Texas Regional Collaboratives Final Report to TEA 2013-14

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Texas Regional Collaboratives for Excellence in Science and Mathematics Teaching (TRC)

The TRC is an award-winning statewide network of 58 P-16 partnerships that provide sustained and high intensity professional development to P-12 teachers of science and mathematics across the state. This infrastructure of 41 institutions of higher education collaborating with the Texas Education Agency, all 20 Texas Education Service Centers, school districts, and business partners, has a 23-year track record of designing and implementing exemplary professional development using research-based instructional models, materials, and best practices.

Mission

To provide Texas science and mathematics teachers with support systems of scientifically researched, sustained, and high intensity professional development and mentoring to assist them in the implementation of the Texas Essential Knowledge and Skills (TEKS). Our programs equip teachers with the knowledge and skills to engage students in meaningful science and mathematics learning experiences. Activities are designed to improve students' scientific, mathematical, and technological literacy, and inspire them to pursue science and engineering related careers.

Program Description

The TRC has three basic components of professional development. First, **Instructional Team Members**, or **ITM**s, from each Regional Collaborative are assembled to provide training to classroom teachers. Instructional Teams ideally consist of professors of Mathematics, Mathematics Education, Mathematics Specialists, Science, Science Education, Science Specialists and Master Teachers in each region. **Professional Development Academies** (**PDA**s) are provided by the TRC to ITMs from across the state to focus instruction on the priorities set by the Texas Regional Collaboratives and the Texas Education Agency and to improve the quality and effectiveness of professional development provided to teachers. PDAs enhance the knowledge and skills necessary to develop, sustain, and facilitate high quality Professional Development Programs in each region.

Second, each Regional Collaborative develops a **Professional Development Program (PDP)** that addresses both the TRC and TEA priorities for the year and the unique needs of teachers in their region. The PDP is provided to a network of **Science Teacher Mentors** (**STM**s) or **Mathematics Teacher Mentors** (**MTM**s) from multiple districts in each region. A minimum of 20 STMs and MTMs from each Regional Collaborative is required, but several Collaboratives serve double that number. The PDP consists of training to improve teacher science content knowledge, instructional skills, classroom practice, and leadership capacity. In 2013-14, STMs received an average of 118 contact hours of professional development in these areas. In the Mathematics Collaboratives, MTMs averaged 115 hours of professional development contact hours.

Through experiences with the Regional Collaboratives, STMs and MTMs become true leaders in science and mathematics education in their schools and districts. To maximize the investment made in these individuals, STMs and MTMs are required to mentor additional teachers, termed **Cadre Members** (**CM**s), throughout the year, and serve as resources for improving student experiences in science and math both regionally and statewide. Using this multiplier effect, the TRC is able to scale up the number of teachers served across the state at a relatively low cost while at the same time building local capacity in individual schools and districts to lead improvement. Some mentoring occurs informally through the sharing of ideas and expertise on a campus level, team teaching, and coaching. In addition, many STMs/MTMs provide formal training and outreach through workshops on science topics such as chemistry and physics, and mathematics topics such as algebraic reasoning, formative assessment, aligning instruction and assessment to the TEKS and State of Texas Assessment of Academic Readiness (STAAR), as well as other more specific locally based training. This mentoring model gives STMs and MTMs an opportunity to grow professionally as leaders while remaining classroom teachers. Such professional growth is not often encouraged within the confines of the traditional limitations of school culture.

This makes participation in the TRC especially valuable to experienced teachers who wish to improve their knowledge, skills, and leadership without leaving the classroom. Cadre Members are required to receive an average of 12 documented hours of mentoring, training, and support but most projects exceeded this requirement. Many individual teachers that participated as CMs during the 2012-13 project year chose to increase their level of commitment and become STMs/MTMs for the 2013-14 program. Each of these components contributes to the overall goal of improving the quality and rigor of classroom science and mathematics instruction for P-12 students.

TRC Network

During the 2013-14 grant period, the TRC issued sub-awards to support **34 Regional Science Collaboratives and 24 Regional Mathematics Collaboratives** across the state. Each Regional Collaborative consisted of a partnership among numerous organizations and stakeholders with a vested interest in quality science/mathematics instruction including institutes of higher education (IHEs), school districts, charter schools, private schools, Education Service Centers (ESCs), and business and industry. Science and Mathematics Regional Collaborative grantees are listed in the next section. Every Education Service Center region in the state is served by one or more Regional Collaboratives. The TRC network served 799 Texas school districts (public, charter and private) and 2,303 campuses.

Science Regional Collaboratives
1. Region 1 Science Collaborative / Edinburg
2. UT-Brownsville Regional Science Collaborative / Brownsville
3. TAMIU Regional Science Collaborative / Laredo

4. Texas State Aquarium Regional Collaborative / Corpus Christi
5. Region 3 Science Collaborative / Victoria
6. Region 4 Science Collaborative / Houston
7. Lake Houston Regional Science Collaborative / Humble
8. Rice University Regional Science Collaborative / Houston
9. University of Houston-Clear Lake Regional Science Collaborative / Houston
10. Galveston County Regional Science Collaborative / Galveston
11. University of Houston Regional Science Collaborative / Houston
12. Region 5 Science Collaborative / Beaumont
13. Region 6 Science Collaborative / Huntsville
14. Texas A&M University Regional Science Collaborative / College Station
15. Region 7 Science Collaborative / Kilgore
16. UT-Tyler Regional Science Collaborative / Tyler
17. Region 8 Science Collaborative / Mount Pleasant
18. Region 9 Science Collaborative / Wichita Falls
19. Region 10 Science Collaborative / Richardson
20. UT-Dallas Regional Science Collaborative / Dallas
21. Region 11 Science Collaborative / Fort Worth
22. University of North Texas Regional Science Collaborative / Denton
23. North Central Texas College Regional Science Collaborative / Gainesville
24. Region 12 Science Collaborative / Waco
25. Region 13 Science Collaborative / Austin
26. UTeach Primary Regional Science Collaborative / Austin
27. Region 14 Science Collaborative / Abilene
28. Region 15 Science Collaborative / San Angelo
29. Region 16 Science Collaborative / Amarillo
30. Region 17 Science Collaborative / Lubbock
31. Region 18 Science Collaborative / Midland
32. Region 19 Science Collaborative / El Paso
33. Region 20 Science Collaborative / San Antonio
34. Our Lady of the Lake University Regional Science Collaborative / San Antonio

Mathematics Regional Collaboratives
1. Region 1 Mathematics Collaborative / Edinburg
2. UT-Brownsville Regional Mathematics Collaborative / Brownsville
3. Region 2 Mathematics Collaborative / Corpus Christi
4. Region 3 Mathematics Collaborative / Victoria
5. Region 4 Mathematics Collaborative / Houston
6. Lake Houston Regional Mathematics Collaborative / Houston
7. Region 5 Mathematics Collaborative / Beaumont
8. Region 6 Mathematics Collaborative / Huntsville
9. Region 7 Mathematics Collaborative / Kilgore
10. UT-Tyler Regional Mathematics Collaborative / Tyler
11. Region 8 Mathematics Collaborative / Mount Pleasant
12. Region 9 Mathematics Collaborative / Wichita Falls
13. Region 10 Mathematics Collaborative / Richardson

14. Region 11 Mathematics Collaborative / Ft. Worth
15. North Central Texas College Regional Mathematics Collaborative / Gainesville
16. Region 12 Mathematics Collaborative / Waco
17. Region 13 Mathematics Collaborative / Austin
18. Region 14 Mathematics Collaborative / Abilene
19. Region 15 Mathematics Collaborative / San Angelo
20. Region 16 Mathematics Collaborative / Amarillo
21. Region 17 Mathematics Collaborative / Lubbock
22. Region 18 Mathematics Collaborative / Midland
23. Region 19 Mathematics Collaborative / El Paso
24. Region 20 Mathematics Collaborative / San Antonio

Figure 1. Statewide Distribution of TRC Campuses
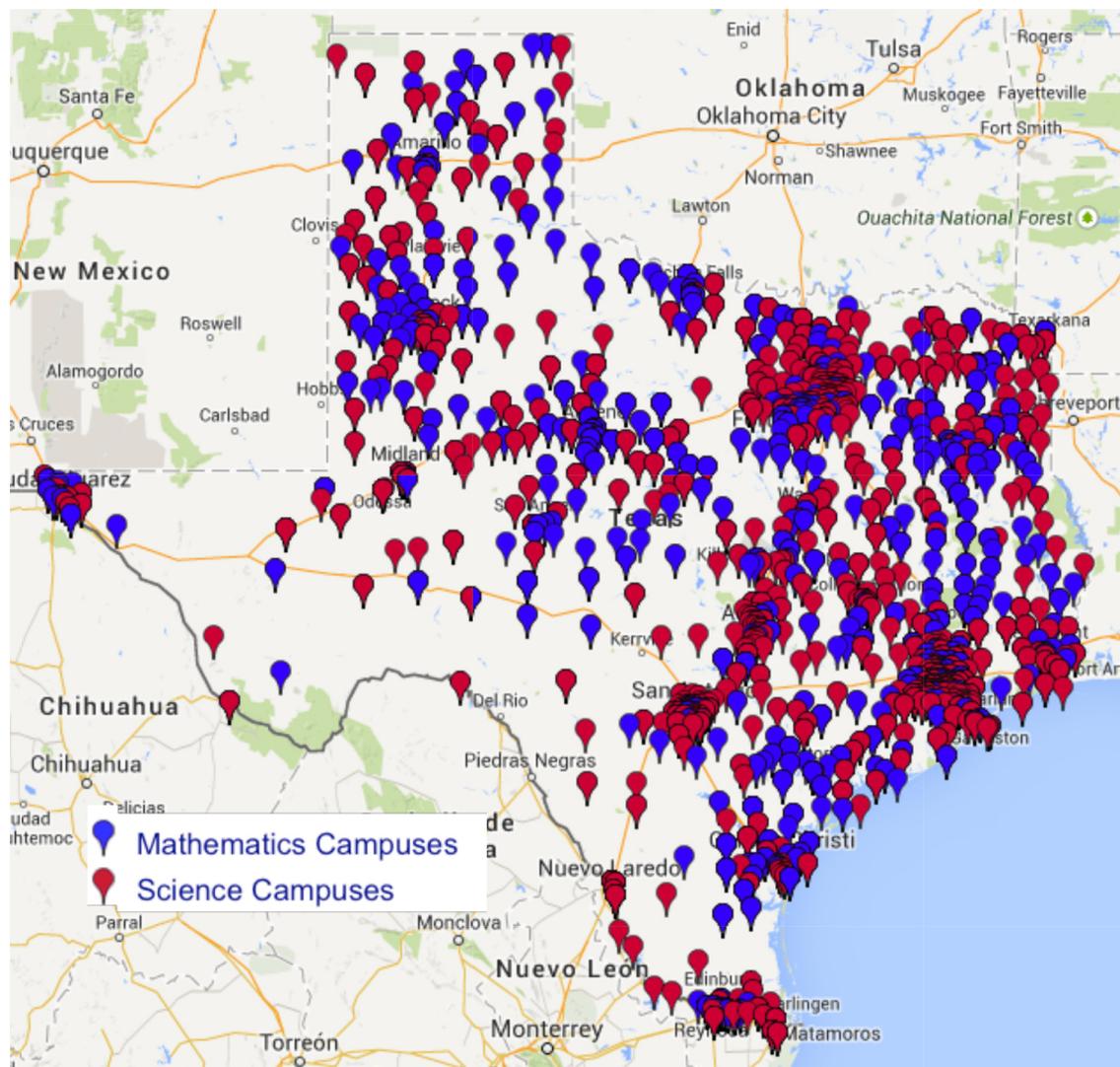
During the 2013-14 grant period, **41 Institutions of Higher Education partnered** with Regional Collaboratives across the state to provide high quality science and

mathematics professional development. While many of these were fiscal agents as noted previously, still others partnered with ESCs to provide coursework and training to teachers.

- Abilene Christian University
- Amarillo College
- Angelo State University
- Baylor College of Medicine
- Baylor University
- Brookhaven College
- Cisco College
- Del Mar College
- Hardin-Simmons University
- Lamar University
- Midland College
- Midwestern State University
- North Central Texas College
- Our Lady of the Lake University
- Rice University
- Sam Houston State University
- Stephen F. Austin State University
- Sul Ross State University
- Southern Methodist University
- Texarkana College
- Texas A&M University System
  - Texas A&M International University
  - Texas A&M University-College Station
  - Texas A&M University-Commerce
  - Texas A&M University-Galveston
  - Texas A&M University-Texarkana
  - West Texas A&M University
- Texas Tech University
- Texas Women's University
- University of Houston
- University of Houston-Clear Lake
- University of Houston-Victoria
- University of North Texas
- University of Texas System
  - University of Texas at Arlington
  - University of Texas at Austin
  - University of Texas at Brownsville
  - University of Texas at Dallas
  - University of Texas at El Paso
  - University of Texas – Pan American
  - University of Texas of the Permian Basin
  - University of Texas at Tyler
  - University of Texas Medical Branch at Galveston

Further information about the structure and reach of the TRC along with interviews with teachers and superintendents can be found at www.theTRC.org.

Program Participant Profiles

Instructional Team Members

Instructional Team Members (ITMs) are responsible for planning, designing and delivering professional development to P-12 teachers. In addition to IHE faculty members who are largely content experts, other ITMs included Education Service Center science and mathematics specialists, informal science providers such as museum staff members and K-12 science and mathematics administrators. Instructional specialists (35%) represented the largest number of ITMs, followed by science professors (20%) and master teachers (11%). Math professors composed 9% of the ITMs (due in part to fewer Math Collaboratives). All projects included a STEM professor as required by MSP. A detailed listing of ITMs by Collaborative with STEM professors highlighted can be found in Appendix A.

Figure 2. Distribution of ITMs 2013-2014

Instructional Team Members

Percentage

Legend:
- Science Prof
- Math Prof
- Engineering Prof
- Tech Prof
- Instructional Specialist
- Education Prof
- k12/IHE Admin/staff
- Informal Sci. Edu
- Master Teacher
- Other/Coach/Teacher

Values shown: 20%, 9%, 5%, 1%, 35%, 6%, 3%, 2%, 11%, 8%
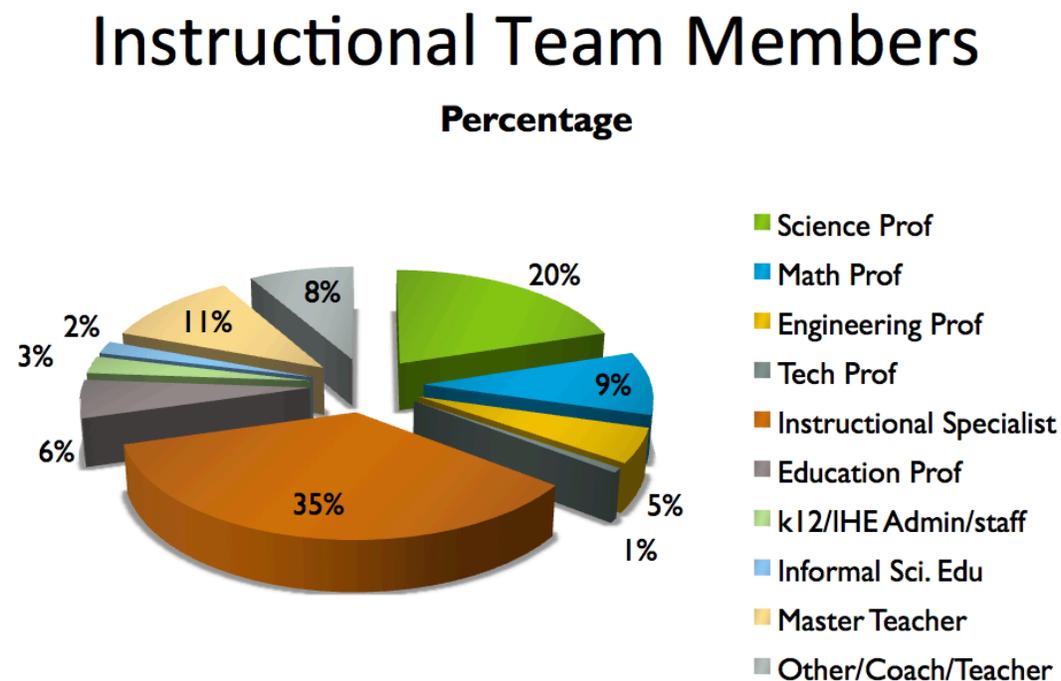
Teacher Participants

During the 2013-14 project year, a total of **5,127 science educators and 4,009 mathematics educators** were served by the Texas Regional Collaboratives. The

following tables describe the characteristics of TRC teacher participants. Note: Teaching assignments include multiple grades; therefore the number of teachers might not match the percentage of teachers by level in these figures.

Table 1. Teacher Gender

	Science	Math
	Percent	**Percent**
Male	20%	16%
Female	80%	84%

Table 2. Teacher Ethnicity

	Percent
Hispanic/Latino	21%
White	69%
Black/ African American	7%
Asian	1%
American Indian or Alaskan Native	<1%
Two or More Races	<1%
Native Hawaiian or Other Pacific Islander	<1%

Figure 3. Number of TRC Science Teachers by Grade Level

Science Teachers by Grade Level
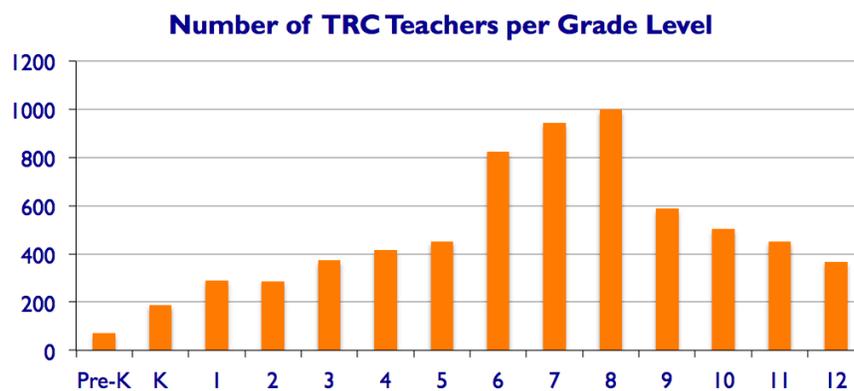
Figure 4. Number of TRC Math Teachers by Grade Level

Math Teachers by Grade Level

Number of TRC Teachers per Grade Level
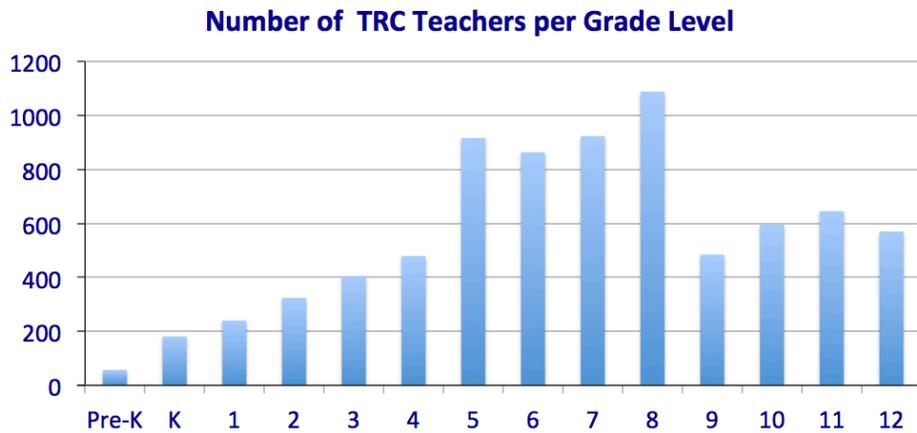
Figure 5. TRC Teacher Level
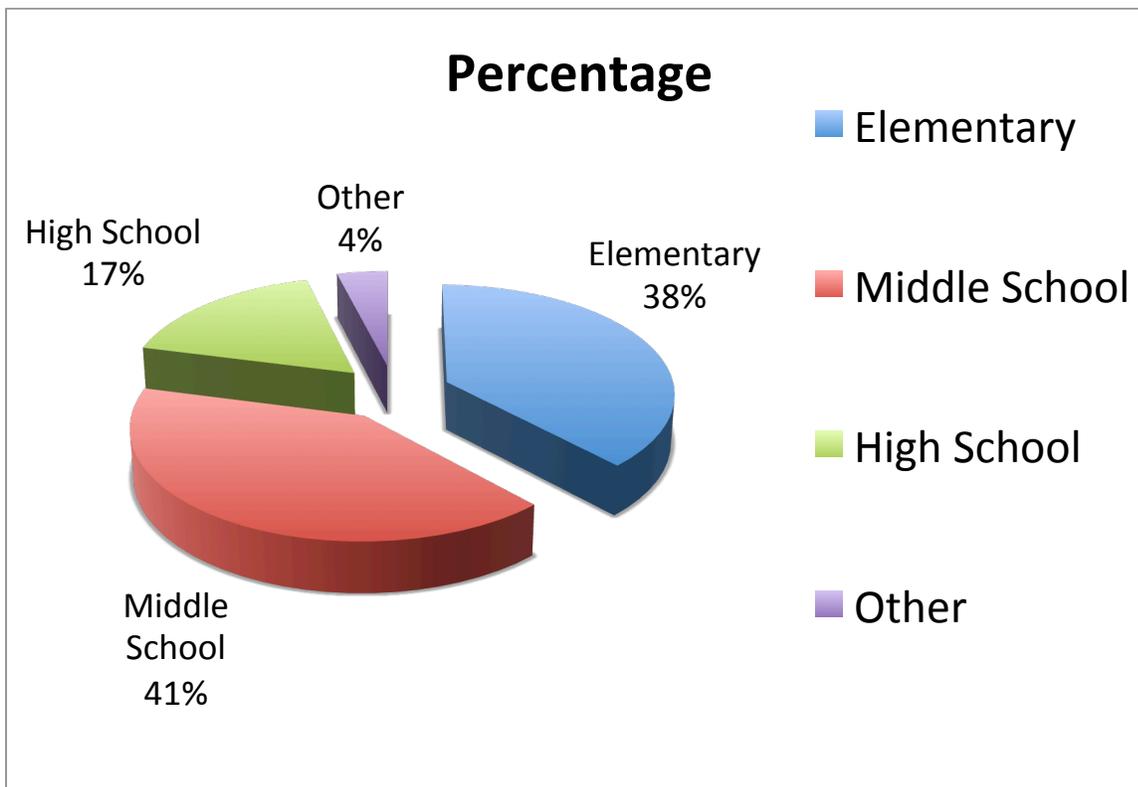
Table 3. Campuses, Districts, and Students Served

	Math	Science	Combined
Campuses	1,179	1,648	2,303
Districts	531	647	799
Students*	322,560	387,156	714,252

*Student numbers are based on an average ratio of 84 students per teacher.

Table 4. Subject Currently Taught: Science

Subject	Number	Percent
Elementary Science	1,886	33%
Middle School Science	1,902	33%
IPC	227	4%
Biology	396	7%
Chemistry	365	7%
Physics	372	7%
AP IB Science	86	2%
Other Science	379	7%

Table 5. Subject Currently Taught: Math

Subject	Number	Percent
Elementary Math	1,546	32%
Middle School Math	1,785	37%
Algebra I	648	13%
Algebra II	270	6%
Geometry	316	7%
Math Models	164	3%
Calculus	64	1%
AP/IB	32	1%
Other Math	246	5%

Note: Some teachers instruct multiple subjects; therefore, % may not add to 100%.

Table 6. Teaching Level

	Math		Science	
	Number	Percent	Number	Percent
Elementary	1841	42.9%	2393	43.1%
Middle School	1478	34.4%	49	28.0%
High School	875	20.4%	25	22.5%
Other/NA	100	2.3%	1554	6.4%
Administrator	40	0.9%	45	0.8%
Classroom Teacher	4113	92.9%	5275	90%
Education Student	10	0.2%	1	0.02%
Non-Teaching Math Coach	62	1.4%	0	0
Non-Teaching Science Coach	2	0.0%	52	0.9%
Other	169	3.9%	413	7.9%
Paraprofessional	32	0.7%	28	0.4%

Table 7. Mentor Teacher Profile

	Math MTMs	Science STMs
Academic Major in Math or Science	239	495
Alternatively Certified	249	423
Years of Teaching Experience	11	10
Years of TRC Experience	2	3

Services Provided to Participants

Professional Development Academies

The TRC plans PDAs to align with the priorities of the TEA and the needs of teachers as communicated by TRC Project Directors. Table 8 lists all PDAs delivered between 9/1/2013 and 8/31/2014 as well as the number of Instructional Team Members from the Regional Collaboratives trained. Once Regional Collaboratives attend PDAs, they can then turn this training around to the teachers in their Collaborative. Typically, there is a school year delay between instructional team member training and turnaround to teachers because Regional Collaboratives are required to submit their instructional plan for grant funding prior to completion of all PDAs. Table 9 outlines the scale-up teacher training that resulted in 2013-14 from the PDAs provided in 2012-13. The *CTE + Math = Success* and *Geometry in Construction* events were direct to teacher training rather than the traditional train-the-trainer PDA model and therefore did not result in additional scale-up teacher training.

Table 8. 2013-14 PDAs provided by the TRC

PDA	Science	Math	Date	Participants
The Science of Racing	X	X	10/04/2013	74
Problem Structures K-5		X	11/21-11/22/2013	31
Flipped Lessons for Math and Science (6-12)	X	X	12/09-12/11/2013	41
Math Out of the Classroom	X		01/09-1/11/2014	30
Making Sense of Science: Energy	X		01/27-1/31/2014	36
Using Formative Assessment to Improve Instruction	X		04/14-4/16/2014	41
Focus on Algebra: Part II: Quadratic Functions		X	05/20-5/22/2014	49
Sharing BLOCKS	X		07/13-7/16/2014	28
Geometry in Construction		X	08/04-8/8/2014	44
Computing Matters	X	X	08/11-8/12/2014	21
The Science of Racing	X	X	10/04/2013	74
Problem Structures K-5		X	11/21-11/22/2013	31

Table 9. 2013-14 Scale-up Training to Teachers from 2012-13 PDAs

PDA	Science	Math	Date	Participants	Scale-Up Training
Addressing the Physics TEKS 6 A-D	X		9/10-9/13/12	38	274
Digging Deeper into the Mole Concept	X		9/24-9/26/12	39	32
ESTAR Academy II: Grades 3-4 ToT		X	10/24-10/26/12	23	0
Young Mathematicians at Work: Grades 5-8 Operations of Fractions		X	12/4-12/7/12	37	36
Science Formative Assessment Strategies for Linking Assessment, Instruction and Learning	X		01/14-1/15/13	45	41
Making Sense of Science- Force and Motion	X		4/22-4/26/13	37	248
Focus on Algebra: Linear Function		X	5/20-5/22/13	45	104
Physics for Us	X		6/12-6/13/13	29	35
Supporting Formative		X	6/25-6/26/13	45	249

Assessment in the Math Classroom				
CTE + Math = Student Success	X	7/25-7/26/13	29	0
Geometry in Construction	X	8/5-8/9/13	34	0
Developing Mathematical Ideas: Making Meaning for Operations (K-8)	X	8/26-8/30/13	18	16

Regional Collaboratives scaled-up training from PDAs and developed their own professional development to provide services to teachers locally. In **Science** Collaboratives, a total of **11,799 contact hours** of professional development were provided to Texas teachers. Projects reported that **1,186** of those hours were dedicated to improving teacher content knowledge in **physical science**.

In **Math** Collaboratives, a total of **7,850 contact hours** of training were provided to Texas teachers, with **1,353 hours** focused specifically on algebraic readiness. Tables 10 and 11 describe the number of events that addressed specific science and mathematics content areas. Some events, such as summer institutes, may have addressed more than one content area. The TRC monitored the Instructional Timeline for each Regional Collaborative quarterly to ensure training requirements and goals were met.

Table 10. Science Training Events Completed by Regional Collaboratives

Science Content	# of Events Completed
Science Inquiry	454
Life Science/Biology	314
Physical Science/Physics	538
Chemistry	286
Earth Science	291
Environmental Science	194
Technology	246

Table 11. Math Training Events Completed by Regional Collaboratives

Math Content	# of Events Completed
Number and Operations	443
Algebra	530
Geometry	250
Measurement	195
Probability and Statistics	168
Problem Solving	391
Reasoning and Proof	218
Calculus	21
Technology	183

Mentoring

Most Cadre Members received their training through mentoring provided by STMs and MTMs. Math and Science Teacher Mentors provided **19,777 total hours of mentoring** to the colleagues and peers in their districts. Regional Collaboratives required mentor teachers to maintain a log of mentoring services provided, with most projects requiring initials of Cadre Members in the log to verify that training had occurred. Mentoring services has improved considerably since the TRC State Office began requiring the written commitment of a district administrator to allow mentor teachers the time and structure to provide support to their CMs. Many projects are using district Professional Learning Communities as the vehicle for providing this structured professional development.

Program Outcomes

Content Area Focus

The Texas Education Agency, using student achievement data, specified certain middle school TEKS in the physical sciences that were the focus of content training in Science Collaboratives. All Regional Collaboratives are required to provide at least 40 hours of content training to teachers designed to build teacher science content knowledge. The TRC assessed teacher content knowledge based on content and concepts addressed in the following state standards:

Force, Motion and Energy (TEKS 8.6 A-C; TEKS 6.8 A & C)

Matter and Energy (TEKS 8.5 A-E; 7.5 A)

In mathematics, algebraic thinking and reasoning for the middle grades through high school were the main focus areas for the 2013-14 school year. In addition, project applicants are encouraged to include geometry, especially as integrated with algebra. Professional development activities addressed TEKS identified as high need based on student performance. Areas of need during professional development activities were broadly categorized as follows:

- The application of the process standards to represent algebraic relationships
- Use of and connections between multiple representations
- The development of robust proportional reasoning and related skills.
-

The TRC assessed teacher knowledge for algebra related to the following TEKS approved in May 2012:

6th grade: 6.7C and 6.9B
7th grade: 7.7 and 7.11B
8th grade: 8.4(A-C); 8.5 (A-I); 8.9
High School Algebra: A.2 (A-I); A.3 (A-G); A.5 (A and C)

Teacher Content Knowledge – Science

In the Science Regional Collaboratives, 1,014 Science Teacher Mentors completed both a pre-assessment and post-assessment of teacher content knowledge related to physics or physical science concepts that were addressed in professional development (primarily conservation of energy and momentum). Other assessments were also administered to teachers, particularly those at the elementary level, who received content-based professional development more closely aligned with their teaching assignment. Since the middle school physical science test and the high school physics test represented the bulk of teacher content assessments, these two are addressed in this analysis. In total, 87 teachers completed the pre and post assessment of physics knowledge based the Texas Essential Knowledge and Skills for Physics 6 a-d. These standards addressed concepts related to work, energy, momentum and changes in physical systems. The mean score for the pre-test was 38.5 with a standard deviation of 12.5 while the mean score for the post-test was 45 with a standard deviation of 14.7. A paired t-test was conducted, and a significant difference $t(87) = -4.2229$, $p < 0.001$ was found between the two tests, with teachers scoring higher at the Post-Test. The overall effect size for the assessment tests is from small to medium considering a d= 0.23.

A total of 927 teachers completed both the pre-assessment and post-assessment in physical science. This assessment focused more on physical science topics related to energy, work, force and motion at the middle school level. The mean score was 39.2 for the pre-test with a standard deviation of 12.5, and 49.3 for the post-test with a

standard deviation of 14.7. A paired t-test was conducted, and a significant difference $t(927) = -19.24$, $p < 0.001$ was found between the two tests, with teachers scoring higher at the Post-Test. The overall effect size for the assessment tests is from small to medium considering a $d = 0.34$.

Figure 6. Teacher Knowledge Gain – High School Physics
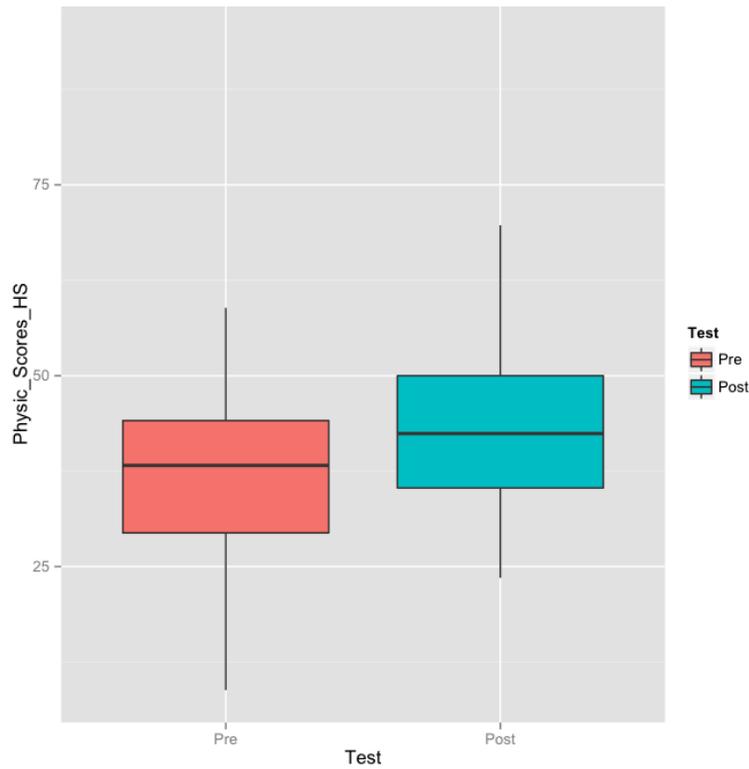
Figure 7. Teacher Knowledge Gain – Middle School Physical Science
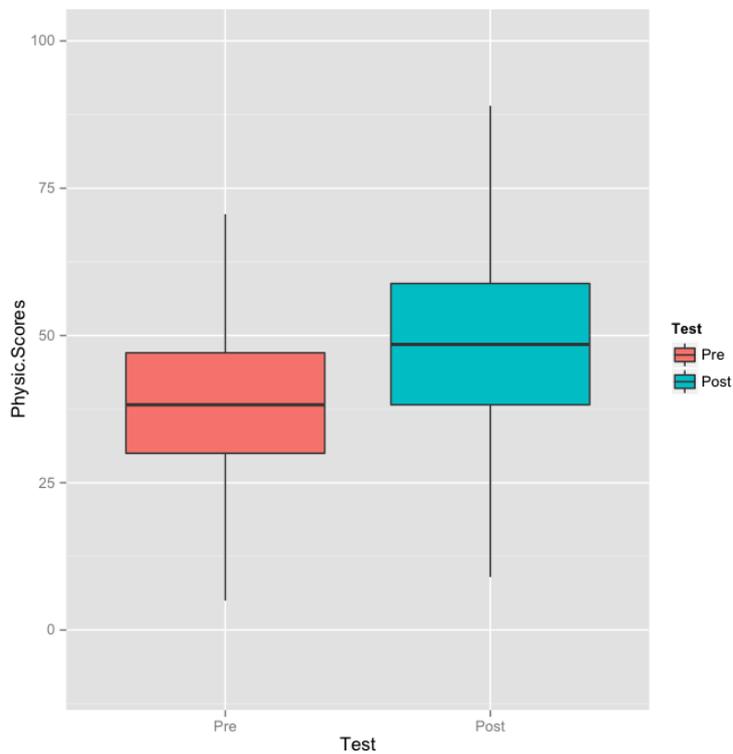
Teacher Content Knowledge - Math

While 794 Math Teacher Mentors completed both a pre-assessment and post-assessment of their content knowledge, not all MTMs completed the same assessment. Project Directors selected the assessment that was most appropriate to the grade level/subject of the teacher. For the purpose of this report, the assessment completed by the largest number of MTMs has been analyzed. This assessment was the Middle School LMT: Patterns, Functions, and Algebra. A total of 637 MTMs completed this assessment. The pre-assessment was completed prior to content training (generally prior to the summer institute). Post-assessments were administered once all content training was complete (generally in the spring of 2014). Because each Collaborative has a unique schedule of events, actual specific dates of administration varied. LMT scores are reported as IRT scores, or basically units of standard deviation. The pre-test mean IRT score was -0.1836 with a standard deviation of 1.004 while the post-test mean was 0.0828 with a standard deviation of 0.9512. A paired t-test was conducted, and a significant difference $t(636) = -7.4554$, $p < 0.0001$ was found between the two tests, with teachers scoring higher at the Post-Test. The overall effect size (Cohen's *d*) for the Middle School LMT: Patterns, Functions, and Algebra tests is 0.27.

Figure 8. Teacher Knowledge Gain – Middle School LMT: Patterns, Functions, and Algebra
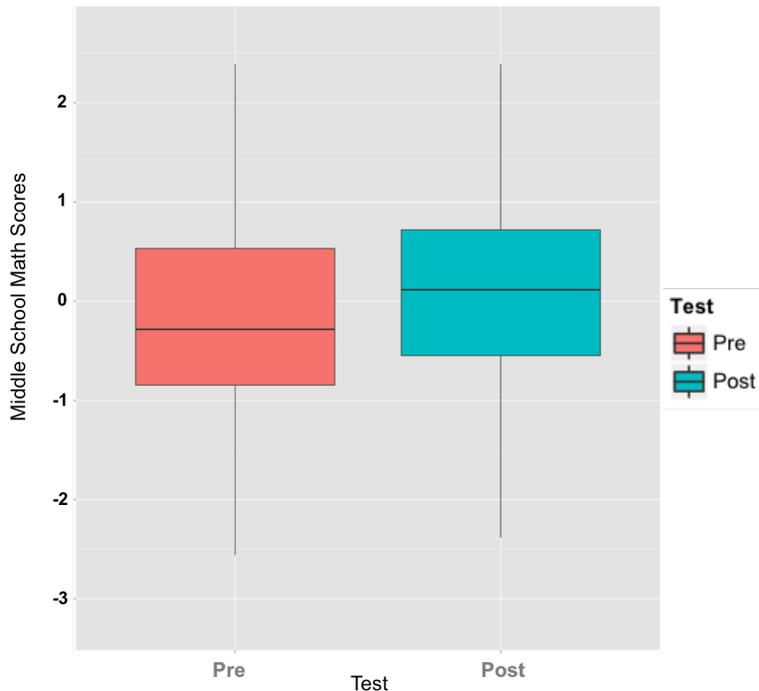
Project Measures

The vast majority of Regional Collaboratives either met or exceeded their project measures as outlined in the Statement of Work. Details for individual Regional Collaboratives are located in Appendix A. On average, **Mathematics** Collaboratives achieved **105% of their goal for number of MTMs and 115% of their goal of 100 hours** for an average of 115 hours trained per MTM. Math Collaboratives also served **1,179 more CMs** than required by contract and provided their CMs with an average of **17 hours of training**, exceeding the required 12 hours.

In Science, projects served **111% of the STMs** that they had contracted to serve and **exceeded** the average **contact hours required for STMs by 15 hours** (115 actual average contact hours compared to 100 required). **CM hours averaged 19**, exceeding the required 12 hours and Science Collaboratives served an additional **887 more CMs than their grants required**.

Many Regional Collaboratives coordinate their professional development with graduate degree programs at their partnering universities. As a result, **228 classroom teachers** earned **graduate credit** through the TRC program. These individuals earned a

combined **969 hours of graduate credit**, with eight teachers completing their master's degrees in 2013-14.

These project measures reflect the leveraging that the TRC network uses to support teachers beyond the MSP grant. Almost every project has a waiting list of districts, campuses and teachers who would like to participate. Many projects leverage their own local funds and resources to serve numerous teachers beyond those the TRC grant can support. The breadth and scope of the TRC network results in a return on the investment for all stakeholders that is the definition of synergy. Higher education partners, Education Service Centers, informal educators and business/industry all contributed in various ways to local Collaborative efforts to serve as many teachers as possible with sustained and high quality professional development through the TRC. Table 12 outlines the achievements of the Regional Collaboratives and Figure 9 documents the degree to which these achievements exceeded the requirements set for in the Statements of Work for all Regional Collaboratives. As evidenced, projects exceeded expectations in the four primary deliverables outlined in the Statement of Work: number of STMs, number of MTMs, number of Science CMs, number of Math CMs. Figure 10 demonstrates that projects also exceeded the required number of teacher training hours for STMs, MTMS, CMs and Immersion CMs.

Table 12. Project Measures

2013 – 14 Project Measures		
Teacher	Number	Average hours
STMs served	1,261	118
MTMs served	836	115
Science CMs	3,663	19
Math CMs	3,071	16
Science Immersion CMs	352	28
Math Immersion CMs	276	27

Figure 9. TRC Teachers Served vs. Statement of Work
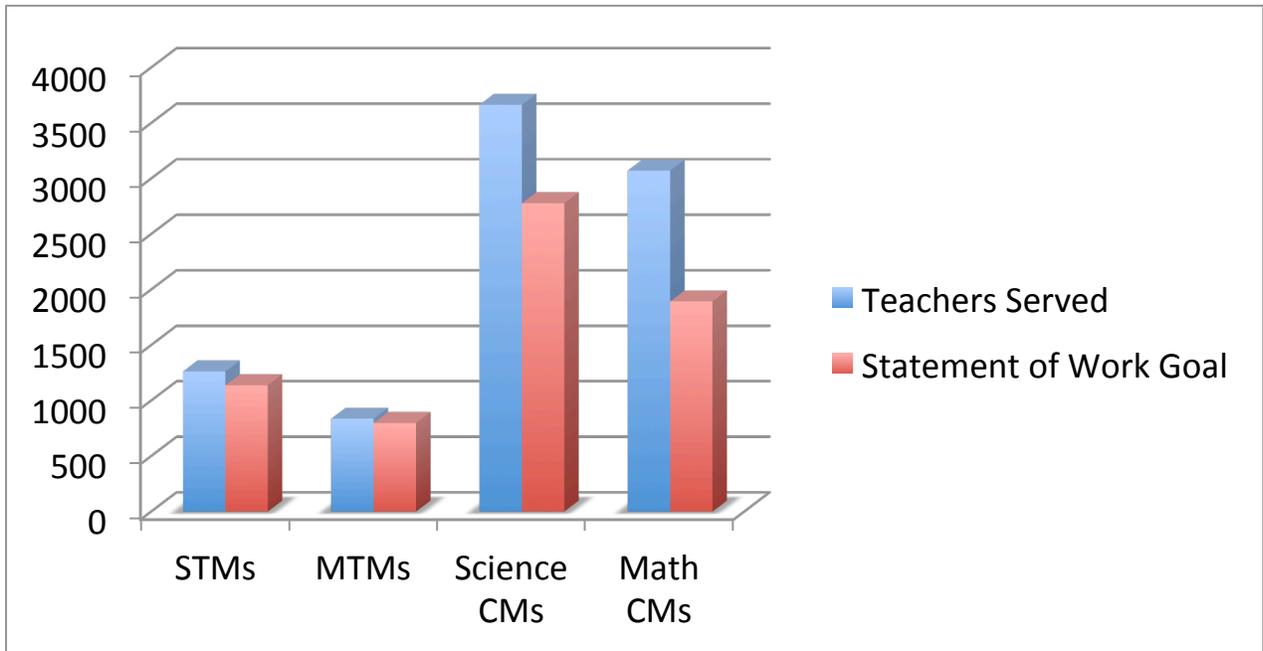
Figure 10. TRC Teacher Contact Hours vs. Statement of Work
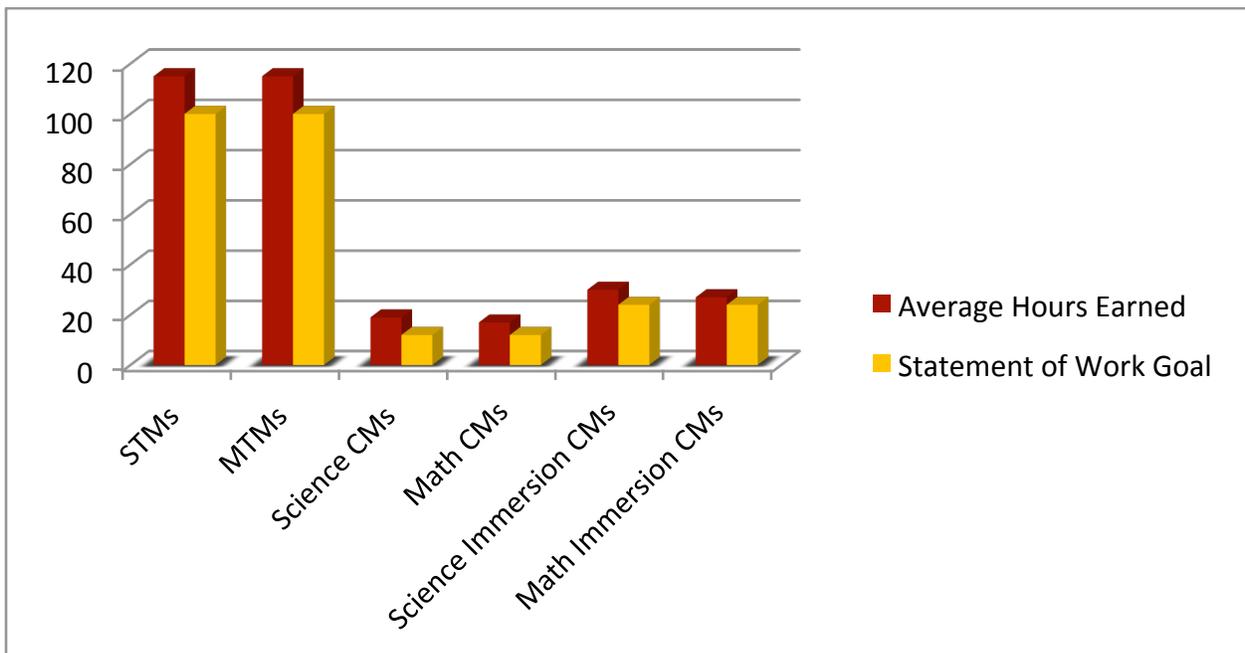
Immersion Model

In the 2013-14 project year, the TRC continued to implement a design for school level intervention called the Immersion Model. In an immersion school, every teacher at a specified grade level must receive TRC training. As such, when campus level standardized test scores are used to examine the relationship between TRC training and student achievement, a valid inference can be made about this relationship since all teachers who impacted student scores that year had received TRC training. For the 2013-14 project year, every Regional Collaborative was required to identify a minimum of five immersion campuses for whom they would provide professional development services.

There are two distinct advantages to the immersion model. First, research has shown that whole-school professional development models are more effective for systemic, long-lasting change, and have a more positive impact on student learning. Providing a coherent program of professional development for an entire grade level, as described in the immersion model, is a good step in this direction. The second advantage is related to program evaluation. One of the greatest challenges for a Regional Collaborative is designing a plan that adequately measures the impact of professional development on student achievement in a meaningful way. Ideally, Regional Collaboratives would measure student achievement at the teacher level. However, accessing student data clustered by teacher is extremely difficult given the current design of the Texas student data collection system. To deal with this challenge, Regional Collaboratives are required to utilize an immersion model that provides professional development to all teachers at a campus at a specific tested grade level for the purpose of collecting campus level STAAR data. While the TRC and sponsoring agencies benefit from receiving a rich data set for further analysis, students can benefit from this model as well.

In the immersion model, projects must recruit a team of Mentors and CMs that represent **all teachers** on a **campus at a tested grade level/subject** for the purpose of collecting campus level State of Texas Assessment of Academic Readiness (STAAR) data. Identifying a specific tested grade level to target, and offering a full immersion program for staff members that teach at this grade level on multiple campuses, facilitates a more valid mechanism for determining the impact of the program on student achievement at the campus rather than teacher level. Key features of the immersion model include:

- **Identification of the targeted grade level or high school subject** for which a project will collect student data. This must be a grade or subject for which a STAAR test is administered.
- Identification of **AT LEAST FIVE CAMPUSES** that agree to allow all teachers at the targeted grade level to receive TRC training. Projects must have written agreements with campus leadership outlining who is to receive training, how the training will be delivered, and when. All campuses must focus on teachers at the same grade /subject.
- Each immersion campus **MUST** have **AT LEAST ONE MENTOR** teacher from the targeted grade level trained by the TRC. Other teachers at the targeted grade level may be mentors or they may be CMs.

- If there is only one teacher at the targeted grade level on a campus, that teacher must participate as a STM or MTM. An immersion campus may only have one teacher at the targeted grade level.
- **Immersion CMs** at the targeted grade level MUST earn on average **24 CONTACT HOURS** of professional development from a Regional Collaborative. This training can be all mentoring or can be a combination of mentoring and direct training from the TRC.
- Teachers at the immersion campus who are not assigned to the targeted grade level may also participate in the TRC as mentors or CMs. Non-immersion CMs that are not assigned to the targeted grade level are only required to receive 12 hours of training.

Immersion Grades/Subjects, Campuses and Teachers

In the 24 Mathematics Collaboratives, 136 campuses participated in the immersion model and a total of 469 teachers were served through immersion. Figure 11 describes the distribution of immersion campuses across all Math Collaboratives. As evidenced in Figure 11, the largest number of immersion campuses targeted Grade 8 math classes (55) with Algebra I classes representing the second highest number (29).

Figure 11. Immersion Campuses in Mathematics

Immersion Math Teachers and Campuses
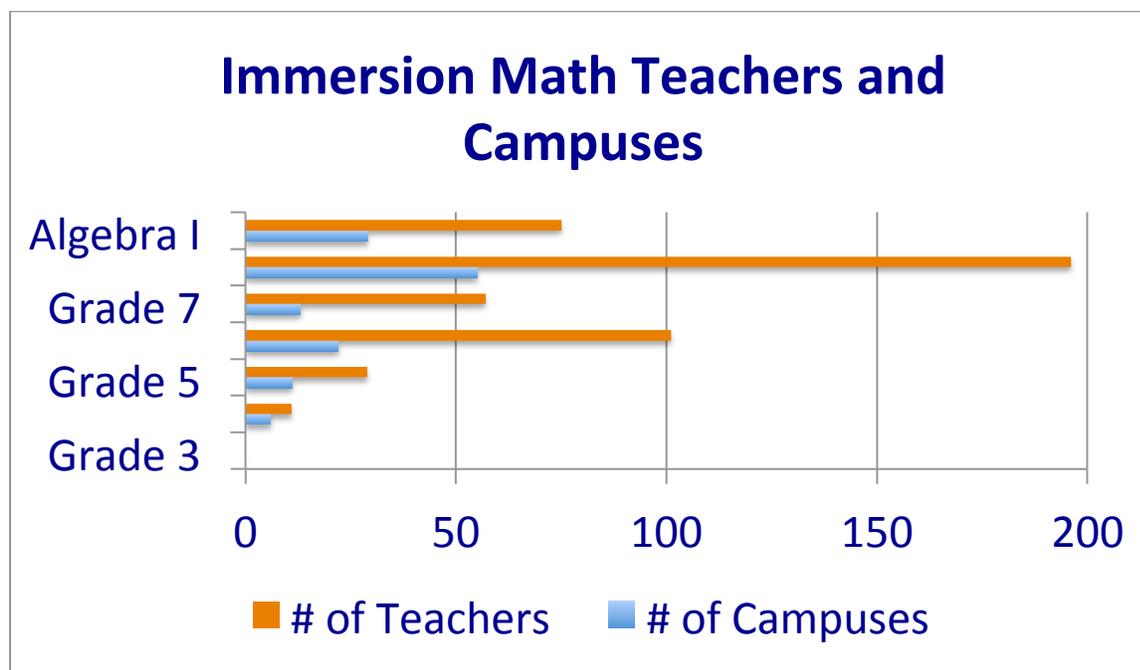
469 Total Immersion Math Teachers   136 Total Immersion Math Campuses

Across the 34 Science Collaboratives, 220 campuses were served through the immersion model encompassing a total of 608 teachers. Because STAAR testing is only administered at Grades 5 and 8 prior to high school, the largest numbers of immersion campuses were concentrated at these grades. In Grade 8, 118 campuses were served through immersion and in Grade 5, 36 campuses were served. Since the content focus

for teacher training for 2013-14 was physical science, the only high school subjects in which a STAAR test is administered, Biology, had no schools participating.

Figure 12. Immersion Campuses in Science

Immersion Science Teachers and Campuses

- # of Teachers
- # of Campuses
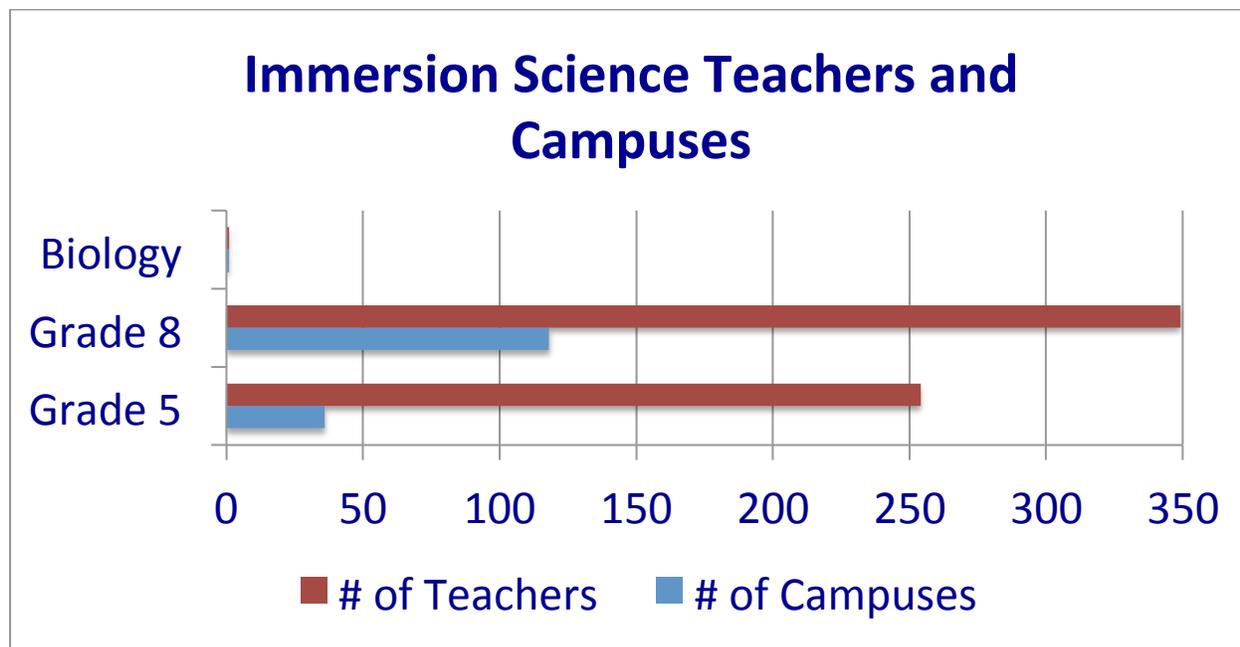
608 Total Immersion Science Teachers   220 Total Immersion Science Campuses

Students Served

Every Regional Collaborative targets professional development to teachers that work on high needs campuses. As evidenced by Figure 12, student ethnicity and economic status on the 2,303 campuses served by the TRC in 2013-14 is highly representative of state demographics. As previously noted in Table 3, the average student-to-teacher ratio in the TRC is 84 students per TRC teacher. Thus, it is estimated that TRC direct to teacher services impacted instruction for at least **714,252 students**. Given that many Mentor Teachers served by the TRC actually work as Instructional Coaches in schools and don't report whole school student data, the impact is likely to be even greater.

While the primary recipient of TRC services is the classroom teacher, the TRC also strives to measure the impact of professional development at the student level. However, because TEA does not report student achievement by teacher, the challenge of assessing this distal outcome is great. Thus, the TRC has implemented strategies to improve the validity of any evaluation of TRC impact on student achievement. First, the TRC required all Regional Collaboratives to identify at least 5 immersion campuses at which every teacher at the targeted grade level in which a STAAR test was administered would be trained. Targeting professional development at the school level allows the TRC to examine campus STAAR data rather than individual STAAR data to

assess impact. The TRC has submitted a request for data through our external evaluator and is currently awaiting this data from TEA. When we receive the data, we will analyze TRC immersion campuses as compared to a matched set of non-TRC campuses across the state to determine if significant differences in student achievement were evident.

Figure 13. TRC Student Demographics vs. State of Texas
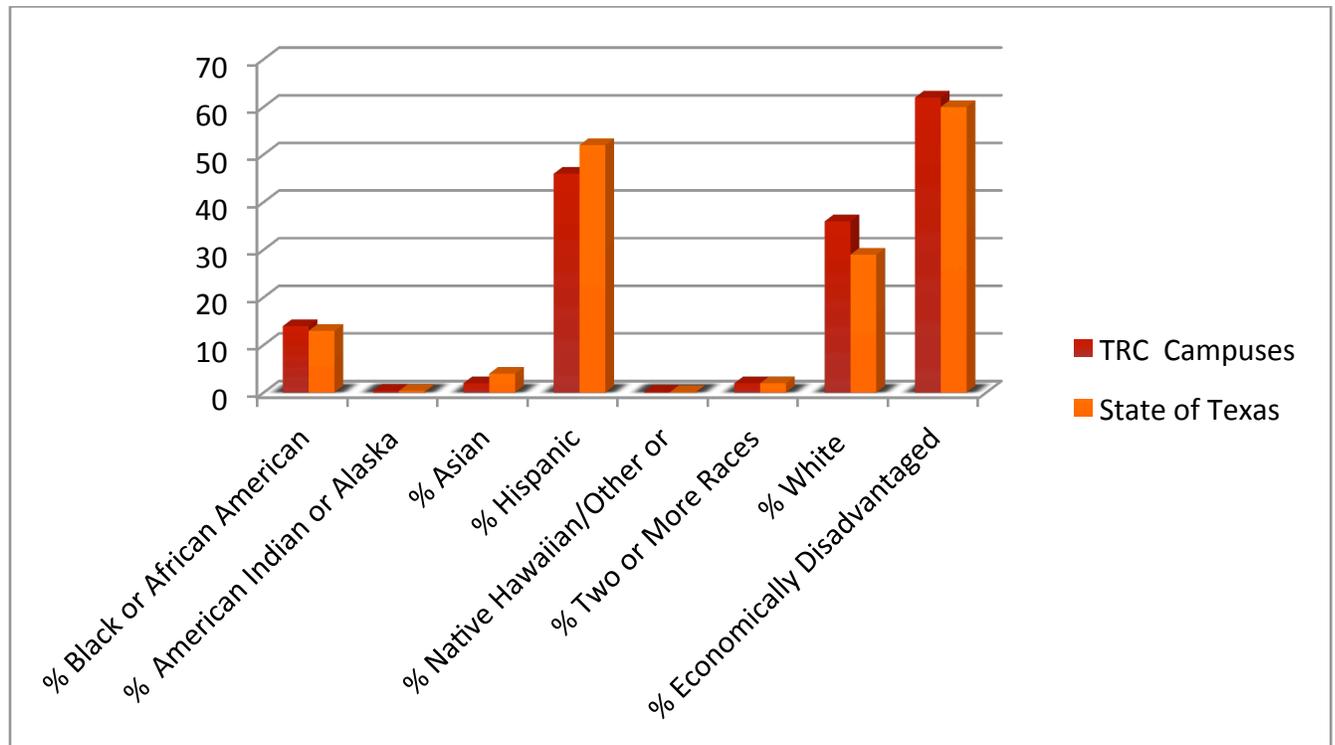
In addition to immersion campuses, the TRC asked every STM and MTM to submit answers to the following questions based on the STAAR. These questions are specifically asked by the U.S. Department of Education in the Annual Performance Report that TRC is required to complete.

1) *Number of students taught by the Teacher Mentor*
2) *Number of students from question 1 with state assessment data in math/science for 2014*
3) *Number of students from question 2 who did not meet standard on the state assessment 2014*
4) *Number of students from question 2 who did meet standard on the state assessment in 2014*

This data is based on teacher self-report. For consistency, all teachers were asked to report on first administration only and the English language version of the test only. To

eliminate confusion, teachers were only asked to report on STAAR and End-of-Course (EOC) data, not TAKS. The TRC is currently working to analyze this data.

Conclusion

The Texas Regional Collaboratives successfully completed and exceeded the requirements set forth by the Texas Education Agency for the 2013-14 funding cycle. TRC service goals regarding both number of teachers served and hours of training provided were exceeded. In addition to the quantitative data described in this report, TRC leadership and staff consistently receive positive qualitative feedback from partner institutions, Project Directors, Instructional Team Members, school administrators, and most important, teachers, about the transformational impact of the TRC program on STEM education in thousands of schools across Texas. A sample of that qualitative feedback is provided here and more can be found on the TRC website at www.theTRC.org.

Qualitative Feedback

Through the professional development from the TRC, we have received many new strategies and techniques for teaching the children about the new way of doing math. I have seen students going from not liking math to hearing them say they want to do math all day long. I want to sincerely thank the TRC, and I am grateful to the people who give money to the TRC that allows them to provide these professional developments for teachers, and most of all, for the children who benefit from all of this.

Susan Allen
Mathematics Teacher
Region 5 Mathematics Collaborative

I have been a member of TRC for 10 years. They have provided me with the tools and equipment to become a better teacher, and also to be a better mentor for other teachers. I am very grateful to TRC. I would not be the teacher I am if it was not for them.

Martina Santana
Science Teacher
Region 1 Science Collaborative

The TRC has given me the tools and teaching techniques that I have needed to not only teach in science, math and technology, but also transition those to other areas like language arts and social studies. It has given me the confidence to try new things, to move away from the books and the worksheets, to move to hands-on, inquiry-based activities. Thank you to the TRC for all you have taught me!

Danelle Wolfe

Teacher
NCTC Regional Collaborative

Dear TRC Committee members,

I am writing you to express my gratitude for making the Seed to Plate Professional Development possible. In my 8+ years of teaching, I found this training to be the most beneficial to my science classroom. The information I received is crucial to our students' understanding of the world around them. Not only was the content effectual, but it was presented in such a way as to be directly adaptive to my classroom.

It engaged all five senses, was cross-curricular, investigative-based, and applicable to all grade levels. Not only will I use everything I learned from this training in my science classroom, I have already thought of extensions that will enrich my students' learning on other topics such as seed dispersal and the life cycle. I currently teach 4th grade math and science. If you were questioning whether funding for this project should continue, in my humble opinion, it is a resounding yes! I cannot say enough good things about this training. I wish it was mandatory for all elementary and science teachers.

Thank you again,
Mrs. Joanne Breuer
4th Grade Math\Science
Splendora ISD

Dear Kamil and Carol,

I am evaluating what some of the teachers have done in the past year and noted that two of them have received recognition as per the attachments. Teha Cooks is now working on a Doctorate and she attributes her inspiration to involvement in the Collaborative. She is highly energetic and a strong supporter of the program. Sherrie was honored by local groups and received some monetary support for her classroom. We continue to encourage the teachers to look for funding, even though it may be small, to help fund the activities that they are doing at their schools. The funds that we are able to provide through the Collaborative, even though small by comparison to total school budgets, have helped a number of teachers to provide motivation to their students.

In my opinion, what the Regional Collaboratives are doing is "Big Science" (and Math) that will overshadow some of the highly funded basic research in that it is an investment in people who will be more creative and who will provide higher order thinking for future research. Dr. Jim Barufaldi and his mentees have truly changed the way that science and math are taught in the schools.

It is encouraging to see such dedication that a teacher has who will give up a Saturday to improve their skills in the class room and who will engage in a grueling summer program that lasts all day for six days a week while colleagues are enjoying time off and summer vacations. It is not a program for the faint hearted.

Dr. Jim Roberts

Project Director
UNT Regional Science Collaborative

Dr. Junk,

Thank you so very much for providing the professional development session "Math Outside the Classroom." Lisa Ellermann asked that I attend the session with her so that we could develop a math/science opportunity for our STMs and MTMs. During the PD, we were to work together to develop a plan based on an issue affecting our area. I had attended a small Giant Salvinia study prior to our trip to McKinney Roughs. With this in mind, I pitched the idea to Lisa and she quickly got onboard. I thought you might like to know that the plan we developed during your PD is coming to life. We have met with Gary Endsley, Collins Academy on several occasions. During the last week of July, our STMs and MTMs will take a field trip to Caddo Lake to study the Giant Salvinia and witness first-hand the disastrous effects this invasive species has had on our local lakes including the effect on wildlife. We will explore Caddo Lake via pontoon boats and each group will be able to work with a wildlife biologist to study not only the Giant Salvinia, but also tour a facility that is breeding a small weevil (only organism known to eat the Giant Salvinia).

What a fantastic opportunity for our teachers! Thank you, Dr. Junk and the TRC.

Cheryl Allison, MS Ed
Secondary Science Specialist
Region 8 Science Collaborative

Dear TRC Staff,

I want to thank you all so much for the honor of being selected as the Nita Beth Camp Award recipient for Math Project Director for 2013-2014. In our service center I serve many roles and little did I know four years ago when I began, I also inherited the role of project director right away that would fit perfectly for my professional goals and passion. Working with the teachers in the capacity of trainer, collaborator, and facilitator of developing math leaders was exactly where I wanted to be after 25 years in the classroom.

My favorite part of the TRC is building relationships with our teachers and other TRC directors, trainers and TRC staff. I have loved getting to know our region teachers and sharing MATH with them and their students. Other roles at the ESC don't allow the opportunity to be completely immersed in serving teachers and students through content and developing the understanding and love of the subject. So, hand in hand with that, my close second favorite part is the tremendous professional development academies we are afforded.

I have gained so much both personally and professionally through my association with the TRC. It is truly an honor to work with all of the TRC staff, such an outstanding professional group. I wish I could have expressed myself and my feelings for you all and my involvement with the TRC upon receiving the award on Thursday afternoon, but I was definitely taken by surprise and was lost for words. I was sitting at the table trying to figure out what other Project

Director was doing the online professional development now and actually missed when Debbie announced my first name and heard my last name!

Again, thank you for selecting me and I look forward to another year partnering with the TRC and continuing to serve our teachers to help them to gain in their knowledge of math and teaching math.

Sincerely,

Diane Utsman
Project Director
Region 18 Mathematics Collaborative

As the TRC moves into the 2014-15 program, we look forward to continuing to educate, support, and inspire Texas STEM teachers who will engage and excite their students to excel in science and mathematics and explore careers in science, technology and engineering. The TRC serves as an exemplary model of collaboration and win-win relationships among state agencies, institutions of higher education, education service centers, and school districts, who have joined forces to synergistically transform the culture of STEM education for teachers, students, school systems, and communities across Texas.

APPENDIX A

ITMs by Collaborative

Project ITMS

Name	InstitutionName	Category	STEM?
ESC Region 11 Mathematics Collaborative_Ft. Worth			
Ms. Faith Schwope	ESC Region XI	Math Spec.	
Ms. Catherine Banks	Texas Women's University	Math Prof.	Yes
Mrs. Wendy Curtner	ESC Region XI	Math Spec.	
Mrs. Nancy Trent	ESC Region XI	Math Spec.	
NCTC Regional Mathematics Collaborative_Gainesville			
Ms. Aziel Wilson	North Central Texas College	Math Prof.	Yes
Ms. Laura Wood	Paradise ISD	Math Teacher	
Ms. Sara Flusche	North Central Texas College	Edu. Prof.	
Dr. Lisa Bellows	North Central Texas College	Sci. Prof.	Yes
ESC Region 14 Mathematics Collaborative_Abilene			
Dr. Jonathan Mitchell	Hardin Simmons University	Math Prof.	Yes
Mrs. Kayla Swanzy	Region 14 ESC	Math Spec.	
Mr. John Lally	Region 14 ESC	Math Spec.	
Mrs. Kathy Hale	Region 14 ESC	Math Spec.	
Mrs. Ann May	Consultant	Math Spec.	
Mrs. Julie McQueen	Abilene Christian University	K12/IHE/Admin/Staff	
Mrs. Raney Edmiston	ESC Region 14 Mathematics Collaborative_Abilene	Master Teacher	
ESC Region 15 Science Collaborative_San Angelo			
Dr. David Bixler	Angelo State University	Sci. Prof.	Yes

Name	InstitutionName	Category	STEM?
Dr. Bhaskar Dutta	Texas A & M University	Sci. Prof.	Yes
Mrs. Beth Lehmann	ESC Region 15	Science Spec.	
Mrs. Paula Hiltibidal	ESC Region 15	Science Spec.	
Dr. Christy Youker	Upper Colorado River Authority	Informal Sci. Edu.	

ESC Region 16 Mathematics Collaborative_Amarillo

Name	InstitutionName	Category	STEM?
Dr. Pamela Lockwoode	West Texas A&M University	Math Prof.	Yes
Mrs. Sherry Clark	Region 16 ESC	Math Spec.	
Mrs. Christine Scroggs	Region 16 ESC	Math Spec.	
Mrs. Brenda Foster	Region 16 ESC	Math Spec.	
Mr. Dale McCurdy	Amarillo College	Edu. Prof.	
Mrs. Kimberly McGowan	Amarillo College	Math Prof.	Yes
Mrs. Sherri Clowe	Amarillo College	Math Prof.	Yes
Mrs. Macy Kohler	Amarillo College	Math Prof.	Yes

ESC Region 17 Mathematics Collaborative_Lubbock

Name	InstitutionName	Category	STEM?
Dr. A. Dean Fontenot	Texas Tech University Engineering Dept/TSTEM	Tech. Prof.	Yes
Dr. Gary Harris	Texas Tech University Math Department	Tech. Prof.	Yes
Dr. Cathy Box	Lubbock Christian University/School of Education	Edu. Prof.	
Mrs. Karen Marshall	Region 17 ESC	Math Spec.	
Mrs. Pam Harris	Pam Harris Consulting LLC	Math Spec.	

Project ITMS

Name	InstitutionName	Category	STEM?
Mrs. Kathy Hale	Region 14 ESC	Math Spec.	

ESC Region 18 Mathematics Collaborative_Midland

Name	InstitutionName	Category	STEM?
Mrs. Diane Utsman	Region 18 Educational Service Center	Math Spec.	
Dr. Warren Koepp	Univ. of Texas of the Permian Basin	Math Prof.	Yes
Mrs. Michelle Rinehart	Region 18 Educational Service Center	Math Spec.	
Ms. Debbie Bynum	Region 18 Educational Service Center	Math Spec.	
Dr. Juli Rathael	Univ. of Texas of the Permian Basin	Math Prof.	Yes
Dr. Angela Brown	Sul Ross State University	Math Prof.	Yes

ESC Region 19 Mathematics Collaborative_El Paso

Name	InstitutionName	Category	STEM?
Mrs. Alicia Torres	ESC Region 19	Other	
Dr. Olga Kosheleva	U. T. El Paso	Math Prof.	Yes
Mrs. Kathleen Garcia	El Paso ISD	Math Spec.	
Mrs. Veronica Hernandez	ESC Region 19	Other	
Ms. Margarita Gutierrez	Anthony ISD	K12/IHE/Admin/Staff	
Mrs. Gilma Smorado	ESC Region 19	Other	
Ms. Patricia Juarez	ESC Region 19	Other	
Ms. Yoscelina Hernandez	ESC Region 19	Other	

ESC Region 20 Mathematics Collaborative_San Antonio

Name	InstitutionName	Category	STEM?
Dr. Dan Dimitriu	San Antonio College	Eng. Prof.	Yes
Mr. Klaus Bartels	San Antonio College	Math Prof.	Yes

Name	InstitutionName	Category	STEM?
Ms. Analisa Garza	San Antonio College	Sci. Prof.	Yes
Ms. Tori Austin	ESC Region 20	K12/IHE/Admin/Staff	
Ms. Nancy Rodriguez	ESC Region 20	Science Spec.	
Mrs. Elaine Marschall	ESC Region 20	Math Spec.	
Mr. Mark Barnett	ESC Region 20	Science Spec.	
Mrs. Alma Perales	ESC Region 20	Math Spec.	
Ms. Sandy Botello	ESC Region 20	Science Spec.	
Mr. Adrian Collet	ESC Region 20	Other	
Ms. Peggy Carnahan	Our Lady of the Lake University	K12/IHE/Admin/Staff	
Mr. Joel Rodriguez	ESC Region 20 Mathematics Collaborative_San Antonio	Math Spec.	

ESC Region 01 Science Collaborative_Edinburg

Name	InstitutionName	Category	STEM?
Dr. Miguel Gonzalez	University of Texas Pan American	Eng. Prof.	Yes
Ms. Yuridia Patricia Gandy	Region One Education Service Center	Science Spec.	
Ms. Elda Christian	Region One Education Service Center	Science Spec.	
Mr. Efren Rodriguez	Region One Education Service Center	Science Spec.	
Mr. German Ramos	Region One Education Service Center (STEM)	Science Spec.	
Mr. Michael VanHee	Region One Education Service Center	Science Spec.	
Ms. Margaret Raleigh	Region One Education Service Center	Science Spec.	
Mr. Gustavo Perez	Region One Education Service Center (STEM)	Other	

Project ITMS

Name	InstitutionName	Category	STEM?
TAMU International Regional Science Collaborative_Laredo			
Dr. Daniel Mott	TAMIU	Sci. Prof.	Yes
Mrs. Monica Menchaca	United ISD	Science Spec.	
Mrs. Angie Alejo	United ISD	Science Spec.	
Mrs. Lucille Gonzalez	United ISD	Science Spec.	
Mrs. Claudia Palizo	United ISD	Science Spec.	
Mrs. Melissa Cigarroa	ISLA	Informal Sci. Edu.	
Mr. Peter Gonzalez	United ISD	Master Teacher	
ESC Region 04 Science Collaborative_Houston			
Dr. Nancy Moreno	Baylor College of Medicine	Sci. Prof.	Yes
Ms. Edrice Bell	Region 4 Education Service Center	Science Spec.	
Ms. Dodie Resendez	Region 4 Education Service Center	Science Spec.	
Mr. Thurman Nassoiy	Region 4 Education Service Center	Science Spec.	
Dr. Barbara Tharp	Baylor College of Medicine	Sci. Prof.	Yes
Ms. Jennifer Wellman	ESC Region 04 Science Collaborative_Houston	Science Spec.	
Galveston County Regional Science Collaborative			
Dr. Marguerite Sognier	University of Texas Medical Branch	Sci. Prof.	Yes
Ms. Nancy Schultz	Texas A & M University at Galveston	Master Teacher	
Dr. Michele Marquette	University of Texas Medical Branch	Sci. Prof.	Yes
Dr. Karen Matsler	University of Texas at Dallas	Sci. Prof.	Yes

Project ITMS

Name	InstitutionName	Category	STEM?
Dr. Teresa Talley	tktalley@utmb.edu	Edu. Prof.	
Ms. Alicia Simmons	University of Texas Medical Branch	K12/IHE/Admin/Staff	
Dr. Clifford Houston	University of Texas Medical Branch	Sci. Prof.	Yes

Lake Houston Regional Science Collaborative_Humble

Mr. Stanley Dodd	Rice University	Sci. Prof.	Yes
Ms. Patricia H. Reiff	Rice University	Sci. Prof.	Yes
Mrs. Amanda McGee	Lake Houston Science Collaborative / Humble ISD	Science Spec.	
Mrs. Whitney Dove	Lake Houston Science Collaborative / Humble ISD	Coach	
Mrs. Stephanie Ingle	Lake Houston Science Collaborative / Humble ISD	Sci.Teacher	
Mr. Tong Utakrit	Humble ISD	Other	

UHCL Regional Science Collaborative_Houston

Dr. Cindy Howard	UHCL, School of Science, Computer, and Engineering	Sci. Prof.	Yes
Dr. Jack Lu	UHCL, School of Science, Computer, and Engineering	Sci. Prof.	Yes
Dr. Brenda Weiser	UHCL, School of Education	Edu. Prof.	
Mrs. Angela Ruggeri	Pasadena ISD	Master Teacher	
Mr. Andre Evans	Houston ISD	Master Teacher	
Mrs Jill Brown	Clear Creek ISD	Master Teacher	
Mrs. Sarah Wall	Clear Creek ISD	Science Spec.	
Dr. David Garrison	UHCL, School of Science, Computer, and Engineering	Sci. Prof.	Yes

Project ITMS

Name	InstitutionName	Category	STEM?
Dr. Vanessa Dodo Seriki	UHCL, School of Education	Edu. Prof.	
Ms. Amy Phillips	Clear Creek ISD	Master Teacher	

ESC Region 05 Science Collaborative_Beaumont

Name	InstitutionName	Category	STEM?
Mrs. Roxanne Minix-Wilkins	Region 5 Education Service Center	Science Spec.	
Mr. Johnny Vines	Region 5 Education Service Center	Science Spec.	
Dr. James Westgate	Lamar University	Sci. Prof.	Yes
Dr. Dorothy Sisk	Lamar University	Edu. Prof.	
Dr. Michael Orrin Way	Texas A and M University Agriculture Research	Sci. Prof.	Yes
Mrs. D'Ann Douglas	Lamar University	K12/IHE/Admin/Staff	
Mrs. Leslie Dubey	Big Thicket National Preserve	Informal Sci. Edu.	
Dr. Victor Zaloom	LamarUniversity	Eng. Prof.	Yes

TAMU College Station Regional Science Collaborative

Name	InstitutionName	Category	STEM?
Dr. Timothy Scott	Texas A&M University Dept. of Biology	Sci. Prof.	Yes
Ms. Karen Killion	Blinn College	Sci. Prof.	Yes
Dr. Robert Moore	Mumford ISD	Master Teacher	
Ms. Debbie Walker	Montgomery ISD	Master Teacher	
Ms. Gloria Yoder	Academy ISD	Master Teacher	
Mr. Eric Eike	Bryan ISD	Master Teacher	
Dr. Carolyn Schroeder	Texas A&M University College of Science	Sci. Prof.	Yes

Name	InstitutionName	Category	STEM?
Dr. Mona Behl	TAMU College Station Regional Science Collaborative	Sci. Prof.	Yes

ESC Region 07 Science Collaborative_Kilgore

Name	InstitutionName	Category	STEM?
Dr. Thomas Callaway	Stephen F. Austin State University	Sci. Prof.	Yes
Dr. John T. Moore	Stephen F. Austin State University	Sci. Prof.	Yes
Ms. Judy Grubbs	Region 7 ESC	Science Spec.	
Mrs. Nancy Tevebaugh	Region 7 ESC	Science Spec.	
Ms. Reba Schumacher	Reba Schumacher and Associates Consulting	Coach	
Mrs. Linda Bruton	Independent Consultant	Math Spec.	
Mrs. Jane Silvey	Region 7 ESC	Math Spec.	
Mrs. Tera Collins	ESC Region 07 Science Collaborative_Kilgore	Science Spec.	

UT-Tyler Regional Science Collaborative

Name	InstitutionName	Category	STEM?
Dr. Fredericka Brown	University of Texas at Tyler	Eng. Prof.	Yes
Dr. Michael Odell	University of Texas at Tyler	Sci. Prof.	Yes
Dr. Teresa Kennedy	University of Texas at Tyler	Edu. Prof.	
Mr. Chris Rasure	University of Texas at Tyler	Master Teacher	
Ms. Kris Trampus	University of Texas at Tyler	Edu. Prof.	
Ms. Donna Wise	University of Texas at Tyler	Master Teacher	
Dr. Neil Gray	University of Texas at Tyler	Sci. Prof.	Yes
Dr. Kenn Heydrick	University of Texas at Tyler	Edu. Prof.	

Project ITMS

Name	InstitutionName	Category	STEM?
ESC Region 08 Science Collaborative_Mount Pleasant			
Dr. William Newton	Department of Physics and Astronomy, Texas A&M	Sci. Prof.	Yes
Dr. Brent Donham	Department of Engineering and Technology, Texas A&M	Eng. Prof.	Yes
Mrs. Lacy Robinson	Region 8 ESC	Science Spec.	
Mrs. Cheryl Allison	Region 8 ESC	Science Spec.	
Dr. Ben Doughty	ESC Region 08 Science Collaborative_Mount Pleasant	Sci. Prof.	Yes
ESC Region 09 Science Collaborative_Wichita Falls			
Dr. Sheldon Wang	Midwestern State University	Eng. Prof.	Yes
Dr. Rebecca Dodge	Midwestern State University	Sci. Prof.	Yes
Ms. Donna Brown	Burkburnett ISD	Sci.Teacher	
Ms. Lynn Seman	Kirby Middle School - Wichita Falls ISD	Sci.Teacher	
Ms. Melanie Beisch	Windthorst High School - Windthorst ISD	Sci.Teacher	
Ms. Rachael Phillips	Bowie High School - Bowie ISD	Sci.Teacher	
Ms. Cindy Dyes	Region 9 Education Service Center	Science Spec.	
ESC Region 10 Science Collaborative_Richardson			
Dr. Susan Reinke	Brookhaven College	Sci. Prof.	Yes
Dr. Karen Jo Matsler	University of Texas-Arlington	Sci. Prof.	Yes
Ms. Deborah Brendel	NTLB	Science Spec.	
Mrs. Doni Cash	Region 10 ESC	Science Spec.	
Mrs. Amber Jones	Region 10 ESC	Science Spec.	

Name	InstitutionName	Category	STEM?
Mrs. Bianca Coker	ESC Region 10 Science Collaborative_Richardson	Other	

UT-Dallas Regional Science Collaborative

Name	InstitutionName	Category	STEM?
Dr. Mary Urquhart	The University of Texas at Dallas	Sci. Prof.	Yes
Dr. Lynn Melton	The University of Texas at Dallas	Sci. Prof.	Yes
Ms. Barbara Curry	The University of Texas at Dallas	Edu. Prof.	
Ms. Felecia Pittman	The University of Texas at Dallas	Science Spec.	
Mr. Wes Baker	Clear Creek High School	Master Teacher	
Ms. Maysaa Enaya	The University of Texas at Dallas	Sci.Teacher	
Dr. Marc Hairston	The University of Texas at Dallas	Sci. Prof.	Yes
Dr. David Lary	The University of Texas at Dallas	Sci. Prof.	Yes
Dr. Stephanie Taylor	UT-Dallas Regional Science Collaborative	Sci. Prof.	Yes

ESC Region 11 Science Collaborative_Ft. Worth

Name	InstitutionName	Category	STEM?
Dr. Karen Jo Matsler	University of Texas at Arlington	Sci. Prof.	Yes
Mrs. Thais Mitchell	ESC Region XI	Science Spec.	
Ms. Cheryl Bowden	ESC Region XI	Science Spec.	
Mrs. Becky Yarbrough	ESC Region XI	Science Spec.	

UNT Regional Science Collaborative_Denton

Name	InstitutionName	Category	STEM?
Dr. James Roberts	roberts@unt.edu	Sci. Prof.	Yes
Dr. Betty Crocker	crocker@unt.edu	Edu. Prof.	
Dr. Sherrie Vandiiver	Irving ISD, Education Consultant	Other	

Name	InstitutionName	Category	STEM?
Mr. Daniel Holcomb	dholcomb@dentonisd.org	Informal Sci. Edu.	

ESC Region 12 Science Collaborative_Waco

Dr. David Jack	Baylor University	Eng. Prof.	Yes
Mrs. Prisscilla Fricke	ESC Region 12	Science Spec.	
Mrs. Jeanine Wolf	ESC Region 12	Science Spec.	
Ms. Lisa Benjamin	ESC Region 12	Science Spec.	

ESC Region 13 Science Collaborative_Austin

Ms. Antonia Chimonidou	UT Austin, Department of Physics	Sci. Prof.	Yes
Mr. Brian Anderson	currently independent	Other	
Mrs. Jennifer Jordan-Kaszuba	ESC Region 13	Science Spec.	
Mrs. Kristen Hillert	ESC Region 13	Science Spec.	
Ms. Terri Conrad	Georgetown ISD	Master Teacher	

ESC Region 14 Science Collaborative_Abilene

Dr. Jess Dowdy	Abilene Christian University	Sci. Prof.	Yes
Dr. Kim Pamplin	Abilene Christian University	Sci. Prof.	Yes
Dr. David Bixler	Angelo State University	Sci. Prof.	Yes
Dr. Stephen Rosscoe	Hardin-Simmons University	Sci. Prof.	Yes
Mr. Joel Brandt	McMurry University	Sci. Prof.	Yes
Mr. Zane Laws	Cisco College	Sci. Prof.	Yes

Project ITMS

Name	InstitutionName	Category	STEM?
ESC Region 16 Science Collaborative_Amarillo			
Mr. David Lamp	Texas Tech University	Sci. Prof.	Yes
Mrs. Michele McCurdy	Region 16 ESC	Science Spec.	
Mrs. Lola West	Region 16 ESC	Science Spec.	
Mrs. Cayla Cordell Cielencki	Amarillo ISD	K12/IHE/Admin/Staff	
Mr. Dale McCurdy	Amarillo College	Edu. Prof.	
ESC Region 17 Science Collaborative_Lubbock			
Dr. Michelle Pantoya	Texas Tech University	Eng. Prof.	Yes
Dr. David Lamp	Texas Tech University	Sci. Prof.	Yes
Mrs. Michelle Sedberry	Region 17 ESC	Science Spec.	
Mr. Chad Haskins	Lubbock ISD	Coach	
Mr. Mike Sizemore	Lubbock ISD	Science Spec.	
Mrs. Susan Talkmitt	Texas Tech University CISER	Tech. Prof.	Yes
Dr. Vanessa DeLeon	Texas Tech University Education Department	Edu. Prof.	
ESC Region 18 Science Collaborative_Midland			
Dr. David Lamp	Texas Tech University	Sci. Prof.	Yes
Dr. Paul Mangum	Midland College	Sci. Prof.	Yes
Mr. Richard Galle	Sibley Learning Center	Informal Sci. Edu.	
Mr. Michael Nickell	Sibley Learning Center	Informal Sci. Edu.	
Ms. Martha Alexander	Region 18 ESC	Science Spec.	

Name	InstitutionName	Category	STEM?
Ms. Adeliz Stiles	ESC Region 18 Science Collaborative_Midland	Science Spec.	

ESC Region 19 Science Collaborative_El Paso

Name	InstitutionName	Category	STEM?
Mrs. Lora Holt	Anthony ISD	Science Spec.	
Mrs. Yolanda G. Barkley	Ysleta ISD	Science Spec.	
Mrs. Elizabeth Keith	El Paso ISD	Science Spec.	
Ms. Suzanne M Mendoza	El Paso ISD	Science Spec.	
Mrs. Diane Eklund Perez	El Paso Water Utilities	Informal Sci. Edu.	
Mrs. Laura Ann Venegas	Ysleta ISD	Science Spec.	
Mrs. Marianne Arzadon Torales	Socorro ISD	Master Teacher	
Mrs. Claudia Tristan	Socorro ISD	Master Teacher	
Mrs. Mary Helen Cholka	Socorro ISD	Sci.Teacher	
Dr. Laura Serpa	University of Texas at El Paso	Sci. Prof.	Yes

ESC Region 20 Science Collaborative_San Antonio

Name	InstitutionName	Category	STEM?
Ms. Sandy Botello	ESC Region 20	Science Spec.	
Ms. Nancy Rodriguez	ESC Region 20	Science Spec.	
Mr. Mark Barnett	ESC Region 20	Science Spec.	
Ms. Peggy Carnahan	Our Lady of the Lake University	K12/IHE/Admin/Staff	
Ms. Alma Perelas	ESC Region 20	Math Spec.	
Mr. Richard Jenkins	ESC Region 20	Math Spec.	

Project ITMS

Name	InstitutionName	Category	STEM?
Ms. Elaine Marschall	ESC Region 20	Math Spec.	
Ms. Dawnlee Roberson	Al Phahelix Biometrics	Other	
Mr. Adrian Collett	ESC Region 20	Other	
Ms. Analisa Garza	Texas A&M University	Sci. Prof.	Yes
Mr. Klaus Bartels	San Antonio College Physics Engineer Dept.	Eng. Prof.	Yes
Mr. Dan Dimitri	San Antonio College of Physics Engineer Dept.	Eng. Prof.	Yes
Ms. Tori Austin	ESC Region 20	K12/IHE/Admin/Staff	
Mr. Eugene Jimenez	ESC Region 20 Science Collaborative_San Antonio	Science Spec.	
Dr. Darin Nutter	ESC Region 20 Science Collaborative_San Antonio	Eng. Prof.	Yes

OLLU Regional Science Collaborative_San Antonio

Name	InstitutionName	Category	STEM?
Ms. Peggy Carnahan	Our Lady of the Lake University	Sci. Prof.	Yes
Ms. Wanda Pagonis	Our Lady of the Lake University	Sci. Prof.	Yes
Dr. Teresita Munguia	Our Lady of the Lake University	Sci. Prof.	Yes
Dr. Robert Freed	Our Lady of the Lake University	Sci. Prof.	Yes
Dr. Dan Dimitriu	Our Lady of the Lake University	Sci. Prof.	Yes
Ms. Clarissa Ruiz	North East ISD	Master Teacher	
Mr. Paul Schmitchel	Stevens High School	Master Teacher	
Mr. Augustine Frkuska	Crestview Elm.	Science Spec.	
Mr. Kent Page	Carnahan Elm.	Science Spec.	

Project ITMS

Name	InstitutionName	Category	STEM?
Mr. Robert Burleson	Hatchett Elm.	Science Spec.	

ESC Region 01 Mathematics Collaborative_Edinburg

Name	InstitutionName	Category	STEM?
Dr. Miguel Gonzalez	University of Texas-Pan American	Eng. Prof.	Yes
Mr. Jose Franklin	Region One ESC	Math Spec.	
Mrs. Irma Moreno	Region One ESC	Math Spec.	
Mr. Jose Ramos	Region One ESC	Math Spec.	
Mr. Fernando Rosa	Region One ESC	Math Spec.	
Ms. Gerbie Rodriguez	Region One ESC	Math Spec.	
Mr. Michael Sweet	ESC Region 01 Mathematics Collaborative_Edinburg	Math Teacher	
Mrs. Elvira Guerra	ESC Region 01 Mathematics Collaborative_Edinburg	Math Teacher	
Mrs. Juana Martinez	ESC Region 01 Mathematics Collaborative_Edinburg	Math Teacher	

UT-Brownsville Regional Mathematics Collaborative

Name	InstitutionName	Category	STEM?
Dr. Immanuel Edinbarough	The University of Texas at Brownsville	Math Prof.	Yes
Dr. James Telese	The University of Texas at Brownsville	Edu. Prof.	
Mr. Benjamin Avalos	Brownsville Independent School District	Math Spec.	
Ms. Patricia Vanderpool	San Benito Consolidated Independent School District	Math Spec.	
Mr. Mario Aguilar	Brownsville Independent School District	Master Teacher	
Ms. Florence Ayma	Brownsville Independent School District	Master Teacher	
Ms. Sandra Cerda	Weslaco Independent School District	Master Teacher	

Name	InstitutionName	Category	STEM?
Ms. Beatrice Martinez	Lyford Consolidated Independent School District	Master Teacher	

ESC Region 09 Mathematics Collaborative_Wichita Falls

Name	InstitutionName	Category	STEM?
Mr. Sheldon Wang	Midwestern State University	Eng. Prof.	Yes
Ms. Sheri Booker	Burkburnett ISD	Master Teacher	
Ms. Linda Borchardt	Vernon ISD	Master Teacher	
Ms. Taleigha Murray	Iowa Park ISD	Master Teacher	
Mr. Lee Seman	Burkburnett ISD	Master Teacher	
Ms. Diane Hubbard	Region 9 ESC	Math Spec.	
Ms. Sherri Lane	Region 9 ESC	Math Spec.	
Mr. Ward Roberts	Wichita Falls ISD	Math Spec.	

ESC Region 08 Mathematics Collaborative_Mount Pleasant

Name	InstitutionName	Category	STEM?
Mrs. Kay Stickels	Region 8 Education Service Center	Math Spec.	
Mrs. Lisa Ellermann	Region 8 Education Service Center	Math Spec.	
Mrs. Jamie Ashby	Texarkana College	Math Prof.	Yes
Ms. Ronda Jameson	Texas A&M University - Texarkana	Math Prof.	Yes

ESC Region 12 Mathematics Collaborative_Waco

Name	InstitutionName	Category	STEM?
Dr. David Jack	Baylor University, College of Engineering	Eng. Prof.	Yes
Mrs. Becky Ralston	Education Service Center Region 12	Math Spec.	
Mrs. Kristin Arterbury	Education Service Center Region 12	Math Spec.	
Mr. BJ Williams	Education Service Center Region 12	Math Spec.	

Project ITMS

Name	InstitutionName	Category	STEM?
Mr. Jared Disher	Education Service Center Region 12	Math Spec.	
Mr. Mark Pietka	Education Service Center Region 12	Math Spec.	

ESC Region 13 Mathematics Collaborative_Austin

Mrs. Susan Hemphill	Region13 ESC	Math Spec.	
Mr. Fredric Noriega	Region 13 ESC	Math Spec.	
Dr. Mark Daniels	University of Texas Austin	Math Prof.	Yes

NCTC Regional Science Collaborative_Gainesville

Dr. Lisa Bellows	North Central Texas College	Sci. Prof.	Yes
Ms. Sara Flusche	North Central Texas College	Edu. Prof.	
Ms. Jamie Noles	North Central Texas College	Sci. Prof.	Yes
Ms. Leann Spears	Era ISD	K12/IHE/Admin/Staff	

ESC Region 15 Mathematics Collaborative_San Angelo

Dr. Gary Harris	Texas Tech University	Math Prof.	Yes
Dr. Paul Swets	Angelo State University	Math Prof.	Yes
Mrs. Leslie Martin	Education Service Center Region 15	Math Spec.	
Mr. Richard Roper	Education Service Center Region 15	Math Spec.	
Ms. Mandy Smetana	Education Service Center Region 15	Math Spec.	

ESC Region 10 Mathematics Collaborative_Richardson

Mrs. Debbie Dethrage	Region 10 Education Service Center	Math Spec.	
Mrs. Beth Loughry	Region 10 Education Service Center	Math Spec.	

Name	InstitutionName	Category	STEM?
Dr. Pamela Webster	Texas A&M University Commerce	Math Prof.	Yes
Mrs. Bianca Coker	Region 10 Education Service Center	Math Spec.	
Mrs. Carrie Saunders	Region 10 Education Service Center	Math Spec.	
Mrs. Melissa Bennett	Region 10 Education Service Center	Math Spec.	
Mrs. Nicole Andrews	Region 10 Education Service Center	Math Spec.	
Ms. Brittany Goering	ESC Region 10 Mathematics Collaborative_Richardson	Math Spec.	
Mrs. Deborah Biehahn	ESC Region 10 Mathematics Collaborative_Richardson	Math Spec.	

Lake Houston Regional Mathematics Collaborative_Humble

Name	InstitutionName	Category	STEM?
Mrs. Diana Bauer	Humble ISD	Other	
Mrs. Mellissa Burkhead	Rice University	Math Prof.	Yes
Dr. Mark Embree	Rice University	Math Prof.	Yes
Mrs. Linda Hall	Rice University	Math Prof.	Yes
Mrs. Susanna Campbell	Lake Houston Regional Mathematics	Math Spec.	
Ms. Shontel Newsome	Lake Houston Regional Mathematics	Math Spec.	

ESC Region 02 Mathematics Collaborative_Corpus Christi

Name	InstitutionName	Category	STEM?
Mr. Richard Rupp	Del Mar College	Math Prof.	Yes
Mrs. Christine Robson	ESC, Region 2	Math Spec.	
Mrs. Holli Horton	ESC, Region 2	Math Spec.	
Mrs. Toni Norrell	ESC, Region 2	Math Spec.	

Name	InstitutionName	Category	STEM?
Mrs. Molly Argo	ESC, Region 2	Math Spec.	
Mrs. Gaye Glenn	Outside consultant	Math Spec.	
Dr. Sheryl Roehl	Outside consultant	Math Spec.	
Ms. Melissa Kulchak	Outside consultant	Math Spec.	
Mrs. Patricia Callaway	ESC, Region 2	Math Spec.	

ESC Region 04 Mathematics Collaborative_Houston

Name	InstitutionName	Category	STEM?
Dr. Jeffrey Morgan	University of Houston - College of Natural Sciences and Mathematics	Math Prof.	Yes
Dr. Sharon Benson	Region 4 ESC	Math Spec.	
Mrs. Yvette Henry	Region 4 ESC	Math Spec.	
Ms. Kim Seymour	Region 4 ESC	Math Spec.	
Mrs. Sana Brennan	Region 4 ESC	Math Spec.	
Mrs. RaMona Riggs	ESC Region 04 Mathematics Collaborative_Houston	Math Spec.	
Mrs. Shannon Alba	ESC Region 04 Mathematics Collaborative_Houston	Math Spec.	

ESC Region 05 Mathematics Collaborative_Beaumont

Name	InstitutionName	Category	STEM?
Dr. Jennifer Daniel	Lamar University Beaumont	Math Prof.	Yes
Dr. P.J. Couch	Lamar University Beaumont	Math Prof.	Yes
Mrs. Janna Smith	Region 5 ESC	Math Spec.	
Ms. Kay Olds	Region 5 ESC	Math Spec.	
Mr. Ricky Ryan	Little Cypress Mauriceville CISD	Master Teacher	

Name	InstitutionName	Category	STEM?
Mrs. Sharon Kruger	Region 5 ESC	Math Spec.	
Mrs. Michelle Seaman	Independent Consultant	Master Teacher	
Ms. Amy Craig	West Orange - Cove CISD	Master Teacher	
Ms. Noelle Jordan	Shangri La	Other	
Ms. Christie LeFleur	McGraw-Hill	Other	
Ms. April Petitt	ESC Region 05 Mathematics Collaborative_Beaumont	Other	
Dr. Harley Myler	Lamar University_Beaumont	Eng. Prof.	Yes
Dr. Weihang Zhu	Lamar University_Beaumont	Eng. Prof.	Yes
Dr. Nicholas Brake	Lamar University_Beaumont	Eng. Prof.	Yes
Mr. Philip Drayer	Lamar University_Beaumont	Eng. Prof.	Yes

ESC Region 06 Mathematics Collaborative_Huntsville

Name	InstitutionName	Category	STEM?
Dr. Mary Swarthout	Sam Houston State University	Math Prof.	Yes
Dr. Max Coleman	Sam Houston State University	Math Prof.	Yes
Dr. Beth Cory	Sam Houston State University	Math Prof.	Yes
Dr. Valerie Sharon	Sam Houston State University	Math Prof.	Yes
Ms. Susan Bohan	Education Service Center, Region 6	Math Spec.	
Ms. Lydia Klespis	Education Service Center, Region 6	Math Spec.	
Ms. Brittany Goerig	Midlothian ISD	Master Teacher	
Ms. Caroline Hermann	College Station ISD	Master Teacher	

Name	InstitutionName	Category	STEM?
Ms. Kim Smith	Onalaska ISD	Master Teacher	
Ms. Tiffany Bird	Willis ISD	Master Teacher	
Ms. Emily Williamson	ESC Region 06 Mathematics Collaborative_Huntsville	Math Spec.	
Dr. Dusty Jones	ESC Region 06 Mathematics Collaborative_Huntsville	Math Prof.	Yes
ESC Region 07 Mathematics Collaborative_Kilgore			
Dr. Lesa Beverly	Stephen S. Austin State University	Math Prof.	Yes
Dr. Jane Long	Stephen S. Austin State University	Math Prof.	Yes
Dr. Sarah Stovall	Stephen S. Austin State University	Math Prof.	Yes
Mrs. Linda Bruton	Independent Consultant	Math Spec.	
Ms. Reba SchumacMs.her	Reba Schumacher and Associates Consulting	Coach	
Mrs. Leesa Green	Region 7 ESC	Math Spec.	
Mrs. Delinda Wall	Region 7 ESC	Math Spec.	
Mrs. Jane Silvey	Region 7 ESC	Math Spec.	
UT-Tyler Regional Mathematics Collaborative			
Mrs. Cynthia Sherman	University of Texas at Tyler	Edu. Prof.	
Dr. Nathan Smith	University of Texas at Tyler	Math Prof.	Yes
UT-Brownsville Regional Science Collaborative			
Dr. Phillip Dukes	The University of Texas at Brownsville	Sci. Prof.	Yes
Dr. Reynaldo Ramirez	The University of Texas at Brownsville	Edu. Prof.	
Dr. Gregorio Garcia	The University of Texas at Brownsville	Edu. Prof.	

Project ITMS

Name	InstitutionName	Category	STEM?
Mr. Emilio Barrientos	Brownsville Independent School District	Master Teacher	
Ms. Priscilla Rangel	IDEA Public Schools	Master Teacher	
Mr. Hector Contreras	Rivera High School, Brownsville ISD	Master Teacher	
Ms. Yvette Olvera	Las Yescas Elementary, Los Fresnos CISD	Master Teacher	
ESC Region 03 Science Collaborative_Victoria			
Dr. Karen Jo Matsler	University of Texas at Arlington	Sci. Prof.	Yes
Ms. Francye Hutchins	Texas Mining and Reclamation Association	Informal Sci. Edu.	
Mrs. Leila Cubriel	ESC Region 03 Science Collaborative_Victoria	Science Spec.	
Dr. Sheryl Roehl	ESC Region 03 Science Collaborative_Victoria	Science Spec.	
Dr. Tom Hsu	ESC Region 03 Science Collaborative_Victoria	Sci. Prof.	Yes
ESC Region 03 Mathematics Collaborative_Victoria			
Dr. Li Chao	University of Houston-Victoria	Math Prof.	Yes
Dr. Richardo Teixeira	University of Houston-Victoria	Math Prof.	Yes
Mrs. Pamela Yosko	Region 3 Education Service Center	Math Spec.	
Mrs. Debbie Humphreys	Region 3 Education Service Center	Math Spec.	
Mrs. Leila Cubriel	Region 3 Education Service Center	Math Spec.	
Mrs. Cindy Marshall	Region 3 Education Service Center	Math Spec.	
Dr. Jann-Woo Park	ESC Region 03 Mathematics Collaborative_Victoria	Math Prof.	Yes
Rice Regional Science Collaborative_Houston			
Dr. Carolyn Nichol	Rice University	Sci. Prof.	Yes

Project ITMS

Name	InstitutionName	Category	STEM?
Dr. Linda Scott	Rice University	Master Teacher	
Mr. Matthew Cushing	Rice University	Master Teacher	
Ms. Ericka Lawton	Rice University	Master Teacher	
Mrs. Amber Szymczyk	Rice University	Master Teacher	
Mrs. Gigi Nevils-Noe	Rice University	Master Teacher	
Dr. David Alexander	Rice University	Sci. Prof.	Yes
Dr. Daniel Mittleman	Rice University	Eng. Prof.	Yes
Dr. John Hutchinson	RIce University	Sci. Prof.	Yes
Dr. Kenton Whitmire	Rice University	Sci. Prof.	Yes
Dr. Daniel Cohan	Rice University	Eng. Prof.	Yes
Dr. Jason Hafner	Rice University	Sci. Prof.	Yes
Dr. Patricia Reiff	Rice University	Sci. Prof.	Yes
Mrs. Vicki Pillow	Rice Regional Science Collaborative_Houston	Master Teacher	
Dr. Karen Matsler	EAT INC/ UTA/Dallas Baptist Univeristy	Sci. Prof.	Yes
Dr. Simon Dalley	SMU	Sci. Prof.	Yes

Texas State Aquarium Regional Science Collaborative

Name	InstitutionName	Category	STEM?
Dr. Sheryl Roehl	Texas State Aquarium	Science Spec.	
Dr. Karen Jo Matsler	University of Texas at Arlington	Sci. Prof.	Yes

Name	InstitutionName	Category	STEM?
Ms. Robin Ford	Region 2 Education Service Center	Science Spec.	
Ms. Francye Hutchins	Texas Mining and Reclamation Association	Other	
Dr. Tom Hsu	Texas State Aquarium Regional Science Collaborative	Sci. Prof.	Yes

University of Houston Regional Science Collaborative

Name	InstitutionName	Category	STEM?
Mr. Terry White	University of Houston	Master Teacher	
Ms. Pamela Vreeland	Alvin ISD	Science Spec.	
Mrs. Janelle Ranford	Fort Bend ISD	Master Teacher	
Dr. Margaret Cheung	University of Houston	Sci. Prof.	Yes
Dr. Simon Bott	University of Houston	Sci. Prof.	Yes
Dr. Edgar Bering	University of Houston	Sci. Prof.	Yes
Dr. Rebecca Forrest	University of Houston	Sci. Prof.	Yes
Dr. Wallace Dominey	University of Houston	Edu. Prof.	
Mr. Andrew Kapral	University of Houston	Master Teacher	
Dr. John Ramsey	University of Houston	Edu. Prof.	

UTeach Primary Regional Science Collaborative

Name	InstitutionName	Category	STEM?
Dr. Antonia Chimonidou	UT Austin	Sci. Prof.	Yes
Dr. Mark Baumann	UT Austin	Sci. Prof.	Yes
Dr. Alex Barr	UT Austin	Sci. Prof.	Yes
Dr. Dennis Dunn	UT Austin	Sci. Prof.	Yes

Project ITMS

Name	InstitutionName	Category	STEM?
Dr. Randi Ludwig	UT Austin	Sci. Prof.	Yes

ESC Region 06 Science Collaborative_Huntsville

Name	InstitutionName	Category	STEM?
Dr. Renee James	Sam Houston State University	Sci. Prof.	Yes
Ms. Kathryn Narragon	Corrigan-Camden ISD	Sci.Teacher	
Ms. Melissa McCracken	ESC Region 06 Science Collaborative_Huntsville	Other	
Dr. Joan Hudson	ESC Region 06 Science Collaborative_Huntsville	Sci. Prof.	Yes
Dr. Andrea Foster	ESC Region 06 Science Collaborative_Huntsville	Sci. Prof.	Yes
Dr. Scott Miller	ESC Region 06 Science Collaborative_Huntsville	Sci. Prof.	Yes
Dr. Christina White	The University of Texas at Austin, Cockrell School of	K12/IHE/Admin/Staff	
Dr. Richard Crawford	The University of Texas at Austin, Cockrell School of	Eng. Prof.	Yes
Dr. Anthony Petrosino	The University of Texas, College of Education	Edu. Prof.	
Ms. Julianne Webb	The University of Texas at Austin, Cockrell School of	Science Spec.	
Ms. Cecilia Corral	The University of Texas at Austin, Cockrell School of	Other	
Dr. Bob Metcalfe	The University of Texas at Austin, Cockrell School of	Eng. Prof.	Yes
Ms. Peggy Carnahan	Our Lady of the Lake University	Sci. Prof.	Yes
Dr. Alfredo Vaquiax-Alvarado	Our Lady of the Lake University	Math Prof.	Yes
Dr. Sheryl Roehl	Retired Math Instructor/ TRC Director	Math Prof.	Yes
Dr. Jerrie Jackson	Our Lady of the Lake University	Edu. Prof.	

Name	InstitutionName	Category	STEM?
Dr. George Williams	Our Lady of the Lake University	Edu. Prof.	
Mr. Augustine Frkuska	Crestview Elm.	Science Spec.	

APPENDIX B

Project Measures by Collaborative

TRC COMPREHENSIVE PROJECT MEASURES REPORT BY PROJECT

	Participants — CT — Mentors — HRS				Participants — CT — Cadres — HRS				Immersion			Budget				Mentor Assessment Report			Events	
	SOW Target / Actual Ct.	%Complete Secondary Actual %	SOW Target / Avg Actual	%Complete	SOW Target / Actual Ct.	%Complete	SOW Target / Avg Actual	%Complete IM Avg Hrs	SOW Teachers / Actual Teachers	SOW Schools / #Active Schools	#STAAR	Awarded Amount	Amt. Invoiced	Amt Remaining	% Spent*	#Mentors SOW	#Mentors with PostTest Scores	%Complete PostTest Scores	Ready Events Hours / Scheduled Events Hours	Report Ready % Hours / Stem Ct

Math

Project / Name	Mentors CT	%Comp Sec	Mentors HRS	%Comp	Cadres CT	%Comp	Cadres HRS	%Comp IM	SOW/Act Teachers	SOW/Active Schools	#STAAR	Awarded	Invoiced	Remaining	%Spent	#Mentors SOW	#Mentors PostTest	%Comp PostTest	Ready/Sched Hrs	RptRdy%/Stem
ESC01MATH GERBIE RODRIGUEZ	35 / 34	97% / 100%	100 / 124	124%	80 / 122	153%	12 / 13	112% / 29	30 / 30	8 / 8	8	$159,000 / $159,000	$0	100%	35	32	91.43%	176 / 176	100% / 2
ESC02MATH HOLLI HORTON	32 / 33	103% / 157%	100 / 117	117%	92 / 305	332%	12 / 15	124% / 25	19 / 19	5 / 5	5	$140,300 / $140,300	$0	100%	32	33	103.13%	477 / 477	100% / 3
ESC03MATH PAM YOSKO	40 / 41	103% / 103%	100 / 115	115%	94 / 156	166%	12 / 17	139% / 24	25 / 25	8 / 8	8	$184,000 / $184,000	$0	100%	40	40	100.00%	275 / 275	100% / 2
ESC04MATH SANA BRENNAN	45 / 53	118% / 120%	100 / 107	107%	110 / 296	269%	12 / 20	170% / 44	38 / 38	8 / 8	8	$184,000 / $184,000	$0	100%	45	50	111.11%	417 / 417	100% / 1
ESC05MATH KAY OLDS	40 / 41	103% / 133%	100 / 106	106%	78 / 81	104%	12 / 14	120% / 27	18 / 18	9 / 9	9	$160,000 / $160,000	$0	100%	40	37	92.50%	250 / 250	100% / 5
ESC06MATH SUSAN BOHAN	35 / 35	100% / 92%	100 / 109	109%	101 / 300	297%	12 / 15	128% / 18	7 / 7	5 / 5	5	$150,000 / $150,000	$0	100%	35	35	100.00%	520 / 520	100% / 18
ESC07MATH LEESA GREEN	40 / 47	118% / 108%	100 / 117	117%	110 / 130	118%	12 / 13	106% / 27	13 / 13	5 / 5	5	$211,255 / $211,255	$0	100%	40	47	117.50%	328 / 328	100% / 4
ESC08MATH KAY STICKELS	31 / 32	103% / 107%	100 / 122	122%	39 / 65	167%	12 / 24	204% / 24	26 / 29	7 / 7	0	$128,575 / $128,575	$0	100%	31	32	103.23%	98 / 98	100% / 6
ESC09MATH DIANE HUBBARD	20 / 21	105% / 100%	100 / 118	118%	56 / 75	134%	12 / 26	214% / 35	10 / 10	5 / 5	5	$86,000 / $86,000	$0	100%	20	21	105.00%	309 / 309	100% / 2
ESC10MATH BIANCA COKER	30 / 30	100% / 100%	100 / 107	107%	95 / 100	105%	12 / 16	133% / 24	20 / 45	6 / 6	6	$140,000 / $140,000	$0	100%	30	30	100.00%	306 / 306	100% / 1
ESC11MATH FAITH SCHWOPE	33 / 34	103% / 85%	100 / 110	110%	93 / 158	170%	12 / 12	101% / ?	8 / 8	5 / 5	5	$150,000 / $147,801	$2,199	99%	33	34	103.03%	160 / 160	100% / 2
ESC12MATH BECKY RALSTON	46 / 49	107% / 102%	100 / 108	108%	40 / 110	275%	12 / 21	174% / 28	12 / 12	7 / 7	7	$184,000 / $184,000	$0	100%	46	49	106.52%	358 / 364	98% / 2
ESC13MATH SUSAN HEMPHILL	41 / 46	112% / 105%	100 / 106	106%	70 / 148	211%	12 / 19	161% / 20	99 / 96	10 / 26	10	$175,400 / $175,400	$0	100%	41	32	78.05%	524 / 574	91% / 2
ESC14MATH JOHN LALLY	30 / 31	103% / 100%	100 / 109	109%	90 / 235	261%	12 / 13	108% / ?	6 / 6	6 / 6	0	$138,000 / $138,000	$0	100%	30	31	103.33%	381 / 381	100% / 1
ESC15MATH LESLIE MARTIN	40 / 40	100% / 89%	100 / 111	111%	120 / 120	100%	12 / 19	159% / ?	5 / 5	5 / 5	5	$172,000 / $172,000	$0	100%	40	40	100.00%	474 / 474	100% / 4
ESC16MATH BRENDA FOSTER	25 / 28	112% / 114%	100 / 116	116%	75 / 102	136%	12 / 15	127% / 32	12 / 12	5 / 5	5	$115,000 / $115,000	$0	100%	25	28	112.00%	494 / 505	98% / 4
ESC17MATH KRISTIN WHITTENBURG	33 / 35	106% / 56%	100 / 116	116%	89 / 128	144%	12 / 12	102% / 30	6 / 6	5 / 5	5	$149,000 / $149,000	$0	100%	33	35	106.06%	427 / 493	87% / 4
ESC18MATH DIANE UTSMAN	40 / 42	105% / 100%	100 / 110	110%	112 / 147	131%	12 / 13	111% / 30	9 / 9	5 / 5	5	$172,000 / $172,000	$0	100%	40	41	102.50%	606 / 606	100% / 2
ESC19MATH VERONICA HERNANDEZ	22 / 25	114% / 65%	100 / 108	108%	50 / 51	102%	12 / 26	213% / 17	17 / 17	8 / 8	8	$100,250 / $100,250	$0	100%	22	20	90.91%	159 / 159	100% / 1
ESC20MATH ELAINE MARSCHALL	25 / 26	104% / 100%	100 / 115	115%	60 / 104	173%	12 / 20	163% / 33	24 / 24	5 / 5	5	$114,996 / $114,996	$0	100%	25	24	96.00%	465 / 465	100% / 4
LAKEHOUSTONMATH MELISSA CHRISTENSEN	25 / 26	104% / 104%	100 / 120	120%	60 / 81	135%	12 / 16	135% / 24	21 / 20	5 / 5	5	$115,000 / $114,045	$955	99%	25	26	104.00%	113 / 120	94% / 2

Project / Name	CT SOW Target / Actual Ct.	%Complete Secondary Actual %	Mentors HRS SOW Target / Avg Actual	%Complete	Cadres CT SOW Target / Actual Ct.	%Complete	Cadres HRS SOW Target / Avg Actual	%Complete IM Avg Hrs	SOW Teachers / Actual Teachers	SOW Schools / #Active Schools	#STAAR	Awarded Amount	Amt. Invoiced	Amt Remaining	% Spent*	#Mentors SOW	#Mentors with PostTest Scores	%Complete PostTest Scores	Ready Events Hours / Scheduled Events Hours	Report Ready % Hours / Stem Ct
NCTCMATH SARA FLUSCHE	28	111%	100	114%	59	153%	12	130%	11	6	6	$111,297	$111,297	$0	100%	28	31	110.71%	168	100%
	31	160%	114		90		16	27	11	6									168	13
UTBROWNSMATH JAMES TELESE	20	85%	100	126%	39	131%	12	137%	20	5	5	$92,000	$91,991	$9	100%	20	16	80.00%	154	100%
	17	75%	126		51		16	24	20	5									154	11
UTTYLERMATH CINDY SHERMAN	40	100%	100	121%	80	138%	12	126%	25	8	8	$160,013	$160,013	$0	100%	40	40	100.00%	170	100%
	40	74%	121		110		15	28	25	8									170	10

Science

Project / Name	CT SOW Target / Actual Ct.	%Complete Secondary Actual %	Mentors HRS SOW Target / Avg Actual	%Complete	Cadres CT SOW Target / Actual Ct.	%Complete	Cadres HRS SOW Target / Avg Actual	%Complete IM Avg Hrs	SOW Teachers / Actual Teachers	SOW Schools / #Active Schools	#STAAR	Awarded Amount	Amt. Invoiced	Amt Remaining	% Spent*	#Mentors SOW	#Mentors with PostTest Scores	%Complete PostTest Scores	Ready Events Hours / Scheduled Events Hours	Report Ready % Hours / Stem Ct
ESC01SCIENCE YURIDIA GANDY	40	100%	100	123%	108	138%	12	109%	24	9	9	$182,500	$182,500	$0	100%	40	39	97.50%	222	100%
	40	100%	123		149		13	32	24	9									222	2
ESC03SCIENCE SHERYL ROEHL	22	105%	100	111%	65	172%	12	113%	7	6	6	$110,000	$110,000	$0	100%	22	23	104.55%	187	100%
	23	105%	111		112		14	?	7	6									187	3
ESC04SCIENCE EDRICE BELL	30	123%	100	124%	83	225%	12	115%	13	5	5	$138,000	$138,000	$0	100%	30	35	116.67%	242	100%
	37	103%	124		187		14	33	13	5									242	3
ESC05SCIENCE ROXANNE MINIX-WILKINS	40	100%	100	150%	120	122%	12	189%	14	7	7	$184,000	$184,000	$0	100%	40	40	100.00%	557	91%
	40	88%	150		146		23	50	14	7									614	7
ESC06SCIENCE SUSAN BOHAN	25	104%	100	100%	73	105%	12	73%	9	5	5	$115,000	$115,000	$0	100%	25	24	96.00%	233	100%
	26	105%	100		77		9	12	9	5									233	3
ESC07SCIENCE JUDY GRUBBS	40	113%	100	115%	107	110%	12	144%	20	6	6	$206,795	$206,795	$0	100%	40	45	112.50%	339	98%
	45	113%	115		118		17	31	20	6									345	4
ESC08SCIENCE LACY ROBINSON	38	100%	100	101%	110	143%	12	97%	10	6	6	$168,309	$168,279	$30	100%	38	33	86.84%	188	91%
	38	88%	101		157		12	22	11	6									206	3
ESC09SCIENCE CYNTHIA DYES	25	104%	100	126%	70	109%	12	198%	9	5	5	$115,000	$115,000	$0	100%	25	26	104.00%	428	100%
	26	105%	126		76		24	27	9	5									428	5
ESC10SCIENCE DONI CASH	30	100%	100	122%	75	125%	12	140%	18	5	5	$128,400	$128,400	$0	100%	30	30	100.00%	1025	99%
	30	80%	122		94		17	35	18	5									1031	2
ESC11SCIENCE BECKY YARBROUGH	33	97%	100	95%	89	102%	12	148%	10	5	5	$150,000	$148,939	$1,061	99%	33	21	63.64%	151	100%
	32	73%	95		91		18	23	11	5									151	5
ESC12SCIENCE PRISSCILLA FRICKE	46	100%	100	109%	42	164%	12	171%	11	7	7	$184,000	$184,000	$0	100%	46	46	100.00%	302	91%
	46	93%	109		69		21	53	11	7									332	1
ESC13SCIENCE JENNIFER JORDAN-KASZUBA	40	110%	100	119%	49	347%	12	215%	33	10	10	$184,000	$184,000	$0	100%	40	42	105.00%	738	100%
	44	105%	119		170		26	29	33	10									738	6
ESC14SCIENCE SHAWN SCHLUETER	39	100%	100	101%	117	153%	12	147%	6	6	6	$179,400	$179,400	$0	100%	39	33	84.62%	454	95%
	39	88%	101		179		18	?	6	6									476	7
ESC15SCIENCE BETH LEHMANN	35	100%	100	128%	103	106%	12	198%	10	5	5	$166,748	$166,748	$0	100%	35	35	100.00%	206	100%
	35	89%	128		109		24	33	10	5									206	4
ESC16SCIENCE MICHELE MCCURDY	30	103%	100	101%	86	192%	12	139%	11	6	6	$138,000	$138,000	$0	100%	30	30	100.00%	247	100%
	31	112%	101		165		17	31	11	6									247	1
ESC17SCIENCE MICHELLE SEDBERRY	40	100%	100	117%	102	115%	12	129%	6	5	5	$163,585	$163,585	$0	100%	40	40	100.00%	588	99%
	40	91%	117		117		16	29	6	5									594	16
ESC18SCIENCE SANDRA CASIMIR	37	103%	100	104%	130	155%	12	137%	14	5	5	$164,800	$164,800	$0	100%	37	34	91.89%	389	100%
	38	113%	104		202		16	22	14	5									389	5
ESC19SCIENCE CARMEN IMAI	22	123%	100	118%	56	134%	12	125%	16	5	5	$100,000	$100,000	$0	100%	22	21	95.45%	179	100%
	27	78%	118		75		15	22	16	5									179	12

Project / Name	Mentors CT (SOW Target / Actual Ct.)	Mentors %Complete Secondary Actual %	Mentors HRS (SOW Target / Avg Actual)	Mentors HRS %Complete	Cadres CT (SOW Target / Actual Ct.)	Cadres %Complete	Cadres HRS (SOW Target / Avg Actual)	Cadres IM Avg Hrs %Complete	Immersion SOW Teachers / Actual Teachers	SOW Schools / #Active Schools	#STAAR	Awarded Amount	Amt. Invoiced	Amt Remaining	% Spent*	#Mentors SOW	#Mentors with PostTest Scores	%Complete PostTest Scores	Ready Events Hours / Scheduled Events Hours	Report Ready % Hours / Stem Ct
ESC20SCIENCE NANCY RODRIGUEZ	25 / 25	100% / 100%	100 / 111	111%	60 / 93	155%	12 / 16	131% / 25	11 / 11	5 / 5	5	$114,996	$114,707	$289	100%	25	25	100.00%	415 / 415	100% / 3
GALVESTONSCIENCE MARGUERITE SOGNIER	28 / 29	104% / 79%	100 / 130	130%	82 / 97	118%	12 / 16	134% / 39	8 / 8	5 / 5	5	$119,876	$119,876	$0	100%	28	29	103.57%	451 / 451	100% / 21
LAKEHOUSTONSCIENCE LISA MCCORQUODALE	21 / 21	100% / 100%	100 / 100	100%	58 / 86	148%	12 / 16	134% / 28	12 / 12	5 / 5	5	$100,000	$99,944	$56	100%	21	19	90.48%	112 / 119	94% / 2
NCTCSCIENCE SARA FLUSCHE	35 / 36	103% / 105%	100 / 122	122%	73 / 107	147%	12 / 18	152% / 44	9 / 9	8 / 8	8	$268,854	$268,854	$0	100%	35	36	102.86%	340 / 340	100% / 25
OLLUSCIENCE PEGGY CARNAHAN	40 / 78	195% / 171%	100 / 141	141%	71 / 92	130%	12 / 24	201% / 24	61 / 71	17 / 17	12	$170,000	$169,614	$386	100%	40	41	102.50%	526 / 526	100% / 14
RICESCIENCE CAROLYN NICHOL	37 / 75	203% / ?	100 / 103	103%	93 / 163	175%	12 / 16	136% / 25	36 / 36	7 / 7	7	$185,001	$185,000	$1	100%	37	75	202.70%	211 / 211	100% / 2
TAMUCSSCIENCE CAROLYN SCHROEDER	35 / 36	103% / 86%	100 / 112	112%	75 / 183	244%	12 / 13	110% / 30	11 / 11	5 / 5	5	$159,915	$156,198	$3,717	98%	35	35	100.00%	292 / 324	90% / 33
TAMUISCIENCE IDANIA DOMINGUEZ	35 / 35	100% / 76%	100 / 106	106%	89 / 104	117%	12 / 18	149% / 25	26 / 26	5 / 5	5	$150,000	$149,070	$930	99%	35	34	97.14%	157 / 157	100% / 1
TSASCIENCE SHERYL ROEHL	40 / 42	105% / 98%	100 / 104	104%	118 / 132	112%	12 / 30	249% / ?	8 / 8	6 / 6	6	$184,000	$184,000	$0	100%	40	42	105.00%	292 / 292	100% / 2
UNCLSCIENCE VANESSA SERIKI	25 / 25	100% / 50%	100 / 96	96%	37 / 130	351%	12 / 16	134% / 18	35 / 35	7 / 7	7	$98,926	$93,706	$5,220	95%	25	20	80.00%	238 / 238	100% / 2
UHOUSTONSCIENCE WALLACE DOMINEY	40 / 46	115% / 125%	100 / 120	120%	67 / 109	163%	12 / 29	238% / 31	47 / 47	8 / 8	8	$141,900	$141,900	$0	100%	40	46	115.00%	145 / 145	100% / 9
UNTSCIENCE JIM ROBERTS	27 / 30	111% / 100%	100 / 149	149%	81 / 35	43%	12 / 32	269% / 25	21 / 19	10 / 10	3	$115,000	$115,000	$0	100%	27	28	103.70%	865 / 877	99% / 45
UTBROWNSSCIENCE REYNALDO RAMIREZ	35 / 35	100% / 100%	100 / 101	101%	81 / 122	151%	12 / 16	134% / 24	35 / 35	7 / 7	7	$168,600	$166,251	$2,349	99%	35	34	97.14%	136 / 136	100% / 3
UTDALLASSCIENCE MARY URQUHART	30 / 36	120% / 104%	100 / 148	148%	79 / 128	162%	12 / 27	221% / 32	15 / 15	4 / 4	4	$128,810	$128,810	$0	100%	30	33	110.00%	478 / 478	100% / 26
UTTYLERSCIENCE FREDERICKA BROWN	35 / 36	103% / 97%	100 / 101	101%	96 / 100	104%	12 / 29	243% / 47	15 / 15	6 / 6	6	$161,000	$161,000	$0	100%	35	29	82.86%	180 / 180	100% / 14
UTNATSCIENCE ANTONIA CHIMONIDOU	37 / 41	111% / ?	100 / 109	109%	31 / 57	184%	12 / 18	153% / 40	10 / 10	5 / 5	5	$136,200	$136,200	$0	100%	37	41	110.81%	261 / 261	100% / 28