Research, Evaluation & Assessment

# Memo

To: Eric Witherspoon, Superintendent

From: Judith Levinson, Director of Research, Evaluation and Assessment

Carrie Livingston, Senior Research Associate

Date: 5/17/2012

Re: Plan for Evaluation of Restructured Freshman Year

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Based on direction from the Board of Education, Evanston Township High School (ETHS) has been collaborating with a Technical Advisory Group comprised of the following outside members to develop an evaluation plan for the restructured freshman initiative:

- Thomas Cook, Institute for Policy Research, Northwestern University
- John Diamond, School of Education, Harvard University
- David Figlio, Institute for Policy Research, Northwestern University
- Larry Friedman, American Institutes for Research
- Shazia Miller, American Institutes for Research
- Charles Whitaker, Medill School of Journalism, Northwestern University

The group has been meeting on a regular basis since December 2011. The full group includes the following members from ETHS: Eric Witherspoon, Judith Levinson, Carrie Livingston, and Pete Bavis.

On Monday, May 21, 2012, the Technical Advisory Group will present the evaluation plan to members of the Board of Education. Attached are several documents for the purpose of providing some background information including:

- Concept paper developed to seek external funding from the Institute for Educational Sciences (IES). In order to apply for funding the IES requires an initial concept paper. The paper was submitted in April 2012. The full proposal is due in late June to IES.
- Evaluation Plan
- Logic Model underlying the evaluation plan

In addition, American Institutes for Research conducted in-kind qualitative research this spring with teachers, parents, and students to collect some background information for the IES application.

## Concept Paper for the Institute for Educational Sciences

## Introduction

Three years ago, Evanston Township High School (ETHS) restructured its freshman Humanities course, a team-taught English and history class, to expand opportunities for honors level credit. This reconfiguration involved consolidating the course into three levels. Students reading below grade level were placed in a class with intensive literacy-development support. Students testing in the top fifth percentile were placed in an honors-only class. The majority of students were placed in a class that combined regular and honors students. These combined classes were taught the same curriculum by the same teachers as the honors-only class. Students took this course for regular or honors credit. This restructured program was designed to allow more students to take honors level courses, and ultimately Advanced Placement (AP) courses.

ETHS expanded the restructuring of the freshman year in 2011. Beginning in the 2011-12 school year, students with reading scores between the 40th and 99th percentiles were placed in the same freshman Humanities classes. ETHS also aligned the curriculum to AP expectations, ACT college-readiness standards, and the Common Core State Standards.

Under this new model, students in English and history freshman Humanities classes earn honors credit based on the quality of their work throughout the semester. Previously, the honors designation was based on placement criteria that did not take into consideration how students performed in class. The new model requires students to perform well each semester on a series of earned honors credit benchmark assessments.

### Significance

ETHS is planning to expand the earned honors credit restructuring to include biology[1] in the 2012-2013 academic year. The American Institutes for Research (AIR) will work with the district's Department of Research, Evaluation, and Assessment and a Technical Advisory Group comprised of David Figlio and Thomas Cook of the Institute for Policy Research at Northwestern University, Charles Whitaker of the Medill School of Journalism at Northwestern University, and John Diamond of the School of Education at Harvard University, to evaluate the implementation and impact of the restructuring initiative. At the study's core is an extant data, cohort control group design (Shadish, Cook, & Campbell, 2002)[2], with an additional qualitative component to explore factors, processes, and mechanisms that are involved in the implementation of, participation in, and impact of the initiative.

The results of this study have broad implications for increasing advanced educational opportunities for traditionally under-performing student groups. If the findings from the study show improved academic outcomes for students who are traditionally excluded from advanced level classes (e.g., students who did not achieve high enough test scores in elementary school to be placed into an honors curriculum), it will be worth studying on a broader scale, through an

[1] Superintendent Eric Witherspoon's description in his Education Week article, *Excellence Without Equity Is Neither*, of 11/1/12

[2] Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.

efficacy trial. Replication studies in different school districts will be needed. It will also be of considerable interest to schools in the Minority Student Achievement Network, of which ETHS is a founding member, as a policy lever for improving student outcomes.

## Methods

To explore the relationship between the restructured freshman year initiative and a wide range of outcomes, this study will rely on a pretest-posttest cohort comparison design (Shadish, Cook, & Campbell, 2002). This section describes the details of the research design, the characteristics of the cohorts in this study, and the proposed analytical methods for these data.

### Cohort Comparison Design

A cohort control group design with pretest from each cohort will be used to assess the impact of the restructured freshman year initiative. This is a quasi-experimental method that will optimize the opportunity to isolate the relationship between the restructured freshman year initiative and the academic outcomes specified below by assuming that selection differences between contiguous cohorts are smaller than non-cohort comparisons (Shadish, Cook, & Campbell, 2002).

Freshmen in the 2011-2012 school year were the first students exposed to the restructured Humanities program, and the fully restructured freshman year, including biology, will begin in the 2012-13 school year. From the 2008-09 to 2010-11 school years, incoming freshmen were placed into one of three academically leveled Humanities classes. Students scoring between the 40$^{th}$ and 69$^{th}$ percentile on the EXPLORE test in 8$^{th}$ grade were placed into regular mixed-level classes. Students scoring between the 70$^{th}$ and 94$^{th}$ percentile were placed into mixed-level honors classes. Students scoring at the 95$^{th}$ percentile or above were placed into honors-only classes. Prior to these cohorts, a system with five levels was used to place incoming freshmen. To maximize comparability, the cohorts from the 2008-09 to 2010-11 school years will serve as the controls for this study.

The primary pretest and posttest academic achievement outcome measures are ACT's EXPLORE (given to students in 8$^{th}$ grade and determines their honors placement in 9$^{th}$ grade), ACT's PLAN (given to students in 10$^{th}$ grade and vertically aligned with EXPLORE), and the ACT (given to students in 11$^{th}$ grade and vertically aligned with EXPLORE and PLAN). This design allows us to compare differences in student growth from 8$^{th}$ grade to 11$^{th}$ grade between cohorts exposed to the restructuring initiative and prior year cohort controls, and it will allow us to estimate a change in mean performance and a change in performance trend after the introduction of the initiative (i.e. a difference in differences analysis). The basic structure of this design is presented as:

$$\begin{array}{llllll} NR & O_{\text{EXPLORE}} & & O_{\text{PLAN/ACT}} & & \\ NR & & & & O_{\text{EXPLORE}} \quad X_{\text{RESTR}} & O_{\text{PLAN/ACT}} \end{array}$$

The top row in this diagram represents prior cohorts that were unexposed to the freshman restructuring initiative and the bottom row represent incoming freshman cohorts that were exposed to the freshman restructuring initiative. The strength of this design framework stems from the assumption that contiguous cohorts (i.e. students entering ETHS in the 2010-2011 year

or earlier) minimize threats to selection bias and improve internal validity compared to other non-equivalent group designs.

**Outcomes**

This design will be applied to a host of short-term and longer-term academic outcomes. In the short term, analysis will look at semester grades, including: benchmark assessment grades; earned honors credit; course-taking patterns of students in their sophomore year (i.e. number of students enrolled in honors courses); and growth rates from EXPLORE to PLAN. In the longer term, analysis will look at course-taking patterns of students in their junior and senior years (i.e. number of students enrolled in honors and AP courses); EXPLORE to ACT growth rates; AP course completion and scores; graduation rates; and college acceptance trends and retention rates. Analysis of student data will be disaggregated by subgroup, including race/ethnicity, gender, and meal status.

In addition, the study will look at measures of parental effort, as well as student effort, motivation, and engagement. Other factors that will be considered, contingent on resources and availability of data from prior cohorts, include time spent in school and discipline.

## Restructured Freshman Year Program Evaluation Plan

**Objective**: Provide a comprehensive, multi-year evaluation plan of the newly restructured freshman year program.

**Research Questions**:

1. Are the restructured freshman courses rigorous? Are the restructured courses aligned with the Common Core State Standards, AP standards, or other national standards?
2. Are the restructured freshman courses implemented with fidelity?
3. Do students enrolled in the restructured freshman courses perform the same or better over time than previous cohorts of students?
4. Are more students, particularly non-white and low-income students, enrolling in honors and AP English, history, and science courses over the course of their high school career than previous cohorts?
5. Do more students enrolled in the restructured freshman courses, particularly non-white and low-income students, graduate in four years from the high school than previous cohorts?
6. Is the college acceptance rate improved for students who experienced the restructured freshman courses than previous cohorts?

| **Program Goal – Develop and implement a relevant common core 1 Humanities and biology curricula that is rigorous and aligned to Common Core State Standards and/or AP standards** | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Area of Focus* | *Objective* | *Type of Analysis* | *Year* | | | | |
| | | | *2011-12* | *2012-13* | *2013-14* | *2014-15* | *2015-16* |
| 1A: Curriculum Development | Review 1 Humanities and biology curricula and benchmark assessments for:<br>• Alignment to Common Core State Standards<br>• Alignment to AP standards<br>• Alignment to other national standards<br>• Rigor | • Review of alignment of curriculum and assessments | X | X | | | |
| 1B: Curriculum Implementation | Conduct fidelity of implementation of 1 Humanities and biology curricula | • Classroom visits (*2 years for each curriculum*)<br>• Teacher interviews/focus groups | X<br>X | X<br>X | X<br>X | | |

## Restructured Freshman Year Program Evaluation Plan

| | **Program Goal – Increase student performance and increase the number of students who earn honors credit in 1 Humanities and biology and enroll in honors and AP courses in subsequent years, including under-represented students (non-white and low-income)** | | | | | | |
|---|---|---|---|---|---|---|---|
| *Area of Focus* | *Objective* | *Type of Analysis* | *Year* | | | | |
| | | | *2011-12* | *2012-13* | *2013-14* | *2014-15* | *2015-16* |
| 2A: Student Achievement | Conduct longitudinal analysis of student achievement data<br>• Overall & disaggregated by subgroup (race/ethnicity, meal status, EXPLORE percentile groupings)<br>• Research Design: Cohort Control Group Design with Pretest from Each Cohort<br>o Cohorts with similar EXPLORE reading score ranges (honors-only, mixed-level honors, mixed-level regular) in former Humanities and biology courses (08-09, 09-10, 10-11) will be compared to upcoming cohorts in Restructured Freshman Program (12-13, 13-14, 4-15) | • English, history, & biology benchmark assessments (Gr. 9)<br>• English, history, & biology earned honors credit (Gr. 9)<br>• English, history, & biology courses – semester course/exam grades (Gr. 9)<br>• English, history, & biology courses – semester course/exam grades (Gr. 10-11-12)<br>• EXPLORE-PLAN-ACT growth analysis<br>• Analysis of graduation rate and college acceptance | X<br>X<br>X | X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X<br>X | X<br>X<br>X<br>X<br>X<br>X |
| 2B: Course Placement & Honors/AP Credits | Conduct longitudinal analysis of student course placement and number of students taking honors/AP courses<br>• Overall & disaggregated by subgroup (see above)<br>• Research Design: Cohort Control Group Design with Pretest from Each Cohort<br>o Cohorts with similar EXPLORE reading score ranges (honors-only, mixed-level honors, mixed-level regular) in former Humanities and biology courses (08-09, 09-10, 10-11) will be compared to upcoming cohorts in Restructured Freshman Program (12-13, 13-14, 14-15) | • Course level placements – 10th, 11th, & 12th grades<br>• English, history, & science AP exam scores | | X | X<br>X | X<br>X | X<br>X |

## Restructured Freshman Year Program Evaluation Plan

| | **Program Goal cont'd – Increase student performance and increase the number of students who earn honors credit in 1 Humanities and biology and enroll in honors and AP courses in subsequent years, including under-represented students (non-white and low-income)** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Area of Focus* | *Objective* | *Type of Analysis* | *Year* | | | | | |
| | | | *2011-12* | *2012-13* | *2013-14* | *2014-15* | *2015-16* | |
| 2C: School Engagement | Conduct analysis of attendance and discipline data<br>o Overall & disaggregated by subgroup (see above)<br>o Research Design: *Cohort Control Group Design with Pretest from Each Cohort*<br>o Cohorts with similar EXPLORE reading score ranges (honors-only, mixed-level honors, mixed-level regular) in former Humanities and biology courses (08-09, 09-10, 10-11) will be compared to upcoming cohorts in Restructured Freshman Program (12-13, 13-14, 14-15) | • Attendance – 11th & 12th grades<br>• Suspensions – 11th & 12th grades | | | X<br>X | X<br>X | X<br>X | |
| 2D: Student Satisfaction | Gather student feedback on satisfaction with the restructured freshman experience | • Student survey (9th & 11th grades)<br>• Student focus group | X<br>X | X<br>X | X<br>X | X | X | |

Logic model – a visual representation of the relationships among our program's resources, planned activites, and anticipated results

***What we are doing to create change?***