Teacher-Based Reform--
Pacific Coast Teacher
Innovation Network

Prepared by:
Lisa Sullivan

September 2015
Summary Report

Teacher-based Reform - Pacific Coast Teacher Innovation Network

This report provides an overview of the 2014-2015 Pacific Coast Teacher Innovation Network (PacTIN) activities and describes early indicators of sustainability and impact. The genesis of these activities came in spring of 2014 when the California Department of Education invited Teacher-based Reform grantees to add a capacity building dimension to their work (referred to throughout this report as T-BAR 2). This augmentation provided PacTIN with an opportunity to continue to support our regional school reform efforts by helping educators to identify the structures, conditions, and resources needed to collaborate effectively in order to improve instruction for students.

I. Introduction, background and context

a. Original T-BAR work

PacTIN is one of four Teacher-base Reform (T-BAR) grantees; three of which are currently active. T-BAR funding comes from the U.S. Department of Education’s Improving Teacher Quality State Grants Program (ITQ). In California, ITQ is administered through California Department of Education’s (CDE) Title II Leadership Office. PacTIN is housed in the University of California, Davis School of Education, and is administered by Resourcing Excellence in Education (REEd).

The primary T-BAR grant goal (see 2009 RFP) was to provide financial support to teams of California teachers in support of school reform. Other goals were to guide a more efficient, regional approach to program administration and to supplement that administration with a rigorous research program focused on teacher-based school reform1. Between 2009 and 2014, PacTIN served three cohorts of teacher teams, representing approximately 300 teachers. Two evaluation reports captured impact data2. Together, those reports suggest that the majority of teachers felt that their participation (a) increased their confidence and pedagogical knowledge, (b) improved their classroom instruction strategies, and (c) eased their transition to Common Core standards and expectations. Teachers also reported improvement in their students’ engagement and learning outcomes and in their ability to identify and meet individual student needs.

---

1 The rigorous research program never materialized. While evidence was collected (e.g., surveys and focus groups) it was used primarily for documentation and evaluative purposes.
The key take-away from the reports, coupled with what we learned from our interactions with the PacTIN participants, was that the teacher teams were able to make significant changes to their individual and collective practices when given the freedom, time, and a small amount of money to direct their professional growth. Most PacTIN teams also accomplished significant progress in terms of the levels of collaboration between teachers, as well as between teachers and administrators, use of resources to support the transition to teaching the California Common Core State Standards (CCSS), and notable changes in school culture. In most instances changes were credited to increases in teacher voice and engagement.

The data also revealed differences in the extent to which changes extended beyond the classrooms of participating teachers and the degree to which changes were systematically integrated into the schools’ cultures and structures. Drawing from the findings of the Retrospective Evaluation Report, a relatively modest number of teachers reported that there was improvement in trust (32%) and climate (54%) at their schools following PacTIN. In other school wide changes the impact was also fairly limited. For example, 58% of teachers responded that grade level or content routines connected to PacTIN had been established and another 54% of teachers responded that the school had established or increased common professional learning time for teachers. In addition, just 33% of teachers responded that the school/district had formally adopted PacTIN related content pedagogy.

b. Rationale for T-BAR2

The rationale for our T-BAR 2 strategy drew upon what we have learned since beginning this work in 2009 and was built on four design principles. First and foremost, and as findings from the original T-BAR award suggest, is that teams of educators are able to make significant changes to their practice when given the freedom, time, and a small amount of money to direct their own professional growth. Second is that we wanted to use T-BAR 2 as an opportunity to explore how embedding more intentional administrative and district support for teacher driven reform into our delivery model might help sustain teacher-driven efforts. Third was that we desired a model that provided opportunities for connecting with the participating teams as a way to establish on-going professional relationships and to influence their path and final outcomes. Fourth was that we wanted to better use the grant resources to document the process and outcomes. What we landed upon was a model that we felt had the potential to continue to support our regional school reform efforts.

Theory of change

The T-BAR 2 model adheres to the same three principles used in two previous professional learning models funded through ITQ grants, the 1994 Teacher Academic Achievement Program
(TAAP) grant competition and the re-named Frank Collea Teacher Academic Achievement Program (CTAAP) 1997 and 1999 competitions. These three principles focus on a teacher-driven approach that suggests: 1) teachers are more likely to learn those things that interest them; 2) teachers are more likely to learn those things they need to know; and 3) learning is reinforced through use. PacTIN’s theory of change is that, in addition to adherence to these three principles, a systems approach that promotes both sustainability and additional resource generation is necessary.

Ann Jaquith’s Instructional Capacity Building Framework (2013) provided a way to help us think about how to translate professional learning into sustainable practices. Our approach to operationalizing the theory of change was to invite educational partners (intermediaries) to collaboratively design and test prototypes for high-quality growth opportunities that educators could adopt and adapt within their local context. Rather than funding unrelated and unconnected teams, we funded intermediary partners who, in turn, took on a lead role in the identification and recruitment of additional participants and implementation efforts. As a result, while PacTIN continued to focus on providing administrative oversight (not directly providing any professional development), we were better positioned to extend our capacity and reach by influencing the actions of the intermediaries. This move also placed PacTIN in a better position to use our resources to facilitate the overall project and document our collective efforts.

d. Context

The participants: The purpose of the PacTIN 2 grant was to build instructional capacity by supporting teams of educators as they accessed existing resources and generated new resources. We purposefully targeted partners with an interest in professional learning for effective implementation of academic content standards and all of the teams chose to focus their efforts on implementation of the Common Core State Standards (CCSS).

The work accomplished under the auspices of the T-BAR 2 grant involved different sets of partners at different points in time. In the initial planning phase we formed two Planning Teams. One planning team was comprised of four REEd projects (Writing Project, Math Project, Science Project and the Academic Language Development Network [ALDN]). See Figure 1.

3 To avoid confusion, throughout this report we refer to the three REEd projects and SCOE as intermediary partners. The participating districts/schools are referred to as prototype teams.
The REEd project team included the director and a teacher leader of each of the four projects. The second planning team included a number of organizations based in Sonoma County (e.g., university, K-12 districts, and California Subject Matter Projects) representing a variety of positions (associate superintendent, faculty, teacher, principal), with the Sonoma County Office of Education (SCOE) taking on the role of “lead partner.”

The Science Project was the only REEd project that elected not to continue into the implementation phase. The remaining three REEd projects each engaged a school(s) in the implementation phase. Those schools served as pilot sites that agreed to pilot prototypes developed in the planning phase. In Sonoma County, the only intermediary organization that continued to be involved in the implementation phase was SCOE. They engaged four districts/schools and formed an Implementation Team with representation from Piner-Olivet Union, Rincon Valley Union, Santa Rosa City High/Maria Carillo High School, and Twin Hill Union/Apple Blossom School. During the implementation phase, each intermediary partner enacted the prototype(s) that were developed in the planning phase. The three REEd intermediaries (Writing Project, Math Project, and the ALDN) opted to each test a different prototype during their implementation phase. SCOE tested four prototypes, each with a separate district or school team. (Appendix A – Sample prototype planning document). See Figure 2.
The structure: PacTIN staff provided direct support (training and facilitation) to two Planning Teams during a 3-month planning phase, financial support in the form of access to and support for professional learning opportunities for an implementation phase (the 2014-2015 academic school year), and documented the process and activities. All of the implementation phase intermediaries worked with prototype teams. The SCOE intermediary provided leadership and guidance to all four of the Sonoma County prototype teams and the three REEd intermediaries played the same role with their prototype teams. See Figure 3.

<table>
<thead>
<tr>
<th>Sonoma County</th>
<th>REEd (Sacramento and Yolo Counties)</th>
</tr>
</thead>
<tbody>
<tr>
<td>District</td>
<td>Team Members (#)</td>
</tr>
<tr>
<td>SCOE Planning Team</td>
<td>8</td>
</tr>
<tr>
<td>Piner-Olivet</td>
<td>6</td>
</tr>
<tr>
<td>Rincon Valley</td>
<td>6</td>
</tr>
</tbody>
</table>
The content: The planning phase introduced the intermediary partners (SCOE and the three REEd teams) to the potential of the Instructional Capacity Building Framework as a resource to support their instructional improvement efforts. The implementation phase focused on the professional supports needed to sustain professional learning for effective implementation of the CCSS and the Next Generation Science Standards.

The region: Under the auspices of T-BAR, the PacTIN region served teams of teachers located in coastal counties from Ventura through Del Norte County between 2009 and 2013. Under the auspices of T-BAR 2 (2014-2015), PacTIN limited its work to three counties – Sonoma, Yolo, and Sacramento.

2. Key Activities
a. Goals:
The PacTIN goals for T-BAR 2 were to:

- Build instructional capacity by supporting intermediaries as they work with teams of educators to identify and use existing resources and generate new resources
- Document the successes and challenges of the work to share with others
- Document shifts in thinking and related actions

When we reached out to intermediaries we told them that we were asking them to be part of a statewide collaborative effort, working in parallel with the other T-BAR projects as they explored similar questions within their regions. We also mentioned two desired project level outcomes: 1) an unearthing of promising practices focusing on how intermediaries can support the development of instructional capacity, and 2) the establishment of a set of recommendations for how a revised T-BAR model might be used in other contexts, along with suggestions for statewide policies and practices that could incentivize schools to support
teachers’ participation in collegial planning and job-embedded professional learning opportunities.

b. Timeline:

The overall timeline for the work involved a planning phase with meetings over the summer of 2014 to identify shared goals, explore the resources and tools available through REEd, and develop prototypes. This was followed by an implementation phase (the 2014-2015 academic year), during which the intermediaries’ prototype teams partook in some sort of professional learning experience to pilot (test) their prototypes.

c. Modifications to original plan:

The original goal was to work with two intermediaries, REEd and SCOE. By the fall of 2014 there were some significant setbacks that led to revisions to the plan. One setback was the loss of the Math Project director. The revised plan was for the teacher leader on the team to take on the lead role for the Math Project. Scheduling constraints on the part of the science project director and the fact that their teacher leader was unable to secure the anticipated engagement of teachers at his school site resulted in this team withdrawing their participation. A third change was that other commitments led the director of the ALDN to withdraw his participation. Initially, the plan was to eliminate this prototype but because the teacher leader remained interested, PacTIN staff subsequently worked with her to develop a prototype based on resourcing her own classroom⁴. Given all of these changes, T-BAR leadership, in consultation with the REEd Planning Team, decided that rather than continuing as a single team, each of the remaining three groups (Writing Project, Math Project, and ALDN) would refine and test their own prototypes during the remainder of the grant cycle (September 2014 to June 2015), meaning that they ultimately chose to work independently rather than as a collective unit.

3. How we resourced the work (Actions – Resources – Schema):

As mentioned earlier in this report, our T-BAR 2 strategy was built on four design principles:

- Establishing a common starting point of immediate interest and need to the participants as a way to drive the process;
- Embedding administrative and district support for teacher driven reform into the delivery model as a way to help sustain teacher-driven efforts;

⁴ We opted not to include information about the ALDN component in this report as our interest was in the activities of a collective group of educators.
• Creating opportunities for PacTIN staff to connect with the participating teams as a way to establish on-going professional relationships as well as influence their path and final outcomes; and

• Better use of grant resources to document the process and outcomes.

The key actions we took for resourcing this work built on these principles:

*Establishing a common starting point of immediate interest and need to the participants as a way to drive the process.*

We provided a facilitated design phase followed by an implementation phase in which intermediaries had the freedom, time, and a small amount of money to drive the process. The primary existing resource we used was the participants’ (including our own) collective expertise. We established a common starting point through our choice to start with a guiding question (*What needs to change to support and sustain professional learning for effective implementation of academic content standards?*), although an entirely new guiding question emerged out of SCOEs planning phase: *How might we balance an entity’s autonomy and system coherence to foster professional growth?* That new question took the work, and our own thinking, in a new and we think better direction. It helped ensure that teacher voice and leadership was a core element of all activities, alongside leadership from administrators, district leads, and systems level support and structures. This likely would not have happened had we not “allowed” the participants to manage their own learning process.

*Embedding administrative and district support for teacher driven reform into the delivery model as a way to help sustain teacher-driven efforts.*

The key action was the formation of teams that intentionally included cross-role participants (including people with the ability to influence policy and practice at the system level). The key existing resource was the collective expertise/skills of our individual partner agencies and team members. We theorized that tapping into the resources available to individuals holding a variety of roles within the partner sites, schools, and districts would allow teams to focus on both school level changes as well as broader district level needs, and not just on the changes we hoped to see in individual/team practices. The SCOE prototype teams, for instance, all included individuals in different roles (e.g., an administrator, a teacher lead, and several teachers; several also included the district superintendent and other members of their district leadership). All of the Writing Project prototype team members were teachers; however, those teachers represented a number of different schools in different districts across Sacramento and Yolo Counties. The Math Project prototype team was our least diverse group as it included one
district math coach and teachers from a single school site, although the teachers taught across the elementary school age span from T-K to 6th grade.

Over the course of the year it became clear to PacTIN staff that recruiting administrators (i.e., principals, superintendents, or associate superintendents) for the REEd prototype teams was simply not a priority. The Math Project, for example, decided upfront that they preferred working as an autonomous group of teachers, which was perhaps more within their current comfort zone. The Writing Project infrastructure also remained as it had in previous years, with a lead teacher facilitating the work with a team of teachers at their site. Despite the lack of administrator participation during the process, there was a notable schema shift in the Math Project prototype team by the end of the year. This team recognized the value of administrator and/or district participation and reported that they found ways to garner their administrator’s support for their work, specifically by replicating the model of professional development they had established at their site and expanding parent math education nights. To our knowledge there were no related shifts in the schema of Writing Project participants and no attempts to engage administrators took place.

In several SCOE prototype teams, an administrator actively led the prototype teams. This may or may not have taken away from the original teacher driven model. We do know that these prototype teams were able to develop a structure where administrators were learning alongside their teachers and coaches, and that this level of involvement made the team members feel valued and supported in ways that weren’t happening before. Evidence of this was captured during observations of team meetings and also in the PacTIN 2 teacher survey, in which the majority of teachers responded that their participation led to greater trust between teachers and administrators, an increase in opportunities for teachers to become teacher leaders, more support to collaborate effectively, and increased access to resources to support their work (Appendix B).

Creating opportunities for intermediaries to connect with the participating teams as a way to establish on-going professional relationships and to influence their path and final outcomes.

Knowing that we didn’t have the internal capacity to support multiple prototype teams, we recruited the SCOE intermediary and REEd project directors to help. In addition to participating in the planning phase, these leads recruited prototype team members and managed all of the logistical components of convening the groups. During the implementation phase, prototype teams communicated with their lead at least once a month, though some teams met more regularly (bi-monthly). In turn, PacTIN communicated with the SCOE intermediary and REEd project leads approximately once a month. PacTIN gained a greater appreciation for the value of a localized presence, as the intermediaries provided us with ongoing descriptions of the work
happening within the prototype teams. This placed us in a position of critical friend rather than simply being the “funding agency.”

While we recognized early on in the implementation phase the importance of our role as a critical friend, our contact with the prototype teams was initially going to be very limited. However, it became apparent that the teams wanted to communicate directly with REEd about the work they were doing and receive feedback, input, and ideas. For example, in SCOE, REEd staff scheduled regular check-in phone calls with both the point person at SCOE and the prototype team leads. This system also provided us with an additional way to document the process (Appendix C – Sample Prototype Team Check-In Notes).

**Better use of grant resources to document the process and outcomes.**

The action we took to resource the work was to document the activities and shifts in thinking of our partners, including documenting the collective activities and thinking of the prototype teams. The resource for this action was the data we gathered, which documented team activities and shifts in thinking.

PacTIN’s use of intermediaries and teacher leaders to take charge of the implementation phase greatly expanded our ability to document the process, and as a result we collected a lot of information. Equally important, the data we collected provided us with a venue for identifying and asking questions that may have helped guide the actions and thinking of the prototype teams. It also provided us with an additional lens to interpret that data that was collected as engaging in conversations with the intermediaries helped us to interpret and make sense of the process.

**b. What is the IHE taking away from this project?**

REEd has learned a great deal from working with T-BAR 2 teams over the past year. It has reinforced our belief that *teacher-driven* growth and improvement is an effective and sustainable model of professional development, and fundamentally changed the way we view our role as a university-based educational intermediary working to enhance the professional growth of educators. We have come to see our role as *supporting localized teams* as they identify and examine their own problems of practice, and generate resources that are relevant to their specific contexts and needs. This requires a delicate balance of providing resources and facilitation where necessary, while allowing teams and individuals to develop their own questions, direct their own learning, and engage in the productive struggle required for meaningful and lasting changes to occur. In other words, it requires us to view educators as the experts and us (IHE) as facilitators and guides in helping them to build their own capacity.
Among the key lessons we have learned:

*Balancing the role of grant administrator against the ongoing interests and needs of our partners is challenging.* We frequently grappled with if, and how, to intervene. For the work to be sustainable, however, we felt that the focus of the work and the generation of resources needed to have a local genesis. For example, when intermediary leads introduced the Instructional Capacity Building Framework to their prototype teams this process varied from group to group. While we relished the role of thought partner/critical friend, we also constantly reminded ourselves of the need to foster the autonomy of the teams even when their actions were not approached in a way that we felt was effective.

The overarching goal of supporting teachers’ professional growth efforts means being willing and ready to adapt our own process – and to be more reluctant about asking partners to simply adopt without question what we bring to the table. For example, we originally planned to include several Carnegie improvement science tools (e.g., driver diagrams) as an integral part of our process. As we worked with our partners in the planning phase, however, it became clear to us that they were sometimes so frustrated with the tools that we intended would help them that it actually hindered rather than facilitated the process. As a result, we changed our plan of requesting that the planning phase tools be used during the implementation phase.

Being flexible also contributed to our thinking about the improvement process, for example we incorporated design thinking principals and strategies into our approach. SCOE staff had previously been through several professional development workshops on design thinking and felt that this approach would help facilitate the work of the T-BAR 2 teams. We agreed, and SCOE taught us design thinking principles and approaches that are now part of our daily practice. A primary take-away from this is that we are learning alongside and drawing from the experience of our partners in the field.

*Providing financial resources, particularly in support of time to meet and collaborate, to support teacher generated ideas and practices, is a potentially powerful tool to jump start change.* We know that giving teachers the freedom and resources to make decisions about their own professional growth energized many of the teachers on the T-BAR 2 teams (teacher survey, Appendix B). The extent to which our intermediary partners and district/school administrators will provide teachers with resources (financial or otherwise) to sustain change over time remains to be seen. We are cautiously optimistic as the four Sonoma County districts have

---

5 In retrospect we may have been better served by revisiting how we led teams through the use of the tools. The underlying issue wasn’t so much the tool itself but in our ability to facilitate the use of the tools.
committed to continue working with SCOE and developing out their prototypes in the coming year.

Having initial support from administrators is the ideal condition for fostering teacher driven school reform efforts but it isn’t necessarily an essential condition. We learned that teams of teachers need the freedom to include site and district administrators in their actions in varying ways and that context matters. For instance, the Math Project team functioned without influence from a site administrator. Team members reported appreciating the autonomy they experienced and the ability to make decisions that supported their own professional growth, with minimal reporting to site administration. This team did eventually tap into district level support, which ultimately led to an expansion of their work through district organizational structures in the coming academic year. This is similar to how some of the original T-BAR teams were able to generate momentum once their teacher-driven team had some initial success.

While the T-BAR model builds on teacher collaboration (i.e., teams working toward common aims), a single teacher can effect change. An example of this comes from the single teacher representing the ALDN. This teacher examined a problem in her classroom context and made use of existing resources she identified through the Instructional Capacity Building Framework. Through a re-examination of her resources she realized that she was not making use of administrative relationships that might help her achieve her aim. As a result, she initiated contact with both site and district level administrators who broadened her perspective about her work. She plans to take on a coaching role in her district next year and is already considering how she can spread the lessons she learned into classrooms across her school.

Project leadership needs to understand the theory of change in order to fully operationalize it, but project participants may only need exposure to the basic principles. We now see that it is not necessarily important for our partners to have an in depth understanding of the Instructional Capacity Framework for this to be a valuable tool. Simply introducing the Framework and reminding them to attend to the different types of resources as they make changes and take actions seems to provide a valuable way for our partners to consider accessing their existing resources.

Early in the implementation phase we came to the realization that not all teams were actively using and referencing the Instructional Capacity Building Framework. After the initial introduction, many of the teams simply did not revisit the framework. That said, the framework

6 Each of our participating sites had a unique culture and system that supported cross-role teams at different levels but we continue to believe that a site with a very inclusive administrator will most likely have a much easier time with true teacher driven reform than a site with a more traditional hierarchical system.
did seem to inform team discussions and activities – as documented in meeting notes and comments made by team members. For example, many of the prototype teams described a growth in resources related to stronger and more collaborative relationships between teachers. The UCD Math Project prototype team engaged in resource use and generation during their cycles of inquiry. As a result, that team recognized the need to reach out to their parent community and educate them about unfamiliar mathematical practices in the common core standards. Consequently, they generated new curricular materials to share with families and educated parents about the corresponding instructional strategies, all while making use of the existing organizational structure of district Parent Math Nights.

c. What are districts/schools/organizations taking away from this project (two examples).

County Example:
The SCOE implementation team represented four districts and a diverse mix of individuals representing different roles. As mentioned above, the SCOE prototype teams’ guiding question, how might we balance an entity’s autonomy and system coherence to foster professional growth, drove their activities:

PacTIN staff interviewed the intermediary lead from SCOE three times during the 2014-2015 school year. During the initial and mid-year discussions, she described having to consistently focus on keeping the work teacher-driven. She spoke about the challenges inherent in redesigning professional development and getting people to set aside their prior ideas about what professional development is. To gain a deeper understanding of the challenges of implementing a teacher driven model of professional development, she told us that she went to the T-BAR 2 school sites and conducted interviews with teachers from each of the prototype teams. Those interviews were designed to surface information and prior experiences that teachers had directing their own professional development. She described being taken aback by what she heard, particularly the fact that some teachers had never experienced any form of teacher-driven professional development.

In each of the interviews with PacTIN, the SCOE intermediary lead described how the role of the County Office was evolving and changing. In the final interview she described how SCOE is now looking for opportunities to work with districts in deeper ways that are more closely linked to teachers in the classroom, saying that the old model of ‘sit and get’ PD is gone. SCOE, we were told, would like to continue gathering more information from their teachers through the design thinking process, to surface what their needs are and how SCOE can best support these needs.

Another take-away for the SCOE intermediary lead was the importance of context in improvement efforts. Each of the districts had a different culture and was at a different state of
readiness for discussions around teacher-driven professional growth. She told us that some districts were operating on a traditional top-down model and many of the administrators were used to functioning as managers and decision makers, rather than instructional leaders, which she felt made the work more challenging. She also reported learning from this process that superintendents and principals need to be open to change and taking risks, and recognized that this new approach will require a different leadership model, one that has them learning alongside teachers. As a step toward facilitating the development of this new model, SCOE scheduled a countywide principals’ retreat over the summer. Their goal is to convince principals that they can help effect instructional change through teacher-driven and teacher-led professional learning.

Another take-away for this intermediary was seeing changes during the course of the year in the degree to which teachers were truly driving school level changes. Initially she noted that several sites seemed to be falling back in to the model of administrator as lead and manager, however as the year progressed these roles began to shift and teachers became more empowered. A big part of this was that there were four prototype teams in Sonoma sharing ideas and accomplishments across teams. This cross-pollination promoted changes that would undoubtedly not have occurred if there had been just one team working in SCOE.

School Example:
The following responses were written by a SCOE teacher lead for one of the prototype teams at the end of the year in response to questions posed by PacTIN:

What are you taking away from this project?
I am taking away a better understanding of how significant it is to have professional development that fosters the development of professional relationships. In the ICBF Framework and personal reflections, every team member commented that they had a better understanding of and respect for the strengths of their colleagues and were excited to collaborate and learn from them. This paves the way for deeper work on NGSS, CCSS, and 21st century learning that teachers and administrators are eager to engage in together. While the work on our strengths and the sharing out about practices was time intensive, I have a deeper appreciation for how valuable this process is and how it leads to further peer-to-peer professional work. (Prototype teams’ ICBF from September and April in Appendix D).

What is your school/organization taking away from this project?
The team is taking from this project deeper professional relationships and enthusiasm for further work on NGSS. The teachers felt like they established deeper working relationships with each other and with the district office. The administrative relationship is particularly significant since this has not been in place in recent years.
How, if at all, did the project further learning (student/teacher) and practice (teacher)?
The specific focus on arguments and evidence influenced the strategies tried by teachers in their practice. Teachers experimented with various strategies in order to engage students in arguments and evidence. These included modifying assessments, using more group work, adding to or changing labs, and changing the way students engage with text and media. Teachers noted many of these changes were difficult for students, but they have the potential to impact student learning greatly in coming years.

What conditions enabled these changes?
The main condition that enabled this change was the fostering of deeper professional relationships and collaboration. Teachers noted that they could use the professional collaboration done in T-BAR as a model for student collaboration, and this changed their approach to collaborative work in the classroom. In addition, dialogue was opened up about best practices, and teachers were inspired by colleagues to try new strategies in their own classrooms.

To what degree do you see yourself able to continue this work next year?
The team unanimously would like to continue the work next year. They see this year as the first of what should be a two-year prototype. This year was about establishing professional relationships and developing a basic understanding of NGSS. Next year they would like to develop a deeper understanding of the NGSS standards and work in subject-specific teams to develop lessons and units.

d. Did the project further teacher practice and student learning? If so, how?

We believe that PacTIN 2 played a part in furthering both teacher practice and student learning. Our first example of this comes from the work done by the Math Project team (8 teachers and 1 district coach). The teachers on this team represented a range of grade levels (TK to 6th grade) from a single school site. The lead intermediary was a consultant for the Math Project with strong ties to the school. The teachers collectively decided to focus their professional growth on number sense, which they felt was an important foundational skill that had a direct connection to the CCSS. The team attended a summer training at Asilomar on mathematics instruction with an emphasis on number sense to kick off their work and then met monthly as a professional learning community. The district coach (a team member) already had a well-resourced math room at the site that teachers could access for resources and materials and grant funds provided additional resources.
REEd attended three of the monthly team meetings. During these meetings, teachers brought specific lessons that they had tried out to share with the group. Teachers shared both successes and challenges and brought samples of student work. During team meetings individual members described the value of having the team to share ideas with, and several teachers described how they felt their teaching had changed – they were more willing to take risks and try out new things. The district coach encouraged the teachers to use the textbook as a resource but to also identify and use other materials that might be more effective in teaching number sense to students.

Teachers on this team described how their practice had fundamentally changed by being a part of the T-BAR 2 group. One of the changes they mentioned was that their students were more engaged and they were gaining skills and talking about math more often. To get a better sense of how students felt about the new lessons and strategies that their teachers were using, the team administered a short survey to their students (Appendix E). The results of that survey supported what the teachers had anecdotally observed. The feedback from students was overall very positive and teachers on the team said students appreciated the opportunity to give their input.

The teachers also completed a short survey that PacTIN developed. The responses to the survey suggest that the teachers highly valued the opportunity for collaboration and felt it had a direct impact on their ability to use new strategies to support student learning. In addition, all of the teachers responded that being a part of T-BAR 2 had led to a greater capacity to find, develop, and implement strategies to meet student needs. A brief summary of the teacher survey is provided in Appendix B.

Our second example comes from one of the teams in Sonoma County. That prototype team lead gathered responses to reflection questions from the team and shared these with PacTIN. The teacher responses to the reflection questions describe some specific successes and challenges of being a part of T-BAR 2. Several exemplars from these responses that describe both a change in relationships and a schema shift come from the item: What was one T-BAR experience that excited you this year? (All of the responses to the reflection questions for this team are listed in Appendix F)

“The best experience for me was learning about all my fellow teachers have to offer and being able to see them as resources as well as friends. My eyes were totally opened to all we have to offer each other.”
“It was reassuring to see that we will be able to get through these new standards (NGSS) and that working together will facilitate this. I truly enjoyed the opportunity to work and collaborate with the other science teachers.”

The responses to the teacher survey provide a better sense of how individual teachers felt their students had been impacted by their participation in T-BAR 2. Overall, the majority (85%) of teachers responded that as a result of participating in T-BAR 2 they were better prepared to ‘modify or create new curriculum to better meet student needs.’ In addition, 65% of teachers responded that they felt better prepared to ‘assess student learning.’ The majority of teachers who completed the survey also responded that they had noticed a shift in: ‘My expectations of my students,’ (62%) and ‘My ability to engage my students,’ (58%). Finally, a large percentage (85%) of teachers responded that being involved in T-BAR 2 has: ‘Led to a great capacity to find, develop, and implement strategies to meet the learning needs of my students.’ These responses suggest that teachers participating in T-BAR 2 felt that their teaching practices had changed in a way that allowed them to better meet the needs of their students.

4. What are the early indicators of the work sustaining? (IHE level)

a. Provide evidence of changes in:
   i. Instructional Knowledge – As an intermediary, we are now spending more time facilitating improvement efforts with educators in their context rather than “delivering” academic content. The academic content itself draws more heavily on both our own and participants’ pre-existing knowledge, coupled with the groups’ collective sense making. We have expanded our individual knowledge bases, acquiring new knowledge such as the Instructional Capacity Building Framework, as well as design thinking and improvement science strategies and tools. We are also learning how to better document impact using natural harvest data. For example, we use the framework in combination with observations of team meetings to document schema shifts.

   ii. Instructional Relationships – Our internal planning is more collaborative and typically includes a greater mix of people representing different roles whereas before we tended to work autonomously within our role (e.g., evaluation analyst, project coordinator, or content expert). We now rely both on our own combined knowledge and expertise of multiple people, and the knowledge and expertise of the participants with whom we work.

   iii. Instructional Tools & Materials – We approach our work from a growth mind set which means that pretty much everything we do is “a work in progress.” Our tools and content materials have been revised and changed multiple times and we are using them for multiple purposes. For example, our cycle of inquiry tool has been completely overhauled. It still
includes a guiding question and aim statement but it is now broken out into discrete change ideas that work together to meet the aim. Teams can use the tool before, during, and after team meetings to plan action steps, align resources, and document progress. The tool could also be used to communicate to stakeholders such as school district administrators, union leadership, and school board members. We plan to use this new tool as part of our documentation efforts.

iv. Organizational Structures – In large part due to the PacTIN work, REEd is moving towards a networked improvement community structure. We no longer describe ourselves as an organization with multiple projects housed under one roof, rather we are collectively focused on our central mission of supporting individual and collective growth of the educators and educational systems with whom we work. One simple example of this is that we have created a new collaborative working space for our REEd team. Another is that we are much more strategic in thinking about how to leverage what we are doing to help us in fulfilling our mission.

5. What are the early indicators of the work sustaining? (team level)

i. Instructional Knowledge – Indicators of how the growth in instructional knowledge will be sustained are provided from several of the prototype teams. The Math Project teachers plan to continue their focused work next year to build their instructional knowledge in math content and strategies. In addition, this group is creating specific lessons and resources that are now being shared on the district’s website so that teachers across the district can access the content. Another example comes from one of the SCOE prototype teams that focused on gaining a deeper understanding of the new science content standards (NGSS). This group developed specific lessons based on the new science content. The team tried out these lessons and wrote reflections based on their experiences (Appendix G). The teachers described how the new strategies had deepened student thinking and supported them to build solid arguments with evidence. These initial successes indicate that teachers will continue to build their instructional knowledge, based on their T-BAR 2 experiences.

ii. Instructional Relationships – There are many examples of how instructional relationships grew within T-BAR 2 teams. For example, a group of teachers working at the SCOE recently engaged in a design thinking activity focused around the professional development needs of teachers in the county to guide their work with teachers next year. This group of teachers and coaches developed a driving question that they felt was most relevant to supporting teachers based both on their experiences working in classrooms and feedback they had received from teachers. Their driving question was: How might we create the conditions that build teachers'
capacity to transition to the current demands of the 21st century classroom? Developing this question required a shift in the traditional role that these coaches had played in the county. SCOE shared this question with teachers throughout the district in June to get their feedback and input in the process. SCOE’s goal is to keep the discussion focused on quality instruction rather than one specific content or curriculum area. The rationale here is that this will build sustainability since the instructional strategies can be used across content areas.

iii. Instructional Tools and Materials – It appears that many of the tools and materials that were developed and utilized by the prototype teams will continue to be used next year. For example, two of the teachers on the math team were asked by the Math Project to attend their leadership training institute in June, 2015 and two other teachers from the district will be attending the institute as well. This team of four teachers has already spoken with the principals at their sites and professional development personnel at the district office to offer their time, resources, and expertise to teachers throughout the Davis school district next year (2015-2016). In addition, the parent education nights that the team lead organized are being developed as a district model. The district has built the parent math nights into LCAP funding and is using these workshops and the tools that are being developed as a model of parent engagement for the district. These changes in the levels of support being provided for these instructional tools and materials also reflect a change in organizational structure that will ideally sustain these efforts.

iv. Organizational Structures – There are several examples of how the organizational structure changes made this past year will be sustained next year. The SCOE intermediary lead responded in an end of the year interview that being a part of T-BAR 2 had fundamentally changed the way the county office was approaching their work. The county office of education plans to more actively engage teachers and administrators in designing and co-creating professional development that is provided to schools and districts. The county office of education also plans to provide summer workshops for both administrators and teachers to surface some of their ongoing needs in order to co-develop targeted professional development for next year.

On May 1st all of the SCOE prototype teams shared their plans for continuing the work started in T-BAR 2. One team has developed a very clear structural plan for how the T-BAR 2 model will build and spread in year two. This group has the current cadre of T-BAR 2 teachers who will continue next year with more targeted lesson study activities. In addition, this first year cadre of teachers will select two colleagues to join the team and together they will create demonstration lessons and develop professional development workshops (See Appendix H). Most of the Sonoma prototype teams had developed enough momentum and enthusiasm for the work that it seems apparent they will continue the model in some form next year and will have the organizational structure to do so. The SCOE T-BAR 2 teams will continue to be
supported by REEd next year (at their request) and will be gathering on September 11th for a planning meeting.

Another example comes from the Math Project (8 teachers and 1 district coach) where the model they developed for teacher driven professional growth is being adopted by the school district. Teacher coaches will work in a similar way with small teams of teachers at schools throughout the district. The two other math specialists in the district attended the T-BAR 2 math groups’ meetings to see how they were run and how the group functioned. After a few observations, the math coaches began working with their own groups of teachers at four other school sites to guide professional growth and provide resources and they will continue to do this next year.
Appendix A
Sample Prototype Planning Template ( Beginning of the year)

How might we balance an entity’s autonomy and system coherence to foster professional growth?

| Team Members | Administrators who can commit and identify “solid” science teachers  
District administrators  
NGSS facilitator/outside expert  
Karen  
Possibly BAYSCI Team |
|---------------|---------------------------------------------------------------------|
| Users         | “Solid” Science teachers (limited in time and resources)  
Administrators who need to understand what NGSS is all about and who are working to understand what implementing NGSS looks like in the classroom |
| Prototype     | Building empathy with science teachers while developing the big picture of NGSS |
| Activities    | Interview sessions with teachers and administrators (and possibly students)  
Training in NGSS (what’s new and what’s the same)  
Identifying teacher strengths and areas of need  
Work sessions to connect current practice to NGSS  
Showcase of best practices as they relate to NGSS |
| Iterations    | Iteration 1: Target “Solid” science teachers  
Iteration 2: Target “Non-Solid” science teachers (isolated or “page-turners”) |
| Data          | How Work Was Informed by the Guiding Question  
How work was informed by the ICB Framework  
Understanding of and attitude towards NGSS  
Other |
|              | Anecdotal  
Teacher interviews targeted at empathy, identifying current strengths (both individual and systemic)  
Pre- and Post-Teacher interviews |
|              | Quantifiable  
Showcase at the end of the process  
Pre- and Post-survey |
Appendix B
T-BAR 2 Teacher and Administrator Survey Summary

E1: Teacher Responses

As a result of my participation in T-BAR 2 (N=26):

Open Ended Comments:

- I am better able to specifically pinpoint errors in my students understanding of concepts.
- My understanding of teaching math, how students learn, and best practices have greatly improved, but I still need to learn more.
- Being included within the T-BAR program supported a sense of value for me and inclusion within the process.
- This looks so negative and it shouldn’t. My T-bar experience was focused on how to build and sustain teacher driven pd, so these do not apply.
- It is hard to separate out the T-BAR experience from everything else that happened this year, but being part of T-BAR gave me the opportunity to actually use design thinking (PDSA) as well as the ICB framework at my school. Thinking about change (PDSA) and resources (ICB) differently helped me become a more confident instructional coach.
- I am a teacher that is out of the classroom this year. My role is to support teachers and the administrator. My learning this year was around the concepts of leadership and working with staff.
- I have plans for embedding more technology into my lessons next year.
As a result of my participation in T-BAR 2 I am better prepared to (N=26):

- Integrate strategies I have learned into daily classroom practice: 92%
- Modify or create new curriculum to better meet student needs: 85%
- Assess my own teaching practice: 81%
- Teach subject content: 69%
- Assess student learning: 65%
- Other: 15%
- None of the above: 4%

As a result of my T-BAR experience I have noticed a shift in (N=26):

- The likelihood that I will collaborate successfully with colleagues: 96%
- My ability to consistently plan and deliver high quality instruction: 62%
- My expectations of my students: 62%
- My ability to engage my students: 58%
- The amount of support and feedback I receive from my administrator: 27%
- Other: 15%
As a result of my participation in T-BAR 2 I now (N=27):

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disseminate information and resources with other teachers at trainings, workshops, conferences or published papers.</td>
<td>24%</td>
<td>44%</td>
<td>32%</td>
</tr>
<tr>
<td>Routinely collaborate with teachers outside of my school setting.</td>
<td>4%</td>
<td>44%</td>
<td>52%</td>
</tr>
<tr>
<td>Routinely collaborate with other teachers at my school.</td>
<td>40%</td>
<td>56%</td>
<td>4%</td>
</tr>
<tr>
<td>Routinely collaborate with other members of my team.</td>
<td>48%</td>
<td>44%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Do you think your participation in the T-BAR 2 project led to any of the following changes at your school? (N=26):

<table>
<thead>
<tr>
<th>Change</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater accountability among teachers for meeting high expectations.</td>
<td>20%</td>
<td>56%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>A stronger sense of school community and family involvement.</td>
<td>13%</td>
<td>46%</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>Increased access to resources to support your work.</td>
<td>44%</td>
<td>48%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>A greater level of trust between teachers.</td>
<td>46%</td>
<td>54%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater trust between teachers and administrators.</td>
<td>13%</td>
<td>54%</td>
<td>29%</td>
<td>4%</td>
</tr>
<tr>
<td>Increased recognition by administration of teachers' expertise.</td>
<td>25%</td>
<td>42%</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Greater recognition by teachers of their colleagues instructional expertise.</td>
<td>33%</td>
<td>58%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>An increase in opportunities for teachers to become teacher leaders.</td>
<td>42%</td>
<td>46%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>More support to collaborate effectively with fellow teachers.</td>
<td>40%</td>
<td>56%</td>
<td>4%</td>
<td></td>
</tr>
</tbody>
</table>

0% 20% 40% 60% 80% 100%
Being involved in T-BAR 2 has (check all that apply): (N=27)

- Led to a greater capacity to find, develop, and implement strategies to meet the learning needs of my students. 85%
- Provided me with a better understanding of a particular aspect of my teaching practice. 81%
- Given me an opportunity to have an influence on teaching practices at my school site. 74%
- Helped me think systematically about my teaching practice. 74%
- Helped me become more enthusiastic about being a teacher than I was before participating in this grant. 70%

Changes in student learning outcomes (N=26):

How have student learning outcomes changed in your SCHOOL as a result of your participation in T-BAR 2?

- 21% Not sure
- 33% Improvement overall
- 38% Some improvement
- 8% Stayed the same

How have your STUDENTS’ learning outcomes changed as a result of your participation in T-BAR 2?

- 12% Not sure
- 48% Improvement overall
- 36% Some improvement
- 4% Stayed the same
The work I did with T-BAR 2 has helped me during the transition to teach Common Core (N=27):

How many years of teaching experience do you have? (N=27)
E2: Administrator Responses:

As a result of my participation in T-BAR 2 (N=8):

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Somewhat Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a better understanding of why and how children learn or fail to</td>
<td>13%</td>
<td>75%</td>
<td>13%</td>
</tr>
<tr>
<td>learn.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We are using technology more and/or in different ways.</td>
<td>25%</td>
<td>50%</td>
<td>25%</td>
</tr>
<tr>
<td>We have revised or added new curriculum.</td>
<td>38%</td>
<td>63%</td>
<td></td>
</tr>
<tr>
<td>The way teachers at our school/district are teaching is significantly</td>
<td>13%</td>
<td>75%</td>
<td>13%</td>
</tr>
<tr>
<td>different.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel better prepared to support teachers to implement standards based</td>
<td>25%</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>instructional.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have greater confidence in my ability to provide leadership.</td>
<td>38%</td>
<td>63%</td>
<td></td>
</tr>
</tbody>
</table>

As a result of my participation in T-BAR 2 I am better prepared to (check all that apply): (N=8)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop a shared leadership approach to professional growth.</td>
<td>100%</td>
</tr>
<tr>
<td>Work collaboratively with teachers to design and implement new curriculum and practices.</td>
<td>75%</td>
</tr>
</tbody>
</table>
As a result of my T-BAR 2 experience, I have noticed a shift in (check all that apply) (N=8):

- The amount of support and feedback I receive from colleagues: 75%
- The ability of educators to engage students: 75%
- The likelihood that I will collaborate successfully with colleagues: 63%
- School/district wide expectations for students: 63%
- None of the above: 13%

As a result of my participation in T-BAR 2 I now (N=8):

- Disseminate information and resources with administrators and educators from other schools/districts: 50% Strongly Agree, 38% Agree, 13% Disagree
- Routinely collaborate with administrators or teachers at my district/school: 75% Strongly Agree, 25% Agree
- Routinely collaborate with other members of my school or district team: 71% Strongly Agree, 14% Agree, 14% Disagree
Do you think your participation in T-BAR 2 led to any of the following changes at your school? (N=8)

<table>
<thead>
<tr>
<th>Change</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater accountability for meeting high expectations</td>
<td>38%</td>
<td>38%</td>
<td>25%</td>
</tr>
<tr>
<td>A stronger sense of school community and family involvement.</td>
<td>13%</td>
<td>50%</td>
<td>38%</td>
</tr>
<tr>
<td>Increased access to resources to support your work.</td>
<td>63%</td>
<td>38%</td>
<td></td>
</tr>
<tr>
<td>A greater level of trust between teachers.</td>
<td>50%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Greater trust between teachers and administrators.</td>
<td>50%</td>
<td>38%</td>
<td>13%</td>
</tr>
<tr>
<td>Greater recognition of our school or district’s instructional expertise.</td>
<td>38%</td>
<td>50%</td>
<td>13%</td>
</tr>
<tr>
<td>An increase in opportunities for teachers to become teacher leaders.</td>
<td>75%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>More support for teachers to collaborate effectively.</td>
<td>75%</td>
<td>25%</td>
<td></td>
</tr>
</tbody>
</table>

Being involved in T-BAR 2 has (check all that apply): (N=8)

<table>
<thead>
<tr>
<th>Change</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helped me become more enthusiastic about being an administrator than I was before participating in this grant.</td>
<td>75%</td>
</tr>
<tr>
<td>Led to a greater capacity to find, develop, and implement strategies to meet the learning needs of our students.</td>
<td>75%</td>
</tr>
<tr>
<td>None of the above.</td>
<td>13%</td>
</tr>
</tbody>
</table>
How have student learning outcomes changed in your school or district (N=8):

- Improvement overall: 63%
- Some improvement: 25%
- Stayed the same: 13%

T-BAR has helped our school/district during the transition to teach Common Core (N=8):

- Somewhat disagree: 13%
- Agree: 25%
- Strongly agree: 63%
How many years of experience do you have as an administrator? (N=8)

- 4 - 6 years: 25%
- 11 - 15 years: 13%
- 16 - 20 years: 13%
- 26 + years: 50%
1. What has been the biggest impact of the grant on your teaching practice? (N=23 Teachers)

- I now base all of my instruction on CCSS and the level at which my students are regardless of their grade level or what lesson the book thinks I should be on.
- One of the largest impacts the grant has had on my teaching is the collaboration and sharing of ideas with staff.
- Another impact is the focus on number sense and mental math. Once the strong foundation of number sense is established math becomes easier for my students.
- Expertise and support from fellow teachers at every grade level.
- I feel more support for trying new ideas and working outside of the set curriculum. Collaborating has given me.
- An opportunity to reflect on my teaching practices to more precisely see what is working and what to change.
- Time for professional development, collaboration, and curriculum development. It changed my mindset. I feel like
- I am just learning and would like to continue in order to better help fellow teachers who were not part of the grant.
- Collaboration with other teachers on how to transition to common core.
- It has helped me help students redefine what it means to be mathematically proficient and give them more confidence in their mathematical ability.
- The T-BAR experience has given me permission to spend more time going in-depth with my students. The why portion of what we study. The time to create, solve and argue, with evidence problems presented in class.
- I am an instructional coach, and my involvement with T-BAR has given me the knowledge and experience I need to be bold, to try and fail (PDSA!) and to use and draw attention to the many resources that we need and use every day to provide excellent and powerful instruction to students (ICB!).
- Willingness to take risks and fail and be okay with that. The collaboration has also been a huge plus.
- Collaboration between teachers (it reminded me how important it is to share and be open to the wonderful ideas that my colleagues are using in their classrooms.
- I think the biggest impact has been the growth of the teaching community and feeling like we were all in the same boat and working towards common goals. It helped to have common practices to talk about.
- Having the resources to provide time for teachers to work together to develop lessons and observe one another teaching was very valuable. This has helped make the teaching practices at our school more transparent which is improving classroom instruction.
- Finding my strengths, and the strengths of my colleagues has totally changed how I feel about going to work each day for the better. I already loved my job, but now I love it more.
- The biggest impact is the development of strong professional relationships and therefore expanding the community I can share resources with and learn from. This then makes my work in the classroom stronger and more creative and engaging.
• I enjoyed working on a common goal with my fellow teachers.
• The biggest impact of the grant on my teaching practice has been the modeling of High Quality of Instruction that I have been able to observe.
• Taking the risk and examining my teaching and working on improving it in order to set students up for success.
• We chose to focus on Math at our site and the biggest impact has been on how I teach math. The students are more engaged in explaining their thinking and developing understanding of concepts rather than focusing on procedures.
• I am not currently a teacher. I work at SCOE. I has helped me in my context to better understand the need of sites and districts in the county, and therefore, serve them better.
• At this point I feel that I have some increased awareness of what is going to be happening in the future. However, I have not focused on specific implementations at this point.
• A variety of quality professional development opportunities, including a dream retreat to Re-Imagine learning coming in June.

2. From your perspective what has been the biggest impact of the grant? (N=8 Administrators)

• Time to collaborate. Staff agreement about what to pursue. Homework (accountability). Observations of student performance.
• Identification of next steps. The struggle. Investigation of resources.
• Support for teacher-driven professional development. Rather than have a set plan from the beginning of the year, the various PD activities "organically" unfolded from collaborative conversations among teachers and administrators.
• We have reflected on our approach to professional learning and have made adjustments based on feedback and observations. We have clarified our shared understandings related to unit design.
• Distributed leadership among many strong teachers and made their talents more accessible to the entire district.
• The ability to learn more about NGSS, grow our relationship between teachers and district admin in this learning and trust building.
• Supporting the work of teachers learning from each other. Changed our definition of professional development/learning.
Appendix C
Sample Prototype Team Check-In Notes

Sonoma Prototype Team Conference Calls: Maria Corillo Team
Attendees: Karen McGahey, Anna VanDordrecht, Lisa Sullivan

Purpose of the Call: Check-in on progress, ask about process, and provide support

Lisa: I’d like to hear about the work you’ve been doing, what tools and resources have been especially valuable and a bit about your successes and challenges.

Anna: The team has met two additional times since we last spoke in December. We revisited NGSS and did model activities together. The model activities were very helpful. This is something tangible that teachers can work with. Each teacher did their own planning for an activity. It was very fruitful. We met again in April to share out how the activities had gone. NGSS is very challenging not just for teachers but also for students.

I also conducted student interviews which I videotaped. I asked them the same questions that I asked the teachers and administrators (e.g. what they like about science, what their interests are, etc.). I interviewed 10 students and videotaped the interviews. I put together their responses in a short video which I shared with the teachers. The teachers found it very valuable. Overall, the students shared that they wanted the content to be more relevant, they wanted to know how it could be applied and they wanted more information about careers in science. They talked about wanting to see connections between the topics they were learning – like how chemistry related to other subjects. As a team we talked about ways to make the content more relevant and ways to provide more examples during labs etc. of how the skills would be used in a real world context.

We also used the ICB Framework again in April. We reviewed our original version and reflected on where we see ourselves now. We all agreed that we had seen the most change in the area of professional relationships. We now know each other’s strengths much more clearly and see each other as resources we can turn to. We talked about how valuable it was to have Patty Turner from the district office attend all of our meetings. Teachers talked about how this made them feel heard.

Accomplishments: Teachers definitely have a better understanding of NGSS. It has taken us time to really grasp and understand the content. We feel like our real work is just starting, now we can dig deeper. We have collaborated really well together so now we can take what we’ve learned and apply it more with students. We have accomplished all of our initial goals except that we won’t be having an end of year showcase. We aren’t ready for this yet. One of the main differences I see is that the team is excited to work together. They are energized and I think it was important to take the time to get to know one another and know the strengths of the group.

Lisa: What about any challenges you have had?
Anna: Time of course is always a challenge. Another challenge for us was that our administrator (VP) only attended the first meeting. She was unable to attend any of the other meetings. This may have been because our meetings were held at the district office but we felt this was important because it helped support teachers to have this separate dedicated time. The teachers wanted more school level support for the work we’re doing.

Lisa: What are you thinking about for next year?

Anna: We are planning ahead and looking at dates to meet in the summer. Teachers have been communicating about the work at the district and county level meetings they have attended so that’s been positive.

Lisa: It sounds like your team has really come together and has a better understanding one another’s areas of strength. You talked about teachers having a better understanding of NGSS now. Did the teachers focus on using any particular strategies with their students? Did any teachers use a cycle of inquiry to see how the strategies were impacting student skills?

Anna: Yes, we were still able to work on using evidence for argumentation. Each teacher used several strategies to support their students. The evidence for how these strategies worked is anecdotal at this point. The strategies helped but it has been challenging for students. When we met teachers shared the strategies they used and talked about what worked well and what didn’t work so well. Several teachers talked about wanting to use the strategies during group work and during labs.

Lisa: One final question, when you reviewed the ICB Framework as a group you mentioned that everyone felt that the most growth was seen in the area of instructional relationships. Was there anything else that the team noticed or discussed?

Anna: Well, there was something that I noticed but it wasn’t talked about explicitly. I think it became clear to teachers what things they can change on their own and what things are more systems level issues. The student interviews helped to highlight this. Once teachers recognized that something was at the systems level they kind of set it aside. They were more focused on the things they could do. I think as a group we also communicated what we needed at the systems level and we felt that we were heard. As a team we were able to advocate for what we needed but realized some things are harder – especially without our administrator being actively involved.

Lisa: Anything else you would like to add?

Anna: We need more time for this work. We have made great progress but it takes time.

Lisa: It sounds like you’ve done some great work and that the team is very energized.

Anna: Yes, definitely. Thank you

Karen/Lisa: Thank you for your time Anna. Goodbye.
Appendix D
ICB Framework NGSS Group

ICB Framework NGSS Group - Summary, Sept. 4 2014 (Pre)
T-BAR Prototype: Teacher-Driven Transition to NGSS

*Building empathy with science teachers while developing the big picture of NGSS.*

**ICB Framework: Design Thinking**
© Ann Jaquith

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Instructional Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>· CA Standards and content knowledge</td>
<td>· Established meeting times for dept. and content groups</td>
</tr>
<tr>
<td>· Experienced, talented teachers</td>
<td>· Collaboration</td>
</tr>
<tr>
<td>· Sound instructional practices</td>
<td>· Support</td>
</tr>
<tr>
<td>· Personal passion to continue and develop current knowledge</td>
<td>· Strong friendships</td>
</tr>
<tr>
<td>· Expertise in curriculum</td>
<td>· Representation at SCOE and connection to other teachers</td>
</tr>
<tr>
<td>· Understanding of school culture</td>
<td>· Administrative involvement</td>
</tr>
<tr>
<td>· Earth science</td>
<td>· Team eager for growth</td>
</tr>
<tr>
<td>· Make</td>
<td>· Intelligent colleagues with great ideas</td>
</tr>
<tr>
<td>· Culture of content sharing with colleagues</td>
<td></td>
</tr>
</tbody>
</table>

**Have**

**Need**

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Instructional Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>· More time for collaboration</td>
<td>· More buy-in - not feeling 100% commitment right now</td>
</tr>
<tr>
<td>· Cross-curricular relationships and collaboration</td>
<td>· Experts to guide transition</td>
</tr>
<tr>
<td>· Observation of others (instructional practices in action) both on site and at other sites</td>
<td></td>
</tr>
<tr>
<td>· A coach to support and reinforce without risk</td>
<td></td>
</tr>
<tr>
<td>· Time to develop new ideas/content/lessons</td>
<td></td>
</tr>
<tr>
<td>Tools, materials, and know-how</td>
<td>Organizational roles, structures, etc.</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>· Some lab space</td>
<td>· Department chair</td>
</tr>
<tr>
<td>· Lab materials</td>
<td>· Communication with VP via PAC</td>
</tr>
<tr>
<td>· Some access to computers</td>
<td>· Knowledge of responsibility to students, dept., and school</td>
</tr>
<tr>
<td>· Classrooms</td>
<td>· Established meeting times for dept. and for dept. chairs</td>
</tr>
<tr>
<td>· Classroom computers (old)</td>
<td>· Frequent informal meetings</td>
</tr>
<tr>
<td>· Classroom supplies</td>
<td>· Levels of science to target specific student needs</td>
</tr>
<tr>
<td>· Video library (old)</td>
<td>· Earth science as a UC approved course</td>
</tr>
<tr>
<td>· LCD projectors (old)</td>
<td>· Administration and staff willing to grow together</td>
</tr>
<tr>
<td>· Overhead projectors (old)</td>
<td>· Stuff just happens as it should J</td>
</tr>
<tr>
<td>· Texts aligned to current standards</td>
<td>Have</td>
</tr>
<tr>
<td>· Knowledge of how to do inquiry</td>
<td>Need</td>
</tr>
<tr>
<td>· Knowledge of biotechnology</td>
<td>· Structure for lab space/time</td>
</tr>
<tr>
<td>· TOL leader</td>
<td>· Science electives that aren’t college prep</td>
</tr>
<tr>
<td></td>
<td>· Inclusion of VP in department meetings to hear and address concerns</td>
</tr>
</tbody>
</table>

*Have*

*Need*

- Lab space for more lab time
- Reliable computer resources
- Better technology (elmo, laptop, wifi, etc)
- Technology training and perspective (understand why its an emphasis)
- More lab equipment
- Information and resources about NGSS activities
- Training in/sharing of biotechnology
- Fund for consumable lab supplies
- NGSS aligned textbooks
- NGSS presenters
- Current, interesting visual materials
- Easy way to incorporate video or animation

- Work with admin (and math?) to integrate science needs
### Knowledge
- Standards (NGSS books)
- Better understanding of how to evolve lessons to fit NGSS expectations
- Overall idea of NGSS and CCSS- what the structure is, scaffolding of how courses may be sequenced
- Better understating of NGSS and its goals
- Materials/resources from SCOE/Anna and PD opportunities
- Sharing of our own experiences- the things that are working

### Instructional Relationships
- Weekly meetings to share what’s working
- Experienced and knowledgeable colleagues
- A core of people working together supporting the work going forward (SCOE-District-Campus)
- Relationship with district admin (Patty)
- Peers and colleagues sharing ideas
- Knowledge of strengths of peers
- Deepened trust and respect necessary to work collaboratively
- SCOE is often willing to support teachers when outcome for students is clear
- Relationship with district admin (Patty- she listens! And has great ideas)
- Great capacity and structure of collaboration with peers
- Excellent relationships built with trust
- Cohort with experience of positive learning opportunities
- Knowledge of individual strengths and our strengths and values as a group
- More buy-in to the process
- More expert guidance in transition

### Need
- Training in NGSS and STEM
- More info on CCSS and how it works with NGSS
- More time to work cooperatively to develop NGSS lessons
- Training and ideas of what NGSS looks like in the classroom
- How to make it more student driven-examples of NGSS lessons
- Time to organize Bio and Earth Science content to NGSS
- Understanding of what implementation will look like

### Knowledge (Cont)
### Need (cont)
- More specific details about the NGSS standards
- More time and more specific instruction about implementation of NGSS

### Instructional Relationships (Cont)
### Need
- Administrative Support
- Site administration involvement (maybe revolving guest admin?)
- Release time to coordinate units and timeline
- More time to plan together
- Better relationship with site admin

**T-BAR Prototype: Teacher-Driven Transition to NGSS – May 2015 (Post)**

**Building empathy with science teachers while developing the big picture of NGSS.**

**Driving Question:** How might we balance an entity’s autonomy and system coherence to foster professional growth? **ICB Framework: Design Thinking © Ann Jaquith**
<table>
<thead>
<tr>
<th>Have</th>
<th>Organizational roles, structures, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools, materials, and know-how</td>
<td>1 non college prep science course</td>
</tr>
<tr>
<td>· Computer Labs</td>
<td>· Release days to meet and talk about NGSS</td>
</tr>
<tr>
<td>· Standards (books)</td>
<td>· A department that is willing to make changes and work together</td>
</tr>
<tr>
<td>· Internet, county, district support</td>
<td>· Understanding of how to fit NGSS into daily routine</td>
</tr>
<tr>
<td>· First lessons worked on</td>
<td>· Supportive district that wants to see NGSS implementation</td>
</tr>
<tr>
<td>· Labs- many with components of arguments and evidence</td>
<td></td>
</tr>
<tr>
<td>· Understanding of how to bring in relevant resources and what types of resources those are</td>
<td></td>
</tr>
<tr>
<td>· Classroom basics</td>
<td></td>
</tr>
<tr>
<td>Need</td>
<td></td>
</tr>
<tr>
<td>· More lab space</td>
<td></td>
</tr>
<tr>
<td>· More funding for field trips (real life)</td>
<td></td>
</tr>
<tr>
<td>· Updated technology</td>
<td></td>
</tr>
<tr>
<td>· Instruction on available online resources</td>
<td></td>
</tr>
<tr>
<td>· More resources- articles, guest speakers, etc.</td>
<td></td>
</tr>
<tr>
<td>· Additional materials to expand into deeper level and engaging lessons with technology and lab components</td>
<td></td>
</tr>
<tr>
<td>· Technology!</td>
<td></td>
</tr>
<tr>
<td>Need</td>
<td></td>
</tr>
<tr>
<td>· Funding for biotech labs</td>
<td></td>
</tr>
<tr>
<td>· Monthly guest speakers</td>
<td></td>
</tr>
<tr>
<td>· Colloquiums</td>
<td></td>
</tr>
<tr>
<td>· Field trips (virtual and real)</td>
<td></td>
</tr>
<tr>
<td>· Smaller class size</td>
<td></td>
</tr>
<tr>
<td>· Professional development time</td>
<td></td>
</tr>
<tr>
<td>· Time to work on and design an implementation plan (what it will look like, how it will be organized, what examples exist)</td>
<td></td>
</tr>
<tr>
<td>· More time, guidance with the structure of NGSS</td>
<td></td>
</tr>
<tr>
<td>· More understanding of how to fit this additional work/teaching method into an already packed curriculum calendar</td>
<td></td>
</tr>
<tr>
<td>· More ways to help support the effort financially</td>
<td></td>
</tr>
<tr>
<td>· Ways to bring in more “real world”-speakers, etc.</td>
<td></td>
</tr>
</tbody>
</table>
# Appendix E

## Math Project Student Survey Results

<table>
<thead>
<tr>
<th>Question</th>
<th>A Lot Less</th>
<th>The Same</th>
<th>A Lot More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think my teacher is making math more interesting</td>
<td>5%</td>
<td>28%</td>
<td>67%</td>
</tr>
<tr>
<td>Can solve math problems in more than one way</td>
<td>30%</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Understand how I might use math in my life</td>
<td>11%</td>
<td>43%</td>
<td>46%</td>
</tr>
<tr>
<td>Feel more confident about my math skills</td>
<td>7%</td>
<td>43%</td>
<td>50%</td>
</tr>
<tr>
<td>Feel like I am doing better in math</td>
<td>10%</td>
<td>37%</td>
<td>54%</td>
</tr>
<tr>
<td>Understand math assignment</td>
<td>8%</td>
<td>40%</td>
<td>53%</td>
</tr>
<tr>
<td>Talk about math with other students in class</td>
<td>17%</td>
<td>37%</td>
<td>46%</td>
</tr>
<tr>
<td>Look forward to math</td>
<td>8%</td>
<td>52%</td>
<td>41%</td>
</tr>
<tr>
<td>Enjoy math</td>
<td>11%</td>
<td>43%</td>
<td>46%</td>
</tr>
</tbody>
</table>
Appendix F
NGSS T-BAR Prototype Reflections

1. What was one T-BAR experience (training, meeting, individual work, etc.) that excited you this year? What makes this experience stand out?

The best experience for me was learning about all my fellow teachers have to offer and being able to see them as resources as well as friends. My eyes were TOTALLY opened to all we have to offer each other.

One experience that excited me was working with my peers, hearing and trying out their ideas for how to make modifications to our curriculum. Ex: lab that are more question and student driven. Group testing with answer and students give argument. Evidence driven conclusion and discussions

Building new relationships with everyone and learning NGSS with our team.

It was reassuring to see that we will be able to get through these new standards and that working together will facilitate this. I truly enjoyed the opportunity to have the time to work and collaborate with the other science teachers. We do this casually all the time, but I think we were highly productive given a full day to carry out an idea from start to completion.

I enjoyed having the time that was removed from daily class expectations to share ideas about how to blend what I already do with the new expectations. It was also good to have a look at the new standards and critique them with my fellow department members. The part that stands out to me is being a part of the beginning of the new standards introduction.

2. What aspects of T-BAR were frustrating for you? What could have been changed to make it less frustrating?

The NGSS standards are frustrating, and I find it hard not to know what to create or how to create it. I feel insecure not knowing if all the work I do is going to be good still or if I’ll have to start all over.

Understanding how to read the NGSS book. I really felt like I only got clarification of how to read the standards, cross cutting concepts after I attended a separate NGSS, 2 day training. I
would wish/recommend that a intro NGSS training be one of the first things to do as a group, so we have a better idea of what the big picture is earlier.

Making it to all the meetings or at least the whole day.

I feel that I need more specific information, but I understand that I need to get the big picture before the details are relevant. And so I guess my frustration is that don’t quite feel finished yet. It might have been nice to move a little faster during the meetings, but I recognize that would have been at the expense of the creativity and conversation that was occurring. I’m not sure that there is an easy solution to my frustration.

The book presentation of standards is confusing to follow. Sections repeated in different places. Also it appears that there is more emphasis on Biology in particular. It was very helpful to have Anna with us to soften the overall deciphering process but a workshop focusing on one subject would be good.

3. Describe one pedagogical or professional outcome from the T-BAR work in your own practice. (new lesson, strategy, interaction with colleagues, etc.)

I’ve enjoyed getting students to use evidence to defend their reasoning. It’s made their answers deeper/more thoughtful. I’ve enjoyed sharing lessons and trying things I haven’t done before like Maggie’s online karyotyping and her blood typing lab. I think the willingness to share and collaborate will be huge in the years ahead.

Pre lab flow charts, evidence based arguments in the Conclusion and Discussion of labs. More modeling of a concept- like the modeling of meiosis/mitosis with clay. Testing that focuses on skill, application and ability to provide an argument based on evidence.

Extending the work into other areas of development (ie. Biotech trainings with Maggie, dept. chair work with Anna V., brainstorming PD ideas with the team, etc.)

I have tried to rework several of my labs such that the students have a problem to solve and access to the lab, but they are given minimal directions and information about what data to collect and how they are going to go about solving the problem.

I have begun to include development of an argument either supporting or challenging a presented topic of study. I already make my students write reflective five paragraph responses to videos watched in science class supporting units taught. I have included a sixth paragraph this year that includes additional research from the student and a statement supporting how their research ties
into the subject viewed in class. For example, I showed the NatGeo Documentary, *Drain the Ocean* that took my students on a virtual field trip to different places on the ocean floor that have been researched so far, the mid-ocean ridge, Monterey Bay Canyon, Hawaiian Islands to name a few. Students were to pick a place of their interest and find out what we have learned further since the video first aired in 2009. They were to include their findings in the final paper as a sixth paragraph and support their research addition with a statement of how it fit into our study.

Interactions with colleagues- We have had a new topic to share ideas about how to further develop further some of our favorite lab activities and class team work.

4. *Compare your knowledge of and interest in NGSS with what it was at the Sept. 4th meeting. What (if anything) has changed?*

What has changed for me is that I’m no longer afraid of this change. Although it isn’t clear what a typical unit or lesson will look like, or even how to organize it, it does feel like it represents a positive shift to kids DOING and learning, asking questions, and not just bubbling for a test.

I have a much higher interest, I am excited to move forward and make changes to shift to more of a NGSS approach. I have changed labs, assessments, activities and look forward to changing ways to introduced a concept that is driven by student questions.

From nothing to a sense that I can understand the organization of the design.

At the beginning of the year, I had no idea at all about what was going to be involved in NGSS. I am still feeling a little unsure of the specifics of these new standards and how they are going to be assessed. However, I believe that it will all come together when it needs to, and I feel like I have a better understanding of the “big picture.”

In September I had no exposure to any of the new “buzz” words and wondered how much development of new lessons was expected of me. Today here in April I feel confident that the task of implementing the new standards won’t be as challenging as I feared. I hope to continue to feel so.

5. *If we were able to continue our work next year, what do you hope it would include?*

I would like to develop a couple of units to try. Start with something simple and as a group flesh it out and try it. I’d like to figure out what it looks like in the classroom and share (or see) how it works for others.
Time to try, create and share out NGSS lessons

The goals: “showcase of lessons… as a model to other teachers.” that were originally written for the program would be outstanding to see when completed.

I have tried to create some labs and activities that follow the NGSS guidelines. I have found that there are some very positive aspects to these changes in my instruction – my students really master the information because they are forced to use it rather than just seeing it. But I also find that this is a very time consuming process. If I had more time next year to continue this process, it would be very helpful (and reassuring) to work on the mechanics of how we are going to fit all the curriculum in while teaching in this more time consuming style.

I would like to begin working in subject topic groups to develop or update lessons that directly address points not used already in the new standards framework. I would like a finished or products that satisfy the new expectations.
Appendix G
ICB Coding Notes

Math Project Prototype Meeting – November 14, 2014

Relationships
§ Estimation activities – Teacher reports that another team member contributed to a lesson plan
§ Teacher writing group – Writing to argue in math
§ STEM training – Another teacher asked this teacher to share a resource
§ Talking about math with parents – Parents are asking about what children are learning
§ Parent conferences – Sharing a math activity with parents
§ Tens frames – Teacher wants to share the success of this tool with the principal
§ First grade teacher – New teacher wants to join this group

Organizational Structures
§ Teacher writing group – Teacher is applying what she learned from this group to the math prototype team
§ Spending more time on math – Teacher report more time is being spent teaching number sense
§ Parent conferences – Sharing a math activity with parents
§ School math night – Teachers will use this event to share resources with families
§ Tens frames – Teacher suggested this resource be used in every primary classroom
§ Math Project sessions – Tens frames are handed out as a free resource in PD sessions
§ Asilomar conference – Teachers deciding with sessions to attend

Content Knowledge
§ Base ten number writing – Teacher is applying this strategy to other lessons
§ Block tower – Teacher used what she learned to adapt a lesson plan
§ STEM training – Teacher used an activity she learned

Tools/Materials
§ Estimation activities – Teacher reports these activities are going well
§ School Loop Website – Activities are being added to the site to share with others
§ Math vocabulary cards – Teacher uses them to scaffold instruction
§ Number of the Day materials – Teacher is using these instructional materials
§ Whiteboards for number writing – Additional way a strategy is being used
§ Sentence frames – Teacher is combining these with math games
§ Math games – Teacher is combining these with sentence frames
§ Block towers – Teacher used these in an adapted lesson plan
§ Tens frames – Teachers will share this activity with families
§ Everyday Math kit – Kit has tens frames for every teacher
§ Self-made video – Video of students demonstrating an activity
Schema Shifts
§ Teacher used a paraprofessional to help design lesson plans
§ Teacher is now having students write arguments during math instruction
§ Teacher is applying an old strategy (base ten number writing) to other lessons
§ Teacher is combining an existing resource (sentence frames) with a new resource (math games)
§ Teacher is using a new activity she learned in a STEM training
§ Teacher reported that she is allocating more time in the schedule for teaching number sense
§ Teachers are involving parents more directly in math instruction
§ Teacher wants to reach out to principal to share success with a new resource
§ Teacher suggested that every primary classroom use a particular resource
Appendix H
Rincon Valley Year Two Plan
Rincon Valley Union School District 2015-16 Common Core Cadre Proposal

Cadre Focus: High-Quality Instruction
☐ Not content specific
☐ Balance autonomy/choice and system coherence
☐ For 2015-16: “Hold the Course” and “Refine Practices”

4 Pillars of High-Quality Instruction
• Engagement
  o Relevance
  o Student Choice/Voice
  o Technology
• Accountability/Outcomes
  o Formative & Summative Assessment
  o No opt-out
  o Grading Practices
• Classroom Environment/Climate/Culture
  o Physical
  o Emotional/Relationships
  o Mindset
• Structure
  o Rigor
  o Standards and 4 C’s
  o Gradual Release of Responsibility

Cadre 1.0 (focus on components of the 4 pillars)
Invite 8 new cadre teachers, 2 new principals, (+3 consulting teachers) Follow similar pattern to 2014-15 model:
  ☐ 4 release days for cadre meeting/training
  ☐ 3 demonstration lessons with debrief session, up to 6 teachers attend each demo
  ☐ 2 after school meetings
  ☐ 2 PD Thursday sessions

Cadre 2.0 (focus on integrating the 4 pillars)
Returning members of 2014-15 cadre (7 classroom teachers + 1 consulting teacher)
Each returnee selects two non-cadre colleagues to work with for the year in a lesson study model (8 teams of 3)
  ☐ 1 intro day (what is lesson study?)
  ☐ 2 cycles of lesson study, each including:
o 2 after school planning sessions
o 2 lesson study days (teach, reflect, rewrite)
☐ 1 concluding day (what did we learn, where do we go from here?)

Use a multi-year “Passport” system

• Build P.D. around the pillars
  o Start with a symposium at Aug BBD, led by Cadre teachers
  o Teachers select a strand for the year, multiple PD opportunities for each strand
  o Use admins to lead strand workshops (3x/yr)
• Expand Cadre
  o Cadre 1.0 focus on the pillars – demo lessons (more participants, less depth)
  o Cadre 2.0 focus on pulling it all together – lesson study (fewer participants, more depth)
  o Provide a way for 1.0 and 2.0 teams to overlap, share, mentor
  o Make Cadre a 2-year “program” in which all teachers can have the opportunity to participate
• Integrate all pillars into:
  o Buyback Days
  o District Wednesdays (3x/year?)
  o PD Thursdays
  o Demo Lessons
  o Lesson Study
• Recognize completion of strands
  o Certification or “badges”
  o Compensation (district credit or honorarium)