



Cluster Evaluation: The Clinical Teacher Residency Training Programs

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In 2013, the Trump Foundation opened a portfolio of grants designated to create a cluster of training programs for new mathematics and science teachers. The goal was to address a growing shortage of teachers, resulting in a decline in the number of high school graduates of the five-unit tracks. The target audience of the programs are career changers, mostly from high-tech, who decided to give back to society and find new professional path. Training programs, titled "Teach Plus" were created in universities and colleges, all using the practice-based *Teacher Residency* approach.

At the threshold of this study, seven such programs were operating (and more joined afterwards), all sharing similar principles: highly selective sifting process for talented candidates, school-based training with support from experienced teachers, focus on student learning and clinical diagnostic teaching, support in finding teaching positions in schools upon graduation, and a strong partnership with training schools and mentor teachers.

The purpose of this study is to understand if and how the training programs provide the students with practical preparation to their future work in schools. 40 graduates, 38 students and 25 mentor teachers answered questioners and interviews with Ministry officials, mathematics department heads, graduates and dropouts were conducted.

Key Findings

1. The academic background of the students includes at least an undergraduate university degree in engineering or mathematics, and many of them completed graduate studies in economics, business management or engineering.
2. Almost all of them came with at least 18 years of work experience in the high-tech industry, in the private sector or the army.
3. The education staff that works with them portrays them as 'highly motivated', 'eager to teach and educate', 'mature' and 'knowledgeable'.
4. The primary motivating factor for changing careers and retraining as teachers is their wish to contribute to society (68% of students and 66% of graduates). Approximately half the students and graduates also stated their wish to teach and to change their previous field of work.
5. Most of the graduates are teaching today in high schools in 10th grade (87%), 11th grade (74%) and 12th grade (61%). 70% teach at the level of three units, 46% also teach the four-unit track and 46% the five-unit track.
6. In interviews, the graduates testified that new teachers are not given five-unit classes and are mostly assigned to teach in lower grades and at lower study unit levels. The mathematics department heads explained that the new teachers need to gain teaching experience gradually over the course of a few years before they are given five study unit classes.
7. Most students (78%) and graduates (81%) felt that the screening process successfully selects students who fit the program profile.
8. Most students had a positive attitude to the content of the training program. They reported that pedagogic courses (81%) and mathematical content (76%) contributed to their teaching capability. Majority (71%) felt that there was alignment between the instructional coaching they received in the program and their experiences in school.
9. Their school-based residency was implemented in 10th grade (78%) and 11th grade (81%). Half of them also had practical experience with 12th graders or 9th graders. 94% practiced in classes of the five-unit track and half also practiced with 4 and 3 unit students. They report that they taught five lessons on average annually during their training.
10. Their instructional coaches said that 80% the students they coached knew how to create a learning atmosphere in the class and how to work in teams. However, 70% of the new teachers reported that they need better class management skills.

11. The students reported that the most frequent activities in their residency (occurred at least 6 times) were observing a class teacher lesson, individual teaching of students, preparing a lesson plan, meeting with an instructional coach, using technology in teaching and working with a small group of students.
12. A high percentage of students reported that they did not perform some of the following activities at all: constructing an individualized student-learning plan, drafting an exam for students, conducting a discussion on students' progress in the class, marking students' exams, and holding a discussion about identifying students with difficulties.
13. 80% of the students reported that the program covered topics on adapting their teaching to students with diverse backgrounds and taking note of their abilities and difficulties. Most students (67%) reported that this issue was mainly covered in the academic courses. 28% percent of the students reported that this issue was also covered during the practical experience in school.
14. Approximately half the students and 60% of the graduates who responded to an open-ended question said that they would like to have more experience of practical classroom teaching during the retraining year.
15. In interviews with the graduates, they displayed different perceptions about the instructional coaching they received. Some felt it was sufficient to their needs, while others felt that it was not specific enough. Some requested meetings that are more frequent and asked that they would be performed in their schools and not on a regional basis with other graduates.
16. The primary obstacles that graduates say they encounter in school are the recognition of their years of experience for their salaries, their training to address the needs of diverse students and difficulties in encouraging motivation for learning among their students.
17. Three students who dropped out of the program were interviewed as part of this study. The reasons for their dropping out were difficulties in teaching a heterogeneous class, a promotion offer from their previous work and difficulty in coping with the intensive studies in the program. Two of the dropouts continue to teach mathematics, one privately in the afternoons and one is studying in a different retraining program.
18. The majority of graduates (95%) intend continuing in their teaching career.