

The University of St. Thomas and Mankato Public Schools Collaborative Javits Project

Prior to the Javits Grant

The Talent Development Audit

The Grant Project

- 2014 – 2017 Javits Grant funded the Talent Development program transformation, expanding it to multi-level advanced services focused on “mainstream” gifted and talented learners in grades 3-8 and focused on “traditionally underserved” students of high potential.
- Among the purposes of the grant were to:
 - Create a defensible identification system that systematically found approximately 10-12% of the population who were “ready” for placement in either a math cluster, or an ELA cluster, or both.
 - Create a defensible identification system that found approximately 10-12% of the nontraditional population who had the potential to take on the highly challenging curriculum within a Rising Scholar cluster.
 - Provide high challenge curriculum to both traditional GT students and to nontraditional HP students (aka “Rising Scholars”) in math and/or language arts on a daily basis via purpose-based cluster classes.
 - Train Cluster and Rising Scholars teachers in how to manage, instructionally, the use of truly challenging curriculum resources with advanced learners.

Forming the Clusters (TD and RS)

- The CogAT -7, a standardized test of reasoning ability, was administered to all grade 2 – 6 students (n=3000) as a universal screener.
- In addition, MAP tests in reading and mathematics were examined and teacher feedback was used to select students for participation in Reading and Mathematics Cluster Classrooms.
- After forming Cluster Classrooms, additional information was examined to form Rising Scholar clusters.
- Approximately 2,800 students were identified for services across 10 elementary and 3 middle schools for daily services in either math or English/language arts or for both.

Determining the Needs of TD Cluster Students

- For Reading/Language Arts clusters (66 classrooms across 10 elementary schools), the Technical Assistance Committee (composed of university personnel and district personnel) selected:
 - Michael Clay Thompson Language Arts strands, grammar and vocabulary at recommended starting levels
 - College of William & Mary language arts units at recommended starting levels
 - College of William & Mary Navigator novels at recommended starting levels
- For math GT clusters (66 classrooms across 10 elementary schools), the TAC selected:
 - Compacting of all grade level math units, based on Minnesota math standards.
 - Replacement with accelerated math curriculum: Beast Academy and advanced texts for grades 7-8 from Art of Problem-Solving (AoPS) Foundation.

Determining the Needs for Challenge for RS Cluster Students

- RS clusters were to meet daily to “cover” challenging reading/language arts, math, and affective support across approximately 30 classrooms.
- For reading/language arts, the materials included:
 - Jacob’s Ladder Reading Comprehension Reading Series; Michael Clay Thompson Grammar and Vocabulary; Unjournaling Writing; College of William & Mary Navigator novels, particularly those that focused on diverse populations or issues relevant to the issues these nontraditional populations might encounter
- For math, the materials included Beast Academy, aligned to the units in the regular math text. Students engaged in both aspects of grade-level mathematics
- For affective support, TAC members and district elementary and middle school members jointly designed weekly sessions on topics such as mindset, goal setting, standing up for own opinions, working collaboratively, understanding one’s own strengths and issues, executive function skills, etc.

Teachers' Initial Responses to Implementing and Managing These Curricula: Anecdotal

- *This is too hard for my students. I am not buying in on this. This initiative will pass just as so many others have!*
- *My students aren't self-regulated enough to work in a cluster without my direction and attention. I don't have time to do all the extra explanation my students will need to feel comfortable with these materials.*
- *I didn't learn about grammar and vocabulary in this way and I think this is difficult to master. If I can't master it, how can I expect my students to do so? How can I teach this to them when I don't feel confident with how it is organized?*
- *We shouldn't teach something this hard to just some of our students, unless all students have a chance to use it and to succeed.*
- *We integrate teaching vocabulary and grammar into our writing outcomes. Isn't that enough for all students? We don't need a separate grammar and separate vocabulary building program in our district. We have enough to do.*

Teachers' Year 2 Responses to Implementing These Curricula: Anecdotal

- *I am amazed at what my TD (also RS) cluster students are accomplishing. **Beast Academy** is so popular (both clusters).*
- *I feel comfortable that I can manage my TD cluster and their work with the **MCT materials**. I don't feel that the materials are too difficult, judging from the students' responses to the materials.*
- *My groups (both Cluster and RS) can almost literally work with each other on the curricula without my standing over them the whole time. They often set their own timelines for how much they will "cover" before their next cluster meeting. It is often more than I would have assigned them before.*
- *The TD clusters need **Jacob's Ladder** too to build their comprehension skills. They also would benefit from the **Unjournaling** curriculum. We should be using these, perhaps at different levels for all students in our classroom.*

Teachers' Final Year Responses to Implementing These Curricula: Anecdotal

- *The language arts curricula has been a great hit with my TD cluster. Now that we have it on-line as well, I have more management avenues to pursue. These kids almost don't need me at all. I have to get out of the way and let them go at their own pace and as deeply as they seem to want to do.*
- *Most popular has been using Beast Academy (both TD clusters and RS clusters). The kids can hardly wait to get their books and start working together on their "beastly" problems. These materials are totally engaging.*
- *I have learned that these kids (TD and RS) can be totally engaged without my having to impose behavioral management strategies with them. When I let them use these materials, they are happy to work in their cluster and I only need to check in with them a couple of times during the period to answer some question they "didn't get".*
- *My only discipline issue with these kids when they are using Beast Academy or MCT materials is to tell them to quiet down. They get so excited with their solutions that their voices get louder and louder without their meaning for that to happen. Sometimes it is difficult to tell them to "pipe down" when they are actually so excited with what they are learning!*

Teachers' Responses to Cluster Curricula: Researcher Observations and Self-Report Questionnaires

- Observation and questionnaire data indicated teachers felt they were using several techniques “moderately” (having students produce multiple interpretations of events, having students work on tiered tasks adjusting for individual differences, were asking students to synthesize or summarize information acquired).
- One paradox in these observations was that teachers reported they were having students discover key ideas through guided inquiry “infrequently”, but students felt teachers were “somewhat effective” in doing this.
- In general, teachers were most likely to rate themselves as “somewhat effective” for general classroom expectations and behaviors and for self-pacing, but not as effective for the behaviors eliciting problem solving, critical thinking, creative thinking, and student-led research.
- Individual differentiation was most likely to be observed in math cluster classes rather than English/language arts/reading.

Changes in UST Certificate Teachers' Perceptions of Working With Cluster Students or Underserved High Potential Students.

Level 1 UST Courses	Effect Size	Level 2 UST Courses	Effect Size
Pre-course 1 vs. Post-course 4		Pre-course 1 vs. Post-course 6	
Teaching Philosophy	1.13 (large effect)	Teaching Philosophy	0.14 (slight effect)
Attitudes toward students	0.80 (large effect)	Attitudes toward students	0.30 (small effect)
Differentiating strategy frequency	0.60 (moderate effect)	Differentiating strategy frequency	0.73. (large effect)
Attitudes about giftedness and gifted learners	0.28 (small effect)	Attitudes about giftedness and gifted learners	0.19 (slight effect)

Individual Statements on the *Teachers' Perceptions Inventory* that Witnessed Remarkable Changes Across the 3 Years of the Project

Statement	Effect Size
• I try to use student talents to start my instruction.	0.90 (large effect)
• I ask questions that make learners explore/discover.	1.11 (large effect)
• I modify my instruction to match learner experiences, interests.	1.00 (large effect)
• I let gifted learners move more deeply or quickly when mastery is shown.	0.28 (small effect)

Students' Responses to Working With These Curricula: Anecdotal

- Teachers reported that Rising Scholar students were much more quickly assembled for a cluster session, whether it was with Jacob's Ladder or Beast Academy. It was evident they truly enjoyed the challenge of these materials.
- Teachers reported that GT cluster girls were particularly excited by the Beast Academy materials for some reason. Perhaps the visual nature of the materials helped them work on that part of their brain in understanding mathematics?
- Teachers reported that many times they felt like a fifth wheel –that the students got along quite well without them guiding, asking their higher order questions, etc. The students just wanted to “get to work” without a whole lot of explanation.”
- Several parents have reported to classroom teachers that their GT Cluster and RS Cluster students are more motivated to come to school, love their math (Beast Academy) and reading, and feel more positive about themselves as learners. It was reported that these things were “not the case” in earlier years.

Students' Responses to Cluster and RS Cluster Curricula: Classroom Observations

- Coming up to the observer and hugging her and saying, "Thank you for inventing Beast Academy. It's the best thing ever!" (Observer had to clarify that she had helped choose the Beast Academy, but did not invent it.)
- One GT/EBD student in RS taking on the responsibility of gathering each RS students' materials and pencils and placing them around their working table before their cluster time was to begin. He did this consistently and remained engaged during the cluster meetings "for the first time ever" (according to his teacher).
- Coming up to the observer and saying, "I don't know which I love more: grammar or vocabulary. They are both just plain great. I am learning a lot."
- When a teacher was working with a Cluster group, she made an assignment for them to work on as a group before their next meeting in two days and the students told her, "We can do more than this. We will have all the pages from 25 to 36 done by our next meeting." This was about 10 more pages than she had assigned.
- Students stayed very much on task when there was a teacher present as well as when there wasn't. It was clear that in both cases, they really were engaged by the materials they were learning. They were very likely to ask deep, critical questions when a teacher was present more frequently than when a teacher was not present. Group problem-solving in its best rendering was evident in most observations made.

Why Such Stellar Results Making This a Nation-wide Model for TD Services?

- The Collaborative Team
- A Comprehensive Approach
- District Buy-In
- Support From the Top

Post Grant Activities....