effects do RPIA activities have on students' leadership?

Hypothesis 1a: RPIA activities can increase students' leadership experiences

Hypothesis 1b: RPIA activities can make students view themselves more as leaders

Hypothesis 1c: There is a correlation between students' leadership experiences and students' self-assessment of leadership

Question 2:

What are views from teachers about RPIA activities?

Hypothesis 2a: There will be more teachers involved in restorative practices through RPIA activities

Hypothesis 2b: Teachers have positive responses to RPIA activities

Hypothesis 2c: There is a correlation between teacher retention rate and their self-assessment of restorative practices

Question 3:

Can RPIA activities bring transferrable excellence to each level of the classroom?

Hypothesis 3: Students will maintain their level of leadership from RPIA activities up to 2 years

Question 4:

Do RPIA activities bring growth to the Philadelphia School District Aligned Data?

Hypothesis 4: RPIA activities will benefit the PSD data performance of the school.

Operationalize**Implementation of various RPIA activities**

Both students and teachers are involved in RPIA activities. RPIA activities are implemented in classrooms. The measured variables are the number of RPIA sessions and experiences per classroom and the number of RP strategies used per classroom.

Increase students leadership

Students' leadership should include objective fact and self-assessment. On one hand, teachers should observe more leadership behaviors in the classroom. On the other hand, students themselves should have a better understanding of leadership and consider themselves closer to leaders. The measured variables should include: Number of students' leadership behaviors; Number and percentage of students rate themselves "Agree" or "Somewhat Agree" on each statement of the student survey.

Increase teacher implementation of restorative practices

Teachers are expected to be restorative practitioners through RPIA activities. Increasing restorative practice can be measured from two aspects. First, more RPIA teachers can indicate more restorative practices and represent that teachers are satisfied with RPIA activities. Second, responses from RPIA teachers to the program can also show their self-assessment of restorative practices they implement in the classroom. So the measured variables should be: Number of RPIA teachers in a school; Number and percentage of retained RPIA teachers; Number of RPIA teachers who move into the next phase of development in one year; Number and percentage of teachers who rate themselves as more restorative practitioners in the survey; Number and percentage of teachers have positive responses to the effect of RPIA in the survey.

Stronger relationships at every level of the classroom - “transferrable excellence”

RPIA activities are expected to bring students long term influences on their leadership performances. In that way, it's important to figure out whether students can maintain improved leadership for a long period of time. To measure this, we should keep recording student leadership levels. By comparing the difference in students' leadership levels in different time periods, we can determine whether RPIA activities can bring transferrable excellence. If students have the same or even better leadership performance when they are in normal classrooms after involving in RPIA activities, the existence of transferrable excellence can be proved.

District data aligned growth

Philadelphia School District has thorough data sets for all schools to track their performances. It's expected that the implementation of RPIA can bring growth to aligned data sets in PSD. The three data sets that are considered most relevant to RPIA are academics, school climate, and teacher retention. The measured variables include the Average growth index of the PSSA exam; the Percentage of students with the most positive responses to the district climate survey; the Percentage of teachers leave at the end of the year.

Methodology

Design/Type of the Evaluation

The Design

We will choose the quasi-experimental control group pre/post-test design for stage 1 and time-series design for stage 2. In stage 1, we will have at least two classrooms in each school. At least one classroom would implement RPIA activities, another classroom would be our control group and it would not have the RPIA activities. In order to make RPIA activities be the only difference in two classrooms, we will carefully select RPIA teachers in the experimental group and normal teachers in the control group. We will choose normal teachers who are qualified for the program but are not willing to participate in because of personal reasons. We will also make the years they have been teaching the same. We will conduct a pretest to record the leadership level of students and one of PSD aligned data-academic growth in two classrooms as well as two other PSD aligned data-teacher retention and

district climate surveys in school before the program starts. We will conduct a post-test for student leadership and record academic growth in both groups in each month during the program. We will also record teacher retention rate and percentage of students with the most positive responses to the district climate survey each year. Then we can compare the differences of student leadership and PSD data performance before and during the program in the control and experimental group to determine whether the intervention works. In addition, we will record teachers' attitudes to the program and their self-assessment of restorative practitioners each month during the program. In that way, we can indicate if there are increasing restorative practices of teachers. In stage 2, we will keep recording the leadership performance of students in both groups once a month for the next two years with time-series design. In that way, we can determine whether there is transferable excellence.

The methodology used to collect data

We will collect data by surveys, periodical school reports, and reflection videos. Both before and after the program, we will let students in two classrooms fill out a survey to record their self-assessment of leadership. The survey will include statements of leadership behaviors and open responses to impactful leadership. To better indicate the leadership performance of students, we will also let parents fill out a parent survey to talk about their observations and feelings of leadership performance of their children. Questions in the parent survey will be very similar to those in the student survey. We consider parents as a reference or add-on to student leadership

performance in school and home. We will send a parent survey each semester. After the program, we will also let RPIA teachers fill out a survey to record their attitudes to RPIA activities and their self-assessment of restorative practices. The survey will include how teachers view their restorative practices, how satisfied they are with the program, and their observations about student leadership in the classroom. Periodical school reports will include academic growth, teacher retention, and district climate survey, which are datasets in Philadelphia School District. Academic growth will be the average growth index of the PSSA exam. Teacher retention will be how many teachers leave at the end of the year. District climate surveys will let students give feedback on their school life. Academic growth will be collected each month in each classroom. Teacher retention and district climate survey are school-wide data and will be collected each year. Reflection videos will be completed by RPIA teachers every month. Teachers will talk about what strategies they use in the classroom and how many restorative practices they conduct in their classrooms. Reflection videos help collect data on how many RPIA activities involved in classrooms.

Type of data

We will collect both quantitative and qualitative data. For quantitative data, we will collect PSD aligned data such as academic growth, teacher retention, and district climate survey. We will also quantify the increasing student leadership and teacher restorative practices by ratings of their performances in surveys. Qualitative data includes videos teachers complete each month and reflections they submit after viewing their own videos. The open responses in

the student survey that designed to indicate their detailed leadership experiences are also qualitative data.

Timeline for data collection

We plan to compile all data points into our system for our use and analysis in June. Then in July and August, we will gather school or classroom-based academic and behavioral data from school leaders. From October to May in 2021, we will collect surveys, academic, behavior, and class observational data each month. Then at the end of the 2021 school year, we will break down data points as much as possible to research relationships between our program and student leadership, teacher restorative practices, and school overall performance.

Sample

Subject

Currently, three schools decide to participate in the program. They are Overbrook Educational Center with 3 RPIA teachers, Overbrook School for the Blind (number of RPIA teachers will be determined in the future), and Cassidy Elementary with 4 RPIA teachers. We are still contacting principals of more schools to introduce possible benefits of our program. In each school, there will be an average of 3 RPIA teachers. The number of RPIA teachers in total at the beginning will be no less than 4 and no more than 12. That number can be changed in the future. The number of students in each classroom is not fixed. There will be 20-30 students in each classroom.

Representativeness of sample

Currently, there are 202,538 students in the Philadelphia School District. Our

sample size is about 200 students. Given the population of 200,000, a sample size of 200 is enough to make statistical significance according to a confidence level of 95% and a confidence interval of less than 7. The expected survey response rate is near 100%. Because we will let students finish the survey in the classroom and collect them immediately and teachers will also complete reflection each month. There is little worry that they will not submit the survey. For the videos that teachers finish each month, we trust RPIA teachers and we believe they will record the video honestly. What's more, we consider RPIA teachers as the most authoritative speaker of the whole situation in the classroom.

Measurement

We measure both increasing student leadership and increasing teacher restorative practices from two aspects: One is the fact that we can observe, such as how many leadership behaviors in the classroom and how many RPIA teachers retain, another is how they evaluate themselves. We consider this is the best way to help us indicate the performance of students and teachers. When we measure the transferrable excellence, we add another variable that will affect the leadership performance of the student: Time. That's why we decide to keep recording student leadership for up to two years. We think it is an effective way for us to see how student leadership will change after a while.

Procedures for Collecting Data

Before we collect data, we will carefully decide what needs to be included in the surveys. We consider not only whether the statements in the surveys can

be easily understood by students, teachers, and parents, but also how those questions align with our mission and rubric. We also did research on PSD data to decide which data set best aligned with our mission. After deciding what data to collect, we will collect those data each month to record differences in student, teacher, and school performance. For students, we will let them finish and submit the survey in the classroom to make sure they all complete the surveys. For teachers, they will be required to be involved in the reflection process of RPIA. We will let them fill out the teacher survey during the reflection process. We will also communicate with relevant personnel to make sure we can obtain data on academic growth, teacher retention, and district climate survey at the right time.

Procedures for Analyzing Data

To assess the data collected from the surveys, we think “Agree (score of 5)” and “Somewhat Agree (Score of 4)” indicate students and teachers are self-satisfied with the statement. Also, we will carefully read through students’ answers to the open questions in the student survey to figure out whether or not they spark, create, and sustain positive changes in the classroom. If they accomplished these steps, we think they are impactful leaders by self-assessment. We will also compare responses in the student survey with responses in the parent survey to see if there are huge differences. To analyze data, first, we will use R to conduct an ANOVA test to indicate if there is a difference in initial student leadership between the control group and the experimental group and if there is a difference in restorative practices between RPIA teachers and normal teachers. Based on the data we

collected, we will conduct the test again to figure out if there are differences in student leadership and teacher's restorative practices between the control group and the experimental group after the program. Then, we will find out if there is a correlation among RPIA activities, increasing student leadership, increasing teacher restorative practices, and district aligned data growth. We will use R to conduct the regression model and analyze p-value, coefficients, and standard errors to come up with a conclusion on how much RPIA activities are responsible for the changes in these indicators. We will also conduct tests to figure out if differences in student self-assessment of leadership and differences in student actual leadership performance occur at the same time. In addition, we will look at the teacher retention rate and teacher's self-assessment of restorative practices to see if there is a correlation. In order to find out if there is transferable excellence, we will create a Value-Added Model to determine the effect of RPIA teachers and activities on students for two years. Also, it's important to predict or estimate the effect of RPIA on students' performances and compare the predicted results to the real results. What's more, a time series regression should be done to analyze the effect of RPIA on different indicators of students' performance.

***** COVID-19**

The COVID-19 pandemic has caused many schools to go online in the next semester. This situation may affect student performance in district aligned data points. For attendance (students with 95% attendance), students will be encouraged

to stay at home if they feel sick. If students contact teachers about their absence, they will be considered attending. What's more, the attendance of online courses depends on a lot of factors, such as the internet at home, parents' allowance to use computers and internet, etc. It's important to keep these changes in mind when analyzing the data. For behavior, tracking suspensions is no longer feasible when school goes online. However, schools still have ways to evaluate students' behaviors. In that way, we will talk with school leaders and come up with possible ways to track behavior data. For academics, students may not take the PSSA exam. But schools will design math and reading tests for academic records. We will discuss with school leaders to create goals for those school-wided or classroom-wided tests.