

December 3, 2007

Outcomes from Curriculum Writing Workshops at The Discovery Institute
CUNY CSI DI College Now Program

S. Ehrenworth, G. Kam, P. Rapp

Here we respond to two questions raised about the College Now program component based on professional development of high school teachers, as opposed to the more common College Now component that provides college and college-prep courses to high school students. Part of the College Now program at The Discovery Institute brings high school teachers to the campus at the College of Staten Island, once per week. The teachers work in small groups, each group with a master teacher, to develop lesson plans that incorporate “discovery” learning, or inquiry-based learning, into the curricula. In the narrative below, the teachers who have attended these ‘Curriculum Writing’ (CW) sessions are called “DI teachers.” Other teachers, who have not attended the CW program, are called non-DI teachers. The two questions are:

1. How do the pass rates of DI teachers compare to those of non-DI teachers?
2. Are new teachers continually enrolling in the CW program?

Part I. How do pass rates of DI teachers compare to those of non-DI teachers?

Using data provided by NYC DOE, we extracted the student 'pass rates' for individual teachers in selected courses. We searched for courses with large enrollment, where some of the teachers are DI teachers and some are non-DI teachers. The goal is to compare, course by course, pass rates of non-DI teachers with pass rates of DI teachers. A "course" is identified by subject, grade, semester, and school. Such strict delineation of a “course” is necessary, because pass rates are very different across subjects, semesters, and schools. Courses suitable for statistically viable comparison of DI and non-DI teachers are limited to the large math and English courses taken by freshmen and sophomores in high school. (A secondary issue here is pass rates vs. number of terms that a teacher attended DI. We searched for data on this. What we learned is that DI teachers do not remain long teaching the same course. We looked in detail at the work histories of 10 DI teachers with 5 or more terms at DI. It's clear that, with more DI experience, they are being utilized in more difficult and/or more problematic courses.)

Identifying a suitable course from the course codes in the data is not straightforward. Codes are idiosyncratic by school, and follow no documented regimen. In some math courses, students are grouped, or 'tracked,' by their grades on the Math Assessment exam. In some schools, students are, each year, grouped into 'houses,' or 'academies;' the houses may have some basis in student aptitudes, or they may be randomly constructed. The course code may or may not indicate the 'house' of the class. Some courses have honor classes, which are tagged differently by different schools, often with tags that blend into other codings. Resolution of these issues required 'insider' information, i.e., many phone calls.

The results are displayed in Table 1. Passing rates are compiled for teachers in 9 different courses, with a total of more than 2500 students. There are 5 math courses, totaling 37 teachers, and 4 English courses, totaling 27 teachers. For both math and English, roughly half the teachers are 'non-DI' and half are 'DI' teachers. The summary of weighted averages of the pass rates, separately for math and English, are presented here:

PASS RATES (%)		
	non-DI	DI
math	50	60
English	73	82

The effect is big. For every 100 students, DI College Now Curriculum Writing gets an additional 10 to pass math and English. (The savings to NYC schools is much bigger than the cost of the Curriculum Writing program.) We cannot track the influence of DI teachers on the percentage of students who continue into college, but it seems intuitive that increasing the pass rates must influence student self-confidence in the right direction.

Part II. Do the same teachers return to the Curriculum Writing (CW) program year after year, or is there a good turn-over with fresh blood coming in every year?

For the 99 high school teachers attending the CW program this term, Table 2 displays how many terms have been attended by how many teachers. E.g., 29 teachers are attending CW for the first time, this term. A "term" means either one semester or one summer session. All terms are counted, whether consecutive or non-consecutive, or whether a teacher evolved through different curricula, e.g., Math A to Math B, freshman English to senior English, Global Studies to U.S. History & Government.

The data in Table 2 is plotted in Fig. 1. The distribution falls rapidly from the 'first-timer' spike and tails off slowly: a strong pulse of fresh teachers is moving in to a stable base of experienced teachers. About 13% (13/99) have been in the program more than 12 terms (4 years of consecutive terms).

Table 3 and Fig. 2 show the same information for all 614 teachers who have ever attended the CW program. (Approximately 1200 teachers are employed in the high schools of Staten Island, so this program is quite a major contributor to professional development here.) The Fig. 2 distribution has the same general shape as Fig. 1, but smoothed by the higher statistics. 70% attended 4 terms or fewer, and 4.7% have attended more than 12 terms.

We have not analyzed how many teachers have switched from one curriculum to another, although we would if requested. We expect that some, maybe most, of the many-term teachers have enrolled in two or more curricula. In particular, we started a Law curriculum writing workshop two years ago, and almost all the initial enrollees were teachers previously participating in either Global Studies or US History and Government.

Table 1. Passing rates for non-DI and DI teachers, by course.

School	Term	Course	Total Courses			Non DI Teacher			DI Teacher		
			# Teachers	# Students	Pass	# Teachers	# Students	Pass	# Teachers	# Students	Pass
PR	2004 Fall	Math A	11	458	47.6%	6	226	35.8%	5	232	59.1%
McKee	2005 Fall	Math A	4	223	66.4%	3	165	62.4%	1	58	77.6%
PR	2005 Fall	M#1	8	220	52.3%	4	115	49.1%	4	105	55.0%
PR	2005 Spring	M#B	9	318	54.4%	4	108	55.5%	5	210	53.8%
PR	2005 Spring	E2#	6	254	74.0%	3	125	68.8%	3	129	79.0%
PR	2006 Spring	M#2	5	127	66.9%	2	37	59.4%	3	90	70.0%
PR	2005 Fall	E1#	8	269	68.4%	5	169	60.3%	3	100	82.0%
Wagner	2005 Fall	E1#	7	286	87.0%	4	127	85.8%	3	159	88.0%
Wagner	2005 Fall	E3	6	376	78.9%	4	186	78.5%	2	190	80.0%

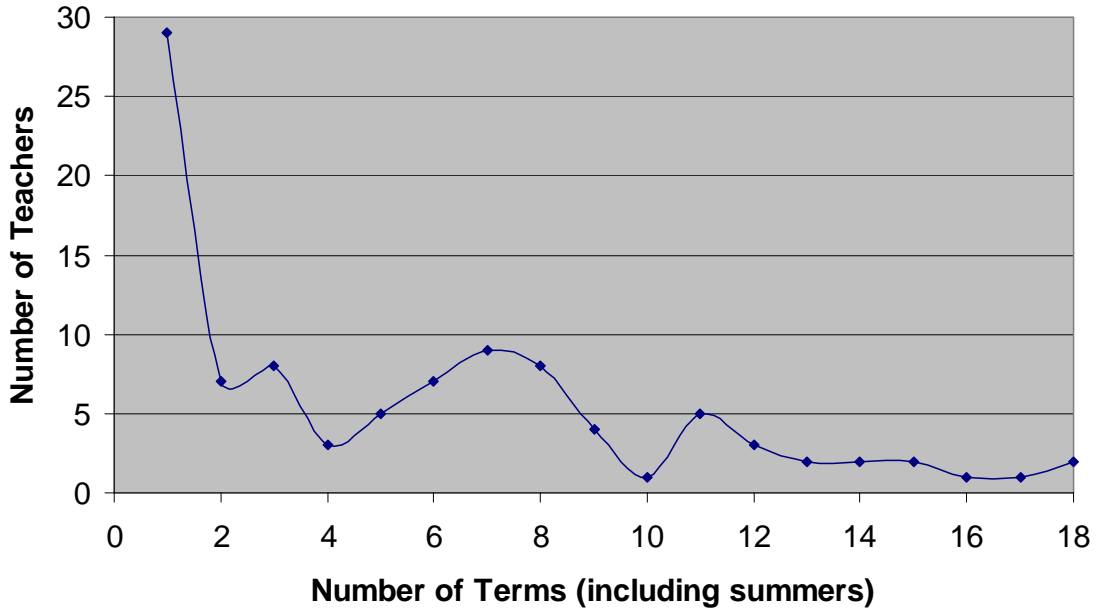
'07 Teachers -Table 2

Number of Terms (including Summers)	Number of Teachers
1	29
2	7
3	8
4	3
5	5
6	7
7	9
8	8
9	4
10	1
11	5
12	3
13	2
14	2
15	2
16	1
17	1
18	2

All Teachers - Table 3

Number of Terms (including Summers)	Number of Teachers
1	211
2	107
3	73
4	39
5	36
6	38
7	30
8	20
9	12
10	8
11	11
12	5
13	8
14	3
15	5
16	2
17	2
18	4

Fall '07 Teachers in Curriculum Writing - Figure 1



All Teachers in Curriculum Writing - Figure 2

