

## **Supporting Teacher Collaborative Learning**

**Amanda Goldman**

**Reach Institute for School Leadership**

*Submitted in partial completion of the Clear Administrative Services Credential & Masters of Education*

### **Abstract**

High quality instruction is key to the success of all students in schools everywhere, but particularly essential in schools working to close the significant achievement gaps that persist in California. Research has shown that improvements in instructional practice can be best achieved through a strong focus on teacher learning in collaborative community. When working to create that focus at Gateway High School in San Francisco, school leadership encountered many difficulties incumbent in collaborative work. Review of the literature in this area confirmed that while collaborative teacher learning can yield the best results for both teacher and student growth, the actual work of collaboration is fraught with challenges including both logistical and relational concerns. One team at Gateway particularly exemplified these issues. They were both philosophically oriented towards and committed to collaborative planning, had done so for more than 2 years, yet struggled to make the work happen and learn from one another. As an instructional leader at Gateway, I designed an intervention to work with this team to grow their awareness of strong collaborative practices and improve their ability to enact those practices in their meeting time. The intervention focused on establishing shared understanding of goals for their work together and strengthening structures to support that work. Over the course of a month, the intervention resulted in an improved ability to identify and use structures that supported their learning together and their ability to identify other best practices of collaboration. The results of the intervention also shed light on other key understandings about the nature of collaborative teacher learning including the need for shared understanding and external feedback on collaborative practice.

## **Introduction**

Finding ways to continuously improve the quality of instruction in California schools has emerged as an area of both high need and importance. With the introduction of standards that demand development of more complex skill sets and the expectation that all students will meet these standards, schools are being called to place greater focus on the instructional development of teachers (Ball and Forzani 2010). Research has shown that improvements in instructional practice lead to gains in student success and can be best achieved through a strong focus on teacher learning in collaborative community (Desimone 2009, Bryk, Sebring, Allensworth, Easton, and Luppescu 2010, Little 2006).

Gateway High School is a public charter high school in San Francisco, California. It is one of the older and more established charter schools in the region with the 2014 marking its 16<sup>th</sup> year of operation. The student population, admitted through open lottery, is highly reflective of San Francisco's diversity. Approximately 30% of the student body is Latino, 30% White, 20% African American, and 20% Asian. Slightly over half of the student population qualifies for free/reduced lunch status and 20-30% have a diagnosed learning disability. With the combination of this diverse student body, and a largely untracked learning environment, student outcomes tend to be comparable to the achievement gaps seen throughout the state- with a disproportion of failing grades earned by students of color, students in lower socio-economic brackets, or both. Raising the bar for student success and addressing this gap is an urgent concern at Gateway and similar schools in the region.

In order to better support instructional improvement and reform efforts targeting equitable outcomes for all students, Gateway assembled a team of 3 instructional leaders, myself included. The team members hold hybrid teacher-leader roles, teaching some classes and having release time for coaching and planning professional development. We were charged with designing and implementing all professional development related to instruction as well as coaching new teachers and veterans in need of extra support. We

were part of the larger school leadership team that met regularly with administration and other teacher-leaders. My role on this team led to the work of this action research project.

### **Problem of Practice**

As an independent charter school, professional development at Gateway has always been determined by school leadership with input from teacher leaders (as opposed to by district or state mandate). For many years, PD time was a combination of teachers sharing their favorite practices and administrative announcements. Three years ago, a group of teachers made a proposal to shift to an inquiry model in attempts to engage the faculty in a more active pursuit of solutions to address the gap. In the first year, this group of teachers worked to support the staff in this shift, but were largely learning on the job with almost no formal training in leading PD or devoted time to plan. Recognizing that supporting the instructional development of the staff was a greater priority, the next year a smaller team of 3 teacher-leaders (described above) was given partial release time to devote to planning and facilitation of inquiry group work and changes were made to the structure of inquiry teams in response to faculty feedback. This team and the larger “leadership team” (made up of administrators and teacher leaders) decided to make meaningful and effective professional development in service of more equitable student outcomes the top school priority for the 2013-2014 school year.

Many of the main components of ideal conditions for inquiry work are in place at Gateway. The work is sustained, on-going, and job-embedded; criteria that has been found to be most effective for teacher learning (Penuel, Fishman, Yamaguichi, and Gallagher 2007, Chappuis, Chappuis and Stiggins 2009). Teachers as a whole are highly committed to the school’s mission of serving all students and spend long hours providing tutoring, counseling, and other support well outside the basic school day. Staff generally demonstrate an understanding of the idea that instructional practices matter in the pursuit of better student outcomes as teachers are highly responsive to feedback about practice, including coaching and supervision. Due to a concern about teachers feeling voice-less in

decisions about professional development, a consensus decision-making process was used to determine general structures and intended outcomes for PD (which alleviated many of the stated concerns). Teacher participation at meetings, stated feedback, and general attitude suggest that faculty were excited and ‘bought-in” to the larger goals and structures of inquiry. Yet, once teachers began to narrow to individual or planning team level decisions about specific inquiry plans, a breakdown began to emerge.

At this point in the process, inquiry teams made up of 1 or more planning groups were working largely on their own with weekly goals sent out from the leadership team (as there are too many groups for a member of the leadership to facilitate each one). However, several groups lacked the necessary skills to move through the inquiry process. Some groups opted for each team member to work on a different area of instruction rather than come to consensus about an area of need. Others were unable to give constructive feedback to team members for fear of offense. This resulted in a lack of genuine collaboration within inquiry groups as both scope and depth of inquiry varied widely, detracting from the sense of community and deep introspection that contributes to the success of this type of professional development.

As Gateway commits significant energy and resources to create time for collaborative inquiry and planning, it was important to investigate collaboration efforts more closely. The 10<sup>th</sup> grade humanities team (Hum 10) expressed that they were struggling with their collaborative planning. This is a team of 3 experienced teachers (6+ years of classroom experience each) who have been planning together, working on the same curriculum, for more than 2 years. They have similar educational and teaching histories. They have 90 minutes of dedicated planning time per week. All these factors should create ideal conditions for collaborative planning and yet, all members of the team were feeling that the process was not working. For this reason, they represent an excellent case study in effective teacher learning through collaboration at Gateway that could shed light on problems facing other planning teams.

Individual interviews with each member of the Hum 10 team, as well as observation of their planning time, revealed that the team had several strengths. In meetings they treated each other respectfully, reflected on and planned for student learning, and held an equity-focused lens up to much of their work. They all recognized and respected that each member of the team was able to contribute in different ways. However, when asked what the goals of collaboration and meeting time were, all three had significantly different answers. While they had created and agreed upon meeting structures, their choices did not set them up to plan effectively and they were often running out of time to prepare for upcoming classes. Furthermore, the bulk of their collaborative time was taken up with discussion of the logistical details of particular lessons and not conversations about student learning.

In order for collaborative work to be a meaningful and effective vehicle for teacher learning, participants need to have common goals for collaboration, meeting structures to support those goals, and enough relational trust to support the team through disagreements and surfacing of contrasting beliefs. **Even though the Hum 10 team members were committed to moving their practice forward and had considerable time and resources devoted to collaborative inquiry and planning, they lacked these core components of collaboration necessary to achieve this.** This action research investigated how coaching and support around goal setting for collaboration, use of appropriate meeting structures, and collaborative behaviors can strengthen collaboration efforts. With improved collaboration, teachers would be better equipped to work toward improving instruction and narrowing the achievement gap.

## **Review of Relevant Literature**

### ***Introduction to the Literature***

The continued existence of a racially and socio-economically based achievement gap in the U.S. is a problem that should concern all educators. Research has routinely shown that continued teacher professional learning is one of the critical elements to improving

schools and closing the achievement gap (Desimone 2009, Bryk, Sebring, Allensworth, Easton, and Luppescu 2010, Little 2006). Strong professional community is a key component that can lead to improved teacher learning and subsequent school improvement (Borko 2004, Kruse 1995, Little 2006). Collaboration results in improved teacher and student learning (Childers and Lowry 2004) and is among the best conditions to foster this strong professional community (Kruse 1995, Thessin and Star 2011). However, collaboration is difficult and needs to be supported by leadership (Jacobsen 2010, Magolda 2001). Collaboration is best when teachers are in an environment high in relational trust (Bryk and Schneider 2003), have strong commonly held goals (Kezar 2006), and a mindset in which they can confront and learn from conflict (Achinstein 2002).

### ***Impacting the Achievement Gap Through Improved Teacher Learning***

Considerable research has shown that focusing on teacher learning and professional community can impact success in overall school improvement and student learning. Furthermore, teachers can learn and improve their teacher practice. Little states this most clearly, “A school is more likely to be effective in supporting high levels of student learning and well-being when it also plays a powerful, deliberate, and consequential role in teacher learning (Little 2006).” This point is repeated by Desimone, “Research has increasingly identified the continuing development and learning of teachers as one of the keys to improving quality of US Schools (Desimone 2009).” Additionally, Saunders, Goldenberg and Galimore found specifically that grade level teams focused on improving teaching practice saw improved student results in under 5 years (Gallimore, Ermeling, Saunders, and Goldenberg 2009; Saunders, Goldenberg and Gallimore 2009). Goodnough further emphasized this idea that teachers play a critical role in educational reform and must, therefore, engage in high-quality professional development (Goodnough 2005).

The link between improved teacher and student learning is corroborated by Bryk and colleagues’ (Bryk et al 2010) long-term study of several hundred Chicago public schools over a seven year period. This study found that while there are many essential elements for successful school improvement, high quality professional development and

supportive professional community were among the most highly correlated with gains in academic productivity. Every school that saw improvement in measures of student achievement had a strong professional learning component as a factor in their reform efforts.

Moreover, the literature supports my argument that teacher learning can actually be improved and it is essential to do so. Ball and Forzani argue that while good teaching is complex, it is also a learnable skill. There are gaps between what is learned in credential programs and the skills required to be a successful teacher. The needs of the students and the profession as a whole require a focus on how to bridge that gap (Ball and Forzani 2010). Brouwer and Korthagen (2005) build on that point by first lamenting the problematic nature of the gap between learning and doing common in many traditional pre-service teacher education programs but then documenting that new teachers are highly likely to experiment with new techniques and improve practice when given access to learning through collaboration with experienced colleagues. Taken as a whole, the body of research is clear in its support for robust opportunities for teacher learning as a means of improving student outcomes.

### ***Teacher Learning is Maximized Through Effective Professional Community***

From the assertions above, it follows that we must consider the ideal conditions for teacher learning. Several themes emerge from the literature. Wenger introduces facets of good learning design that she calls imagination, alignment, and engagement (Wenger 1998). The first includes orientation to time and location of learning, as well as opportunities for exploration within learning. Both Chappuis and Penuel corroborated these ideas, finding that sustained, on-going, job-embedded professional development is most effective for teacher learning (Penuel, Fishman, Yamaguichi, and Gallagher 2007, Chappuis, Chappuis and Stiggins 2009). Wenger's next facet – alignment - involves convergence on common focus or cause. Similarly, Penuel found that the most learning occurred when goals for professional development were closely aligned with teachers' personal goals for growth.

The third facet of good learning design, which Wenger calls engagement, includes the aspects necessary for supporting communities of practice (an idea I will revisit shortly). This overlaps with several other studies that highlight the importance of teacher learning occurring on-site (Chappuis et al 2009) and with collective participation from teachers at the same school (Penuel et al 2007). Little illustrates what this might look like at a practical level, “At the very least, one must imagine schools in which teachers are in frequent conversation with each other about their work, have easy and necessary access to each other’s classrooms, take it for granted that they should comment on each other’s work, and have the time to develop common standards for student work” (Little 2006).

Strong professional community and the conditions that support it emerge as one of the more critical factors in teacher learning. Both Wenger and Lave (Lave 1996) emphasize that learning is ultimately a social endeavor, an aspect of participating in community. As such, the rest of this section will focus on understanding professional community and its impact on student learning in more depth.

Richard DuFour, among the founding fathers of the term PLC or professional learning community, defines true PLCs as “collaborative teams focusing collective efforts around clear questions of student learning” (DuFour 2007). Professional learning communities are organized around the idea that student learning is best improved by continuous, job-embedded learning for teachers (DuFour, DuFour, and Eaker 2008). Little summarizes five defining elements of professional community: shared values and purpose, collective focus on and responsibility for student learning, collaborative and cooperative, deprivatization of practice, and collective control over important decisions affecting curriculum (Little 2006).

Little goes on to differentiate *tradition-oriented strong communities* in which teachers are united by a focus on preserving their preferred ideas of teaching and *teacher learning in community*, in which there is a attitude of flexibility and a commitment to learn



through critique, reflection, and debate (Little 2006). This distinction characterizes some of the ideal conditions for school based professional community. Darling-Hammond emphasizes the importance of collective analysis of student work and peer observation as components that support successful job-embedded collaborative professional community as they support willingness to learn from practice and a commitment to student learning. (Darling-Hammond and Richardson 2009). Like Little, Craig cautions that there is a distinction between PLCs where the community is structured with collaborative learning as the goal and more organically arisen *knowledge communities* in which such collaborative learning may emerge without that being the intent or purpose (Craig 2009).

There is clear consensus in the literature that strong professional community benefits teacher and student learning. “Research has steadily converged on the importance of strong teacher learning communities for teacher growth and commitment, suggesting as well their potential contribution to favorable student outcome” (Little 2006). Louis and Kruse emphasize benefits to teachers including increased sense of efficacy and satisfaction (Kruse 1995). DuFour reminds us that teachers working in collaborative teams to monitor student learning and ensure that all students have access to the same knowledge and skills has long been known to benefit student learning (DuFour 2007). From this, it becomes clear the developing professional community must be a part of supporting teacher learning in service of improving student achievement.

### ***Collaboration is an Essential yet Challenging Component of Professional Community***

Louis and Kruse include collaboration as one of their five characteristics of school based professional community (Kruse 1995). Thessin and Star comment that a school’s capacity to do collaborative work is one of the key influences on the success of PLCs (Thessin and Starr 2011). As such, I consider collaboration to be an essential component of learning in professional community. In this section I will define collaboration, illustrate how collaboration leads to better results in many fields, and explore some of the challenges inherent in collaborative work.

Collaboration is defined as a process that includes an interactive dimension in which relationships develop over time. It must develop shared rules, norms, and structures (Kezar 2006). Collaborative teams are defined and distinguished from other groups by containing some degree of interdependent work (Offermann and Spiros 2001). Collaboration is often further divided into internal – within the organization- and external collaborations (Kezar 2005).

Regardless of definition, the literature makes a strong case for collaboration leading to improved results across many aspects of education and beyond. Mayer-Smith demonstrated that collaboration in the design of a technology roll out resulted in better implementation of that technology in classrooms, leading to improved student learning (Mayer-Smith, Pedretti, and Woodrow 1998). Briggs followed curriculum reform efforts at the college level and found that faculty collaborations led to more coherent curricular improvements (Briggs 2007). Kezar also examined collaboration in higher education and found clear enhancements to student learning when faculty worked collaboratively (Kezar 2006). Beyond education, collaboration was shown to be a key element of business performance world wide, with almost 1000 companies world-wide reporting on its impact (Kolfshoten, Niederman, Briggs, and De Vreede 2012). Of all of these, Childers and Lowry summed it up best in their case study of teacher collaboration on a high school, interdisciplinary course by emphasizing that though collaboration is hard and risky, it results in meaningful learning for both students and teachers (Childers and Lowry 2004).

While most agree that collaboration is an asset, most also agree that it is difficult to achieve. Both Jacobsen and Thessin and Star caution that teachers do not automatically know how to collaborate and that leaders must be prepared to support and direct those efforts (Jacobsen 2010, Thessin and Star 2011). In an examination of collaborations between higher education and other distinct organizations, Magolda noted that collaboration required all players to “cross borders” and move out of comfort zones, resulting in participants being generally resistant to move forward with the work (Magolda 2001). Hargreaves takes this point about the difficulty of collaboration to the extreme. He

argues that true collaborative relationships cannot be mandated as they are, by definition, spontaneous and voluntary (Hargreaves 1992). While there are enough studies of mandated yet meaningful collaborations to discount the universality of this point, it is clear that the challenges of collaboration are not trivial.

Kolfschoten offers some tangible explanations for this difficulty of collaboration; varied goals and objectives, logistics, and uncertainty about optimal ways to organize and monitor progress (Kolfschoten et al 2012). Others consider a deeper-seated explanation. Richardson argues that the nature of American individualism (and teachers as representatives of that) are the pitfall of collective professional development (Richardson 2003). Achinstein points to micropolitics and a general culture of conflict avoidant behavior that leads to minimal movement and productivity within PLCs (Achinstein 2002). This dovetails with Argyris concept of Model 1 thinking in which the governing belief is in “maximizing winning and minimizing losing (Argyris 1997).” This contrasts with Model 2 thinking, in which the governing belief is to learn something new from collaborative interactions.

The literature clearly shows that student learning is strengthened when teachers collaborate but that collaboration is wrought with difficulties. As student learning is at the heart of the achievement gap, it follows that collaboration must be part of the steps in closing the gap. The remaining sections examine factors of successful collaboration and strategies for improving collaborative efforts.

### ***Factors of Successful Collaboration***

While the previous section highlights the challenges, the research does suggest factors that support success of collaboration. These factors can be divided into two categories: conditions/mindset and structures/tools.

Relational trust ranks highest among the conditions necessary for successful collaboration, as well as for general school reform (Bryk and Schneider 2003). This

includes respect, personal regard, competency in core responsibilities, and personal integrity. The interdependency inherent in collaboration can lead to vulnerability and the reform work happening in collaboration can often involve conflict. High levels of relational trust have been shown to be a motivational force for continued collaboration in spite of these challenges (Bryk et al 2010). Achinstein corroborates this, emphasizing the importance of a team with willingness and trust enough to confront conflict (Achinstein 2002).

Positively applied pressure from leadership or otherwise can also support successful collaboration. Fullan provides a list of positive pressures that push work forward, including sense of focused urgency, peer partnerships, and non-punitive accountability (Fullan 2009). Focused urgency around a clear, well articulated goal is one of the factors most associated with successful collaboration, especially when the goal of the collaboration is aligned with the goal or mission of the school (Kezar 2006).

Lastly, and perhaps the hardest to quantify, teachers engaged in collaboration need to have a learner's mindset. Childers and Lowry describe keys to success as, "Commitment, honesty, enthusiasm, openness to criticism, and sense of humor" (Childers and Lowry 2004). Knowles agrees, "Skills that help maximize this model of adult learning include participants' ability to carry out a long-term learning plan systematically and sequentially, compare their current skills and learning needs with the intended learning, gather evidence of their own learning and progress, and connect their learning to new classroom practices (Knowles, 1990)." Chappuis also includes this "cultural shift to learning in long-term, on-going work" as the first of five key elements of implementing a learning team model (Chappuis et al 2009).

Collaboration is also strengthened by specific tools or structures designed to ease the process of working together. Strong facilitation ability is one of these. Kolfschoten describes the facilitation task as designing an agenda, preparing tools for meetings, encouraging participation, facilitating interaction, and capturing results (Kolfschoten et al

2012). Bringing on strong facilitators and supporting them in their role represent two more of the five recommendations for implementing learning team collaborative models (Chappuis et al 2009).

Protocols and routines for talking about teaching and learning can also be helpful. Little specifically suggests routines for extended talk about teaching and plentiful examples of student work from which to draw conclusions (Little 2006). However, in a later publications, Little and Curry caution that protocols can become limited or formulaic (Little and Curry 2009). Group support systems are tools and technologies that reduce the cognitive load of collaboration by lessening the amount of thinking and communication that participants must do regarding sharing of work, better allowing teachers to focus on the content of the meeting (Kolfschoten et al 2012). Briggs corroborates the point about these technologies allowing for more productivity in collaboration but stresses that too often the difficulty of learning the technology can counteract this gain (Briggs, De Vreede, and Nunamaker 2003).

In short, both protocols and technological tools can be helpful if collaborators are comfortable and aware of inherent limitations. A skilled facilitator or leader can be helpful in mitigating those limitations. Leaders can also impact collaboration by creating conditions to develop relational trust among collaborators.

### ***Collaboration Can Be Improved Through Clear Goals, Support for Design and Facilitation, and Coaching around Learning Mindset***

There is consensus in the literature that key elements support successful collaboration. There is also agreement that collaboration can be improved. Kolfschoten describes collaboration engineering. This is, “an approach to create sustained collaboration support by designing collaborative work practices for high-value recurring tasks, and transferring those to practitioners to execute for themselves without ongoing support from professionals (Kolfschoten et al 2012).” Kollar argues that though research shows that collaboration often is not immediately successful, supporting team members with “collaboration scripts” (guidelines

for communication) can improve subsequent learning (Kollar, Fischer, and Hesse 2006). In this section, I will make the argument for improving collaborative efforts through a focus on clear, agreed upon goals, support for design and facilitation of collaboration, and coaching to increase learning mindset.

We know that positive pressure in the form of focused urgency around clearly defined and agreed upon goals is a positive support for collaboration. It follows that collaborative work can be improved by incorporating and improving such goals. Offerman and Spiros found that when teams were struggling, interventions aimed at goal setting were among those perceived to be most effective (Offerman and Spiros 2001). This applies to goals for both teacher and student learning. Magolda encourages starting by asking if collaboration is a good idea and what teacher learning goal will be served by the collaboration (Magolda 2001). Hargreaves cautions that authentic collegiality only arises when the goals are developmentally oriented for individual teacher growth (Hargreaves 1992). Both Magolda and Hargreaves suggest that starting a collaborative effort by identifying and agreeing upon purpose and goals for collaboration may be beneficial in improving collaborative efforts.

The literature also demonstrates that collaboration can be improved by a stronger focus on goals for student learning and analysis of evidence of student learning. Gallimore showed that focusing on concrete student learning goals resulted in more teachers attributing student success to teacher action and a greater willingness to engage in inquiry around those learning goals (Gallimore 2009). DuFour found that teacher teams were more successful, both in their own learning and at improving student learning, when they were designing shared assessments of highly specific learning goals for students (DuFour et al 2008).

Supporting teachers in understanding and designing the process and tools of collaboration can also improve its impact. Both Chappuis and Magolda urge leaders to create understanding and involve all stakeholders in the design of collaborative structures

(Chappuis et al 2009, Magolda 2001). Kollar offers the use of collaborative scripts, a tool that provides “instructions for task-related interactions that can be directed at different kinds of learning objectives (Kollar et al 2006),” though cautions that there is a high need for differentiation with these tools. Briggs similarly suggests that the key is to design effective collaborative processes that can be run by practitioners, not necessarily just a skilled facilitator (Briggs et al 2003).

While there is limited research on the specific question of coaching teachers into a more learning oriented collaborative mindset, it is clear that this coaching participants around their role in collaborative meetings can be another tool to improve collaboration. Costa and Garmston argue that the goal of coaching is for teachers to develop cognitive autonomy over their teaching (Costa and Garmston 1992). This is like a mental map to work through future pedagogical problems that are similar to ones discussed in coaching conversations. The same model should work for problems of collaboration. Particularly, it is essential to coach teachers through accepting conflict and difference that will ultimately arise in authentic collaboration (Magolda 2001).

### ***Conclusion***

Much of what I have argued here was summed up by Borko in three key points. Excellent teacher learning is essential to drive change in teacher practice and in turn drive change in student achievement. Teacher knowledge and practice can change as a result of professional development. Strong professional community can foster teacher learning (Borko 2004). Collaborative work is a key element of professional community, but can come with its own challenges. These challenges might be an explanation for Webster-Wright’s findings that even though we know that this type of situated learning is best for teachers and students, it still isn’t the dominant paradigm in professional development (Webster-Wright 2009). At Gateway High School, many of the key elements of strong professional community are in place, yet even veteran teachers struggle with elements of collaboration. Based on this, I argue that intentional efforts to improve collaboration are important steps in the pursuit of high-quality professional learning.

## **Theory of Action**

The main idea behind this research and the above theory of action is that improved collaboration strengthens teacher learning, which in turn improves student learning. Two key points drive this theory. The first is that student learning, and by extension the achievement gap, can be positively impacted by improved teacher learning. A stronger focus on teacher learning, with a focus on improved instruction, has been shown to result in improved outcomes for students at the individual class room, school wide, and district wide level. The second key point is that teacher learning and instruction are strengthened through collaboration. Again, my literature review describes many studies that hold collaboration as an essential pillar of a successful learning community.

The impetus behind this action research project was the disconnect between the research supported use of PLCs as an effective format for teacher learning and the real-world challenges of collaboration that Gateway has experienced. Gateway has devoted time and resources to the development of PLCs and has a community of teachers committed to improving student achievement including a significant number who have been teaching more than 5 years. These are strong conditions for building a successful professional learning community. I decided to focus on collaboration within a team of veteran teachers who already have a history of sustained professional learning because despite these ideal conditions, the team has struggled considerably with their work together. They are highly representative of many collaborative teams at Gateway. Success with team would yield a baseline of strategies that could be used with many teams to strengthen their collaborative learning.



*Table 1 – Theory of Action*

Problem of Practice	Literature Review	Intervention	Expected Change
<ul style="list-style-type: none"> <li>- An Achievement Gap exists</li> <li>- PLCs and Collaborative Planning is designed to address achievement gap by improving instruction</li> <li>- Hum 10 team (and others) not “really” collaborating – struggling with common goals, ability to be uncomfortable within collaboration, and structures to support goals and discomfort</li> </ul>	<ul style="list-style-type: none"> <li>- Improved Instruction reduces achievement gap</li> <li>- PLC model is known to be effective but requires high levels of collaboration</li> <li>- Collaboration is difficult but is improved by:               <ul style="list-style-type: none"> <li>-- common goals for collaboration,</li> <li>-- high amounts of relational trust</li> <li>-- structures that support the collaboration by keeping connection to shared goals and supporting ability to surface and work through conflict in collaboration,</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Surfacing and establishing agreement about common goals and beliefs for collaboration</li> <li>- Agreeing on finite number of concrete meeting structures to use in support of reaching agreed upon goals</li> <li>- Regularly reflecting on and assessing individual and group movement on collaborative practices rubric</li> <li>- Discrete, short instructional episodes within collaboration meetings to support key collaborative skills</li> </ul>	<p>Team members will have an improved ability to engage in collaborative practices, including:</p> <ul style="list-style-type: none"> <li>- Remaining focused on agreed upon goals for collaboration that are student focused</li> <li>- Using agreed upon structures and protocols to ease difficulties in collaboration</li> <li>- Addressing and working through disagreements related to goals</li> <li>- Making changes to instructional plans to support improved student learning and increased equity</li> </ul>

### **Intervention and Data Collection Plan**

The humanities 10 (Hum 10) team is made up of 3 teachers, all of whom have been in the classroom for at least 5 years. At the time of this research, they had been on a team together for two and a half years. Between them, they taught all sections of the 10<sup>th</sup> grade humanities course (a combination of English and Social Studies). They met together once a week for 90 minutes to discuss and design lesson plans for the following week. They freely admitted to challenges in the collaboration but couldn’t precisely describe what those were.

While their collaboration was sometimes strained, the three teachers are friendly and treat each other respectfully.

My work with the Hum 10 team started months before the intervention began when I interviewed each team member about their collaboration. Before I began the intervention I recorded one of their weekly meetings and had each member of the team complete a short reflective survey at the end of that meeting. The transcripts of this pre-intervention meeting, the results of their reflective survey, and the answers from the initial interviews served as baseline data of their collaboration practices, allowing me to measure the impact of my interventions.

Several studies identify the need for professional learning to be job-embedded and on-going in order to be successful at changing practice (Penuel, Fishman, Yamaguichi, and Gallagher 2007, Chappuis, Chappuis and Stiggins 2009). This, in addition to the common understanding of the time constraints inherent in many educators' schedules, led me to design this intervention to occur within the confines of their weekly planning time. It was critical that the time we took to work on their collaboration skills did not detract from their ability to accomplish their planning needs. In addition, if this intervention were to be applied to other planning teams in the future, it was important that it was time-bound within the existing allotted times for collaboration. The need for this was further illustrated when it became impossible to schedule time with all 3 teachers together (even when released from teaching responsibilities) outside of their normal planning block.

As such, the format of the intervention was as follows: I took the first 10-15 minutes of their meeting time as collaboration instruction. In that time, I facilitated a short learning activity around a collaboration related topic. I then sat with them through the meeting, occasionally calling their attention to particular elements of the way they were working together or using their time that related to behaviors that support strong collaborative learning. In the last 5 minutes of the meeting, I asked each teacher to complete a computerized self-assessment of their collaborative practices. Questions on the survey

asked them to reflect on the whole team's actions in the meeting that day with regards to goals, meeting structures, and attention to student learning. This pattern continued for 4 consecutive weeks.

The collaboration practices survey that I created was a key component of my intervention. It was intended to be both a tool for data collection and a means by which the team members would become aware of what they themselves must do to improve their work together. The rubric included the basic elements of clear and agreed upon goals for supporting student learning, structures and discussions in support of those goals, and degree to which members were able to disagree and work through disagreement. Teachers gave a Likert scale response to each question as well as having the option for an open ended response.

The literature strongly supports the idea that the establishment of common goals and the ability to work through disagreements are among the most critical elements for successful collaboration. To that end, the goal of my first collaborative learning activity was to surface and clarify core beliefs about the purpose of their collaboration. In that piece, I worked with them to identify specific goals for their time together and descriptors of what success on those goals will look like. In the second week, we focused on structures that would support the agreed upon goals. The focus of this learning activity was mainly on their weekly agendas and honing the desired outcome of each piece. In the third week, we spent some of our time trying to understand the value and challenge of discussing points of disagreement as well as how to surface disagreement. In the fourth meeting, the focus of the learning activity returned to co-constructing useful agendas as the group identified this as a most pressing need in their weekly feedback.

The 5<sup>th</sup> week's meeting was the culmination of my work with the team. I did not take an active role in this meeting, but rather observed silently so as to see how their collaboration was working without my additional intervention. I also recorded this meeting for later transcription. After this meeting, I again surveyed and interviewed each

member of the team. The majority of the questions in this post-intervention interview, matched the pre-intervention survey questions, but included two additional questions designed to show me if, in addition to showing improved collaborative practices, the team members could describe what was necessary for strong collaboration in the abstract.

*Table 2 - Overview of Intervention*

	Component	Activities	Purpose	Data to be Collected
1	Surfacing Interviews	- One on one interviews with researcher	- Identify team members' beliefs and understandings about collaboration	- Interview transcription
2	Pre-Intervention Video of Hum 10 meeting	- Video Tape typical collaboration meeting before intervention begins	- Establish baseline for collaborative relationship and structures	- Video/Transcript of collaboration meeting - Researcher Reflective Journal
3	Pre-Survey of Hum 10 team (following taped meeting)	- Computerized survey - Scale questions about collaborative work - Reflective questions about personal role in collaboration	- Establish baseline for teacher perception of success of collaborative meetings - Begin to establish reflective routines about personal role in collaboration	- Responses to Scale questions - Open ended responses to key reflective questions - Researcher Reflective Journal
4	Hum 10 Planning Meetings with regular reflection on process (~4 weeks of weekly meetings)	-Bringing in new meeting structures as agreed upon at mini-retreat -Reflective surveys / collaboration rubric at the end of each meeting -Support for rotating facilitators as needed	- Support team members to build their collaboration in a way that will be sustainable once researcher is no longer present in meetings.	- Weekly reflective survey, after each meeting - Researcher Reflective Journal
6	Post-Intervention meeting and survey	Video / Observation of collaboration meeting without researcher involvement - Final interview	- See what behaviors persist without researcher involvement	- Transcript of meeting assessed on rubric - Compiled weekly surveys - Transcription of final interviews

## **Research Methods**

While the ultimate goals of this research were tied to improving student learning through teacher learning, there were two more immediate questions. First, would

targeted instruction and practice of key collaborative practices lead to improved collaborative learning for teachers? Answering this question is particularly important given the time and resources Gateway and other schools devote to co-planning and other collaborative endeavors and limited amount of preparation teachers have for this sort of work. Second, regardless if the collaborative practices of this team improved, I wanted to determine if the intervention improved teachers' understanding of the components of strong collaboration. This team has been working together for quite some time. I was curious to learn if this short intervention would be enough to build up their knowledge base, if not completely remake 2 ½ years of collaborative patterns.

I collected data in 4 forms: meeting transcripts, participant interviews, self-surveys of collaborative practice, and a research journal of my own notes. I recorded 2 full collaborative meetings of the Hum 10 team, one from directly before the intervention began and one from our last meeting together. These were transcribed word for word as a tool for measuring the impact of the intervention on the nature and quality of the collaborative meetings. I also interviewed each member of the team individually before and after the intervention. The pre-intervention interviews were conducted in December, well before beginning the intervention and before team members had much understanding of the goals of the project. Post-intervention interviews were conducted within 2 weeks of finishing the intervention. Team members responses were transcribed during the interviews. Similar questions were asked in both pre- and post-intervention interviews. These two data points (meeting transcripts and interviews) represent the sources of information that were indicative of the impact of the project.

In order to triangulate the data sources described above and to have some measure of how the intervention was proceeding in process, I also collected weekly data on the progress of the group's collaborative efforts. One source of this process data was my own research journal, in which I recorded my perceptions of the group, their work together, and the steps we took in each learning session. In addition, I collected data showing their own assessment of their collaborative efforts. Before the intervention, weekly after each

meeting, and after the intervention, each member of the team completed the google form survey assessing their collaborative process on a Likert scale. This survey (see appendices) included items about their goal and agenda setting, attention to student needs, and tone of interactions. The use of google form made it easy for me to analyze the data in real time and pushed teachers to be specific in their self-assessments. However, I struggled to get all 3 teachers to complete the survey each week; a problem that might have been resolved with a paper and pencil survey that I asked teachers to complete before leaving the meeting.

*Table 3 - Expected Change and Data Sources*

Expected Change	Data Sources	What will this data tell me?
<p>Team members will have an improved ability to engage in collaborative practices, including:</p> <ul style="list-style-type: none"> <li>- Remaining focused on agreed upon goals for collaboration that are student focused</li> <li>- Using agreed upon structures and protocols to ease difficulties in collaboration</li> <li>- Addressing and working through disagreements related to goals</li> <li>- Making changes to instructional plans to support improved student learning and increased equity</li> </ul>	<ul style="list-style-type: none"> <li>- Collaboration Practices weekly survey completed by participants before, during, and after intervention</li> <li>- Pre- and Post-Intervention interviews with participants</li> <li>- Transcribed record of planning meeting pre- and post-intervention</li> <li>- Researcher Reflective Journal</li> </ul>	<p>Process: From week to week, this data showed how collaboration was working and how participants perceived the changes in their practice. It informed changes to collaboration learning activities for subsequent weeks.</p> <p>Impact: Comparing this data from pre- and post-intervention showed changes in practice resulting from the intervention.</p>
<p>Improved Individual awareness of collaboration skills</p>	<ul style="list-style-type: none"> <li>- Question in post-intervention interview about generalized collaborative practice</li> <li>- Researcher Reflective Journal</li> <li>- Collaboration Practices weekly survey completed by participants before, during, and after intervention</li> </ul>	<p>Process: Question on weekly survey showed how individual's understood the week's topic and informed if more targeted work was warranted. Comparing researcher journal to participants scores</p> <p>Impact: Post-intervention interviews showed awareness of generalized collaboration practices</p>

My first step in analyzing this data was to start with the quantitative. I took the responses from the weekly survey and gave values to each response on the scale (Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1). I looked for patterns of change in those numbers from before the intervention, through each week of meetings, to the post-intervention survey for individuals and the average of the group as a whole. I looked for changes from beginning to end as well as changes in particular questions tied to the particular collaborative practice focused on for any specific week. Finally, I looked to see how the team-members assessment of themselves correlated with notes in my research journal or their own comments from meeting transcripts or interviews.

The qualitative data took more steps to analyze. I started by creating basic categories of codes based on the collaborative practices detailed in my expected results. I then broke those categories down further in to more specific codes. Using that list of almost 30 codes, I reviewed and coded all meeting transcripts, interview responses, open-ended responses from the weekly surveys, and my research journal.

Once coded, I again started with a quantitative measure. I counted up the frequency and quantity of different codes found throughout the data set. I compared pre- and post-intervention responses in meeting transcripts to look for change of behaviors. I also compared pre- and post-intervention numbers in interview responses to look for change in awareness and knowledge base. From there, I dug deeper into codes that seemed significant or frequent for quality and distribution of those comments. I looked to see if what was said in those lines indicated understanding of something or was just mentioned in passing. I also checked to see if the majority of comments in one area came from one person or were originating equally from all team members. An example of this was in the codes related to planning and learning objectives. I considered the value of a comment clarifying the learning objective for a particular lesson differently from one in which the speaker uses the term learning objective but it really referring to unit level essential questions.

Finally, I looked across my data set, comparing results from all tools and times for each area of expected change and other significant trends that had emerged from the earlier analysis. For each of these, I looked to see if a) the action of the group had changed and/or if b) awareness and understanding of that aspect of collaboration had changed. Indicators of change in action were changes of frequency or quality of comments from before the intervention to after. Indicators of change in awareness surfaced from explicit mention of a need to do something differently in the collaborative meetings, self-assessments that more closely coincided with my journal notes and the data from the transcribed meetings, and/or quality of responses to interview questions.

### **Analysis and Findings**

This research examined the impact of direct intervention on the collaborative practices of a team of teachers. I analyzed the data sources described above in search for change in teacher action or awareness in four elements of collaboration: use of agreed upon structures and protocols to ease collaboration, focus on student centered goals addressing and working through disagreements related to group goals, and making changes to instructional plans to better impact student learning. Following trends in the data, I also looked at the following three related issues: whether the team's overall planning process improved, whether team members became more generally aware of good collaborative practices in the abstract, and whether the act of reflecting regularly on their collaborative practice led to more awareness of their individual actions within meetings. From this analysis, I came away with four main findings: 1) the methodology of the intervention (introducing strong structure and offering instruction in small, in-situ, segments) had significant impact in strengthening collaboration but alone was not enough to drive the hoped for change in teacher learning, 2) it is essential to emphasize shared understanding of procedure and content in any collaborative effort, 3) team members need some sort of external mirror to reflect their actual collaborative practices if true change is to occur, and 4) some elements of collaboration, like strong goal setting, need to be



addressed from the start of a collaborative effort. In this section, I will summarize my analysis the data and the findings that supported these conclusions.

### ***Using agreed upon structures and protocols to ease difficulties in collaboration***

Using agreed upon structures and protocols to ease difficulties in collaboration was the greatest success for the team and the intervention. Over the course of our work together, the team developed more awareness and paid more attention to using and refining the structures that make their collaboration smoother and allow them to get more planning done together. From the start of the intervention, there were consistent gains in team member and researcher assessment of building their agenda together, completing their agenda, using their assigned roles, and employing organizational devices. These gains were seen in the surveys, the meeting comments, and the post-intervention interview. All three team members mentioned structures and protocols as key for any new team to consider at the start of their collaboration and could describe how their collaboration could continue to grow with attention to these structures. In the post-intervention interview, one teacher said, “I think that we are more committed to process than at the beginning of the year. We had some structures in place but now are being mindful about how we use those structures to make our meetings more useful and productive.” The strongest evidence of this increased awareness and action was in the post-intervention meeting when the team paused to consider and retool the system they use to organize their lesson materials, as seen below:

Teacher A: [Next item...] AR organization?

Teacher B: Can we just look at the AR and just see, *Teacher C* what you want is...

Teacher C: So I think this is a quick fix. What I would say Strategy-wise, is that any person that is writing the LP- for the day, needs to make sure that materials that we are using for the day are on the AR.

Teacher B: Mhmm.

Teacher C : So the only question then, we can take two minutes to decide, is how are we organizing this quarter on the AR. Is there an LP by the day? Are we putting LP's and then just materials? Like what folders are we using for this year- for this quarter.

Teacher A: I'm having a hard time with that organization method. Like if you put stuff into

an LP folder there is no way I'm going to find it next year. Like I think we put the LP's in an LP folder and we just put all the other materials...

The group then spent approximately 5 more minutes discussing their organizational needs and assigned follow up as a to-do item for someone to complete off-line, actively taking steps to address the logistical challenges that they faced.

The existing literature suggests that challenges related to the logistics of collaborative work are directly related to the difficulty associated with it (Kolfschoten et al 2012). This makes this leap forward in ability to work through logistical challenges very significant in improving the team's overall work together. Moreover, this intervention was designed to happen in an established collaborative team, not as a full re-start or particularly time intensive so as to be feasible and replicable in most school settings. I spent just two 15 minute sessions supporting the team in their use of collaborative structures and team members reflected on these weekly for four weeks. The shift in both action and awareness on behalf of all three teachers supports my finding that small, in-situ tweaks to teacher collaborations can have significant impact.

### ***Meeting time focused on student-centered goals***

Overall, the team showed more awareness of a need to set goals for each meeting and build agendas around those goals. They also showed some change in action. In the pre-intervention interviews, team members either stated that they never set goals or listed goals that varied wildly from those mentioned by their teammates. In the pre-intervention meeting transcript, there are no goals discussed, either for that particular meeting or for collaboration in general but in the post-intervention meeting, they talk about goals 4 times. In their self-assessments, they rated themselves progressively higher on the question "we generally set goals for our meeting" throughout the intervention. However, in my research journal I noted that while the team sets goals for their time together, those goals are more focused on teacher action than student learning. For example, in the post-intervention meeting, the facilitator, Teacher B, says, "Um we just did number one, so agenda check and outcome goals for each piece. What do we hope, what do we need hope to get out of each

piece of our agenda? How can we streamline these pieces to meet our goals?” While this does show a focus on meeting outcomes and an awareness of the idea of goals, it lacks a sense of the larger purpose of collaboration that relates to improving student learning.

Early in the intervention, I worked with the team to identify several statements that explained why they worked and planned together. I did this to surface the apparent disagreement that I saw in their initial interviews where all three teachers described a different purpose for their time together. While the statements produced by that activity were all strongly connected to teacher learning and support for one another, they only distantly referenced student learning and only with my strong encouragement. When I tried to delve in to this further, more seemingly pressing concerns pushed us to focus on other aspects of the collaboration. This leads me to believe that creating a student centered goals and the subsequent structures that support those goals being fully present in the collaboration is a step that needs to happen in the group work of the collaboration. There was simply too much deep, big-picture thinking and processing that teachers needed to do in order to make this shift in their focus that mid-semester, mid-week conversations did not allow adequate space. Other elements of the collaboration, such as shifting their agenda to address their goals, could be more easily impacted as they were not as foundational to the work. This points to a need for some key elements of collaborative learning to be set up from the start of the work. I will discuss more about this in the implications section below.

### ***Addressing and working through disagreements related to group goals***

One of the hallmarks of collaborative work that leads to increased learning is that teachers encounter some constructive checks on their thinking about how to best support student learning. In her research, Little envisions the ideal collaborative teacher learning environment, “At the very least, one must imagine schools in which teachers are in frequent conversation with each other about their work, have easy and necessary access to each other’s classrooms, take it for granted that they should comment on each other’s work, and have the time to develop common standards for student work” (Little 2006). When I initially

started preliminary work with this team in the fall, I saw little of this kind of constructive disagreement occurring in the collaboration and aimed to change that with this intervention. Unfortunately, data on this point was fairly inconclusive. In meeting notes, surveys, and researcher data, there was high frequency regarding offering ideas or suggestions for improving the lesson being discussed (18 coded comments) but very little pushback or disagreement being surfaced (2 coded comments). Despite this, team members equally rated themselves between agree and strongly agree (average rating 3.7) to both statements “We are willing to try new ideas and offer a yes, plus” and to “We offer dissent with rationale when decisions are not in service of our goals or goals for student progress”.

This discrepancy between how team members perceived themselves and their actual actions is significant and begins to point toward the need for an objective mirror against which teachers can check their self-perceptions (more on this below) as well as further corroborating the finding that some elements of collaboration need to be established early on. In the final meeting of the intervention, I introduced the group to the idea of showing up for their meeting with a learning mindset (Argyris 1997) and guided them through a brainstorm about how this might look. Not a single comment was made about the need to dissent or offer less-positive feedback in the collaborative setting. When I brought it up, the group was clearly uncomfortable with the mechanics of pushing back strongly while also maintaining strong team relationships and getting through the planning for the week. This leads me to conclude that establishing norms that are aimed at pushing learning forward are important to build from the start of a collaborative effort so that they become so common place as to be taken for granted and underlie all learning conversations.

### ***Making changes to instructional plans to better impact student learning***

Ultimately the overarching goal of this team’s collaboration was to produce instructional plans that were better for student learning than they would have been had each teacher been planning alone. Though there are many aspects of lesson planning that

impact student learning, I chose to look at the explicit attention paid to higher and lower band students as a measure of how plans would increase equity of learning. In this area, the intervention clearly had an effect on awareness of this issue but not as much on daily action. Over the 5 weeks of self-assessments, there was an increase in team members' self assessment on the statements "We generally consider the explicit needs of struggling students in planning decisions" and "We generally consider the explicit needs of higher achieving students in planning decisions" from an average score of 3 (agree) to 3.5 (between agree and strongly agree). This is corroborated by an increase in the statements made during planning meetings from 1 in the pre-intervention meeting to 13 in the post-intervention meeting. In their post-intervention interviews, 2 of the 3 teachers mentioned the need to focus on the needs of struggling students more explicitly and use student work to guide their planning. For example, teacher A stated, "I think that we all bring anecdotal evidence or observation but it might be more instructive to have actual student work to use as a point ... or as a "anchor of discussions" more concrete evidence."

However, as their awareness and attention to planning for higher and lower-band students improved, their awareness of the need to use student data to inform those plans did not result in a corresponding change in action. Teachers rated themselves between disagree and agree on the statement, "We generally use evidence of student learning to inform planning decisions" and their ratings tended more towards disagree as the intervention progressed, suggesting that they were becoming more aware of the fact that they were not doing this. Similarly, there was only 1 comment referencing student data in the post-intervention meeting. One of the team members summed this up saying, "I think that we all bring anecdotal evidence or observation but it might be more instructive to have actual student work to use as a point ... or as a "anchor of discussions" more concrete evidence."

Overall, it was encouraging that the intervention supported a growing awareness about the need to use student work to explicitly plan for more equitable student learning, but more intervention was needed to promote change in action. Interestingly, using

student data to inform planning decisions was one area in which I offered the team some instruction suggesting the importance of this, but did not directly assign them a new structure to incorporate. As such, it serves as a sort of out-group to support the finding that both instruction and structural support are needed to impact action.

### ***Improved Planning Through Better Collaboration***

While not the initial focus of the intervention, a question about how collaboration was impacting the quality of planning emerged as my work with the team progressed. In their pre-intervention interviews, team members indicated that they were trying to use a backward design planning structure more deliberately this year and in my initial observations of them it appeared that the biggest impediment to that was time. They seemed to be anxious about having enough time to figure out the logistics of a lesson, they missed some of the groundwork of determining explicit learning objectives. However, throughout the course of the intervention, the picture shifted somewhat. In the pre-intervention meeting, the conversation was largely about clarifying learning objectives and activity logistics for the understanding of the teachers themselves. In the post-intervention meeting, there were almost 4 times the number of statements made about the lesson logistics than the learning objectives. All of this was a little perplexing, until I considered the content of these statements. Many of the times when a teacher stated that they wanted to clarify or decide on learning objectives for a week's worth of lessons, another teacher would respond with an answer about course level essential questions, the assessment product for the unit, or other logistical concerns. Consider the following exchange between team members in the post-intervention meeting at the start of their planning the final unit of the school year.

Teacher C: This is always what we run into, it's this problem. And we looked at all sorts of ways to figure that out, right? This is the big question, what are working backwards right? We want kids to know what to be able to do by the end, and how do we know that they've done that. And so we have the portfolio component, that's a thing we want them to know, and be able to do, and we did the portfolio thing, fine. But also at the end of Macbeth, is the Macbeth essay going to be a part of the portfolio, is it just gonna be an assertion paragraph? That's proof of their writing that's advanced. How do we want to do that?

Teacher A: Mhmm. Ok, and then we can talk about how tech is going to happen.

Teacher B: So according to last year, the quarter four map I think we created; um, Macbeth started in the week of 4/8 to 4/12 and that was when we started with Elizabethan language skits and all that stuff. So we passed out all the books that week too, but um...

Teacher A: I think we tested too...

Teacher B: And we had a test thing.

Teacher A: Oh we had it after we started the weekend?

Teacher B: And week four, we actually started the packet. Oh no no no 4/12, yah less then, because testing in between that, cause we skipped a week in the math. So that's one week, 2 week, 3 week, 4 week, we only did Macbeth for four weeks. So that works. So start Macbeth week 2, Except for Friday is community service day.

Teacher A: Can I make a suggestion about the final assessment. Just throw something out. What if we have them do regular, weekly assertion paragraphs. And the honors kids, right, final essay and the kids not doing honors just revise their timed writings.

This exchange exemplifies the challenges the team faced when trying to “backwards plan.” It suggests that while they all knew the terminology of their desired planning structures, they did not always have a common understanding of what was meant by various aspects of their structure. This affected their weekly meetings and also challenged them as they tried to evaluate their goals for collaboration and prioritize how to use their time.

This sort of unspoken disagreement in understanding of key concepts points to the need for cultivating shared understanding in order to keep collaboration meaningful. The idea of cultivating shared understanding is somewhat corroborated by Chappuis, who emphasizes the need for leaders of professional development to cultivate understanding of the process of collaborative learning (Chappuis et al 2009). I believe this research suggests a need to take that further, to ensure common definitions, usages, and understanding of key ideas of collaborative work. As seen in the exchange excerpted, different understandings of how “backwards planning” was supposed to happen impeded the group from actually emerging with a clear learning object and plan to meet it. If there isn't a common understanding of the terms, practices, or structures being used in a team's work, the

potential for collaboration to be a high leverage tool for teacher and student learning can be lost.

### ***Weekly self-assessment and direct instruction as tools to improve actions***

In addition to expecting to see an improvement in the team's collaboration, I wanted to determine if the main methodology of the intervention would have impact. In the areas of collaboration that the team received direct instruction and support coupled with the chance to regularly self-reflect on their efforts in these areas, they improved in their awareness and action. With regard to completing meeting structures (agendas and norms), survey scores increased significantly over the time of the intervention as did quantity and quality of comments about these topics in the meetings. In response to the statement "We general accomplish our goals for a given meeting" the average pre-intervention response was disagree (average score 2.3) and post-intervention was agree (average score 3.2). There were similar gains in response to the statement "We generally keep to our planned agenda" (increase from 2 to 2.5) and "We generally uphold our agreed upon norms" (increase from 2.3 to 2.7). The number of statements about co-constructing an agenda and returning to the agenda increased dramatically from only 2 in the pre-intervention meeting to over 30 in the post-intervention meeting. There were only 8 comments related to structures in the pre-intervention meeting and over 100 in the post-intervention meeting. This increase is a significant illustration of how increasing awareness of their collaborative behaviors allowed the team to make substantive changes to their practice.

These same patterns did not hold as strongly for other measures of collaboration. As discussed above, there was more awareness of planning for the needs of high and low-band students but not much change in action. With regard to goals and goal setting, the team continually rated themselves highly on setting goals for collaboration and individual meetings. However, there are very few mentions of goals or goal setting in the meeting notes or interviews. The team received some direct instruction and support in these areas, but less than with the structural elements. This evidence suggests that the increased self-awareness was only helpful for changing practice when team members had common



understanding of both the meanings and value of the various collaborative practices. From the start they were very cognizant of structure, struggled with it, and wanted to improve - in addition to receiving the direct instruction and support – as a result the increase of awareness helped change action. It appeared that they were less clear about other elements (such as goals, use of student data, and offering dissent) and what making changes to those would really look like. As such, raising awareness of those elements didn't help to significantly change action. When examined together, these findings further emphasize the importance of developing shared understanding of collaborative practices, in addition to simply using norms and structures.

This data suggests an additional finding explaining why the intervention worked to change both action and awareness for some elements of collaboration but not for others. Overall, I found that the largest gains were made in areas in which the team had shared understanding of the issue and had a way of checking their self-assessed progress against some objective source. The team made the most change in their use of agendas and organizational structures to facilitate collaboration. These are very concrete, tangible concepts and structures that the team members were already using, had common definitions for what they are, and could easily make explicit changes to how they were used in their collaborative meetings. For example, when I suggested guiding questions and more specific timings to the team's weekly agendas, team members immediately accepted those changes as minor modifications of something they already understood. Similarly, they had an objective measurement of their progress in using the new agenda to accomplish more in their meeting in their completion (or in-completion) of all the items described. As such, when asked to reflect weekly on this point, it was easy to see themselves improving on a measure that was important to them and hard to deceive themselves that they were accomplishing more than they actually were.

The team's change in awareness, but not necessarily in action, with regard to considering the explicit needs of high and low-band students and using student work to inform decisions is an example of having common understanding but not necessarily an

objective measure to compare to. All three team members described the importance of using actual student data to inform their planning for the needs of high and low-band students and responded positively to suggestions from me as to how to incorporate it in to parts of their agenda. All three team members also rated themselves consistently high in actually doing this in each meeting even though comments about the needs of struggling students make up less than 3% of the discussion in the post-intervention meeting. I believe this is because they lacked an objective, external measure to compare themselves to, and without that mirror, didn't make the change they needed.

Ultimately, the main method of this intervention, the regular reflective self-assessment, was useful in maintaining the on-going metacognitive awareness for teachers to work towards strong collaboration but alone didn't push improvement. Combined with instruction, the team made shifts in action but clearly needed some external data source to check their self-perceptions against. This idea is aligned with Costa and Garmston's views on coaching which encourages coaches and teachers to think about what evidence of student work will help them see and monitor growth (1992). With no objective source of disconfirming data or evidence of practice to push against, the reflection alone doesn't provide the drive to change practice and may lead to a façade of collaboration.

### ***Becoming more aware of necessary conditions for good collaboration***

Finally I was eager to see if the intervention would lead to a greater participant awareness of what makes collaboration work in the abstract. All three of the teachers involved in this intervention are emerging leaders in the school community and the school would benefit from their increased thinking about collaboration. This area of the intervention was highly successful. In the post-intervention interviews, all three teachers suggested concrete and appropriate ways to improve their collaboration next year and for supporting other groups in setting up collaborative planning. In the post-intervention meeting, 2 different teachers paused the group's work to reflect on process and suggest slight changes to their work together. One teacher, Teacher A, showed immense growth as a collaborator and a leader with weekly comments in her self-assessments that matched

researcher journal and meeting notes, reflecting improved understanding of the necessary components of ideal collaboration. In the post-intervention interview, she had the following response to questions about what she would keep in mind as she set up her collaborative team for the following school year,

“I think you have to establish really clear process and commit to it, every time. Also, if there is a way to diagnose or identify people's strengths as team members, we often come with assumption, but there are definitely things each person brings. Using that to inform - in particular - the to dos. And I feel like there is always a sense of urgency "oh my god we have to get something done..." but I feel like if we set those goals and objectives very clearly from the beginning we could hold our expectations to be a little more realistic  
Build in time for real reflection - how did that feel to be in that role, do you want any feedback on how you were as a facilitator, How are our norms and agenda working - giving opportunity to reflect on and revise the process.  
Now that we are in the part of the year were we start the hiring process I have an idea of what I would ask a candidate about their experience on a team and what they would bring to that team. I don't think its enough to say that they have been teaching by themselves for a long time, it is a different experience to be part of a team. This is a big part of my life. Its another group that you are accountable to and I don't know that everyone is interested in that level of accountability.”

In this reflection, she hit on several essential elements of strong collaboration and had started thinking about how she would assess these skills in hiring. She even set up time to follow up with me after the school year ended to plan for the intentional set up of the collaborative team she will lead next year. This shows that her awareness of necessary conditions for collaborative learning had improved and were beginning to manifest in a way that would ultimately benefit the school as a whole.

### **Implications and Conclusions**

The ultimate goal of this action research was to impact an existing teacher collaboration in service of improved instruction. It was also designed to be an in-situ

intervention, not a full re-start or particularly time intensive so as to be feasible and replicable in most school settings. I saw success in impacting some elements of the team's collaborative practice, specifically their use of agendas and structural tools to ease their work together. I also saw success in their increased awareness of what strong collaborative practice looks like; including specific attention to high and low band students, use of student data to inform planning, and necessity of having clear goals for collaborative work. I found that the methodology of regular self reflection coupled with small bursts of supportive instruction did lead to change in practice, but was stronger when coupled with shared understanding of key concepts and an objective measure of collaborative practice for team members to reflect against. My findings suggest some implications for how school leaders might apply this research in setting up and supporting teacher collaborative teams as well as questions for further study.

### ***Possible Limitations of the Study and Ideas for Future Research***

With hindsight, I identified a potential pitfall or confounding variable of this research in my definition of the nature of the problem. Early on, I defined the problem as a lack of capacity with the core components of collaboration. After having analyzed the data and seeing the team struggle with some elements of planning, I realized that the lack of shared understanding in this arena might have been behind the challenges they were facing in collaborative planning. In both the recorded data and my observations of this team's meetings and classrooms, it seemed that both the team members and students were struggling with a clear and common understanding of what students were expected to know after any individual lesson. As a result, there was a lot of time spent discussing the logistics of learning activities that were not foundational to student success, resulting in frustration from both students and teachers. It is possible that if the intervention had included some reinforcement and communication about the basic planning methodology the team had agreed to use, there would have been greater movement on the elements of the collaborative teacher learning that relate more directly to student learning. However, I believe that this again suggests the critical importance of shared understanding. Ultimately, collaborative learning works to deepen understanding as team members offer

constructive feedback to their peers and raise critical questions, but if the foundational understanding is flawed, this process will not be as effective. Further research might look more closely at a methodology for reinforcing and refining common understanding of principles of teaching and learning that pre-service teachers are introduced to but may not get much practice with as their careers progress.

Another place in which this research was potentially limited but offers suggestion for future research is in generating a more complete understanding of what exceptional collaborative teacher learning really looks like. After analyzing the data, I conducted a thought experiment in which I applied the codes I used to examine the Hum 10 team's post-intervention meeting to a theoretical "ideal" collaborative meeting. In such an idealized setting, the underpinnings of collaboration (agenda creation, role assignment, etc) happen in the background and the majority of the conversation is more content related. Paradoxically, this is actually very similar to what the numbers alone might suggest about the pre-intervention meeting in this study. However, even though the percent of comments focused on planning is lower in the post-observation meeting, the overall gestalt of the two clearly shows the latter as one in which more collaborative learning is taking place. It is important to recognize that this meeting represents something of a mid-way point on the road to exceptional collaborative learning. The team is still developing the norms and structures that they need in order to run meetings smoothly and allow them to focus on student learning. It would be intriguing to track the team's progress further as to understand at what point the structure and logistics are able to fade in to the background while still providing the necessary support for learning.

### ***Implications for School Leadership***

As an instructional leader in programs where teacher learning happens largely in collaborative environments, my four key findings inform several take-aways about how to set up and support such learning. The first and most clear is that changes can be made to existing collaborative teams through the combination of small direct interventions, regular self-reflection, and periodic opportunities for external checks on those reflections. In the

aspects of this intervention in which I was able to provide all of these things to the Hum 10 team, their ability to engage in skillful collaboration increased significantly. Furthermore, this was done within the limits of existing professional development and the amount of time taken out of the teachers' designated planning time was minimal. Were I to recreate this intervention for a larger contingent of the staff, I would set up a rotation in which I spent three to four weeks with each team on campus. In that time, I would observe the team, gather data to illustrate areas of strength and growth in their existing practice, offer targeted instruction in their areas of growth, and support them with making the needed changes to their collaborative work. While certain relational and cultural norms would need to exist in the community to make such a structure workable, it could be an effective method of supporting real teacher learning in a differentiated and targeted manner.

The second implication of these findings is that it is essential to develop, check, and reinforce shared understanding of any underlying knowledge or skill foundational to the collaborative effort. While structures can help to make this happen, structures alone are not sufficient if there is an incongruity of understanding among collaborators. As seen in this research, even though the Hum 10 team had the structure of backwards planning, they did not have a shared understanding of how to use it or some of its nuance, leading to it being less effective as a tool for collaboration. It is necessary to provide occasional objective checks on these understandings and the actions they support in order to push collaborators to make change where needed. While some concepts are foundational enough to require separate professional development, many aspects of collaboration simply need clarification for team members to achieve shared understanding. In this intervention, I tried various protocols to surface and resolve disagreements. It seemed to matter less what the protocol was and more that the conversation took place. In a short intervention with a team (like the one described in the previous paragraph), I would undertake these conversations early enough that ongoing reflection and work could serve to further clarify or deepen understanding and allow enough guided practice with the new skill or concept for it to become ingrained in the team's patterns.

Finally, through this intervention it became clear that there are some foundational pieces that are critical to set up when you kick off a collaborative effort. These are best coupled with mechanisms that allow the group to stay connected to their foundations throughout their regular work. From the start, it is essential to have a common understanding of the purpose and goals of working together. This research shows that this is an area that cannot easily be revisited once the work has begun. Similarly, norms for pushing back and dissenting in a constructive way need to be established early on as these need to exist for real growth to occur. Lastly, structures need to be set up that are clearly and directly linked to goals for collaboration and student results. The structures should support collaborators in keeping goals prominent in their thinking and planning. For example, if the ultimate goal of the collaboration is to increase student learning but yet student needs are too far removed from the collaborative structures, their voices and perspectives can be easily overlooked. If the goal is increased student learning, an embedded structure should allow for regular examination of that learning (through review common assessment, focal student work, etc).

All of this begs the question: is it possible to set up a truly effective teacher collaborative learning team and maintain with limited direct engagement from leaders? If this question can be answered, it would provide a much clearer road map for sustainable models of teacher learning and offer an important tool for improving student learning across schools. I believe that this research suggests that it is indeed possible in a school context that is committed to learning through collaboration with leaders that are prepared to support that growth.

## **References**

- Achinstein, B. (2002). Conflict amid community: The micropolitics of teacher collaboration. *The Teachers College Record*, 104(3), 421-455.
- Argyris, C. (1997). Learning and teaching: A theory of action perspective. *Journal of Management Education*, 21(1), 9-26.
- Ball, D. L., & Forzani, F. M. (2010). Teaching skillful teaching. *Educational Leadership*, 68(4), 40-45.
- Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational researcher*, 33(8), 3-15.
- Briggs, C. L. (2007). Curriculum collaboration: A key to continuous program renewal. *The Journal of Higher Education*, 78(6), 676-711.
- Briggs, R. O., De Vreede, G. J., & Nunamaker Jr, J. (2003). Collaboration engineering with ThinkLets to pursue sustained success with group support systems. *J. of Management Information Systems*, 19(4), 31-64.
- Brouwer, N., & Korthagen, F. (2005). Can teacher education make a difference?. *American Educational Research Journal*, 42(1), 153-224.
- Bryk, A. S., & Schneider, B. (2003). Trust in schools: A core resource for school reform. *Educational leadership*, 60(6), 40-45.
- Bryk, A. S., Sebring, P. B., Allensworth, E., Easton, J. Q., & Luppescu, S. (2010). *Organizing schools for improvement: Lessons from Chicago*. University of Chicago Press.
- Costa, A., & Garmston, R. (1992). Cognitive Coaching: A Strategy for Reflective Teaching. *Journal for Supervision and Curriculum Improvement*. California ASCD.
- Chappuis, S., Chappuis, J., & Stiggins, R. (2009). Supporting teacher learning teams. *Educational leadership*, 66(5), 56-60.
- Childers, P. B., & Lowry, M. J. (2004). Collaboration: Taking risks inside and outside the classroom. *The Clearing House: A journal of educational strategies, issues and ideas*, 77(6), 250-253.
- Craig, C. J. (2009). Research in the midst of organized school reform: Versions of teacher community in tension. *American Educational Research Journal*, 46(2), 598-619.
- Darling-Hammond, L., & Richardson, N. (2009). Research review/teacher learning: What matters. *Educational leadership*, 66(5), 46-53.
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational researcher*, 38(3), 181-199.



- DuFour, R. (2007). Professional learning communities: A bandwagon, an idea worth considering, or our best hope for high levels of learning?. *Middle School Journal*, 39(1), 04.
- DuFour, R., DuFour, R., & Eaker, R. (2008). *Revisiting professional learning communities at work*. Solution Tree, Llc.
- Fullan, M. (2009). Positive pressure. In *Second international handbook of educational change* (pp. 119-130). Springer Netherlands.
- Gallimore, R., Ermeling, B. A., Saunders, W. M., & Goldenberg, C. (2009). Moving the learning of teaching closer to practice: Teacher education implications of school-based inquiry teams. *The elementary school journal*, 109(5), 537-553.
- Goodnough, K. (2005). Fostering teacher learning through collaborative inquiry. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 79(2), 88-92.
- Hargreaves, A. (1992). Contrived collegiality: The micropolitics of teacher collaboration. *Managing change in education: Individual and organizational perspectives*, 80-94.
- Jacobson, D. (2010). Coherent Instructional Improvement and PLCs Is It Possible to Do Both?. *Phi Delta Kappa*, 91(6), 38-45.
- Kezar, A. (2005). Redesigning for collaboration within higher education institutions: An exploration into the developmental process. *Research in Higher Education*, 46(7), 831-860.
- Kezar, A. J. (2006). Redesigning for collaboration in learning initiatives: An examination of four highly collaborative campuses. *The Journal of Higher Education*, 77(5), 804-838.
- Knowles, M. (1990). *The adult learner: A neglected species*. Houston, TX: Gulf Publishing.
- Kolfschoten, G. L., Niederman, F., Briggs, R. O., & De Vreede, G. J. (2012). Facilitation roles and responsibilities for sustained collaboration support in organizations. *Journal of Management Information Systems*, 28(4), 129-162.
- Kollar, I., Fischer, F., & Hesse, F. W. (2006). Collaboration scripts—a conceptual analysis. *Educational Psychology Review*, 18(2), 159-185.
- Kruse, S. D. (1995). *Professionalism and community: Perspectives on reforming urban schools*. SAGE Publications Ltd.
- Lave, Jean (1996) 'Teaching, as Learning, in Practice', *Mind, Culture, and Activity*, 3:3, 149 — 164
- Little, J. W. (2006). *Professional community and professional development in the learning-centered school*. Washington, DC: National Education Association.
- Little, J. W., & Curry, M. W. (2009). Structuring talk about teaching and learning: The use of evidence in protocol-based conversation. In *Professional learning conversations: Challenges in using evidence for improvement* (pp. 29-42). Springer Netherlands.

- Magolda, P. (2001). Border crossings: Collaboration struggles in education. *The Journal of Educational Research*, 94(6), 346-358.
- Mayer-Smith, J., Pedretti, E., & Woodrow, J. (1998). An examination of how science teachers' experiences in a culture of collaboration inform technology implementation. *Journal of Science Education and Technology*, 7(2), 127-134.
- Offermann, L. R., & Spiros, R. K. (2001). The science and practice of team development: Improving the link. *Academy of Management Journal*, 44(2), 376-392.
- Penuel, W. R., Fishman, B. J., Yamaguchi, R., & Gallagher, L. P. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research Journal*, 44(4), 921-958.
- Richardson, V. (2003). The dilemmas of professional development. *Phi delta kappan*, 84(5), 401-407.
- Saunders, W. M., Goldenberg, C. N., & Gallimore, R. (2009). Increasing achievement by focusing grade-level teams on improving classroom learning: A prospective, quasi-experimental study of Title I schools. *American Educational Research Journal*, 46(4), 1006-1033.
- Thessin, R. A., & Starr, J. P. (2011). Supporting the growth of effective professional learning communities districtwide. *Phi Delta Kappan*, 92(6), 48-54.
- Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. *Review of educational research*, 79(2), 702-739.
- Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. University of Cambridge, Cambridge, UK.

## **Appendices**

### ***Appendix A: Pre-Intervention Interview + Self-Assessment Questions***

→ Pre-Intervention Open-Ended Interview Questions:

- 1) What works in your collaboration?
- 2) What doesn't work and why do you think that is?
- 3) What is the purpose of your collaboration?
- 4) What is the purpose of your meeting time?
- 5) Are there structures to your meetings and are they used?

→ Pre-Intervention Self-Assessment

*Respond with Strongly Agree (4), Agree (3), Disagree (2), Strongly Disagree (1)*

- We generally establish clear goals for a meeting.
- Our meeting goals are generally consistent with our broader goals for collaboration.
- Our meeting goals are generally related to improving teacher and/or student learning.
- We generally accomplish our goals in a given meeting.
- Any additional information you would like to provide about goals?
- We generally set an agenda that is consistent with our meeting goals.
- We generally keep to our planned agenda.
- We generally uphold our agreed upon norms.
- Any additional information you would like to provide about structures?
- We generally use evidence of student learning to inform planning decisions.
- We generally consider the explicit needs of struggling students in planning decisions.
- We generally consider the explicit needs of high achieving students in planning decisions.
- Any additional information you would like to provide about focus on students?
- Anything else to add?

### ***Appendix B: Weekly Self-Assessment Survey Questions***

→ Weekly Reflective Self-assessment

*Respond with Strongly Agree (4), Agree (3), Disagree (2), Strongly Disagree (1)*

- We established clear goals for today's meeting.
- Our meeting goal was consistent with our broader goals for collaboration.
- Our meeting goal was related to improving teacher and/or student learning.
- We accomplished our goals in a given meeting.
- Any additional information you would like to provide about goals?
- We set an agenda that was consistent with our meeting goals.
- We kept to our planned agenda.
- We upheld our agreed upon norms.
- Any additional information you would like to provide about structures?

- We used evidence of student learning to inform planning decisions.
- We considered the explicit needs of struggling students in planning decisions.
- We considered the explicit needs of high achieving students in planning decisions.
- Any additional information you would like to provide about focus on students?
- We were generally willing to try new ideas and offer a “yes, plus” (helpful additions to ideas offered by team mates.
- We offered dissent with rationale when decisions were not in service of our goals or goals for student learning.
- Anything else to add?

### ***Appendix C: Post-Intervention Interview + Self-Assessment Questions***

#### → Post-Intervention Open-Ended Interview Questions:

- 1) In the fall, I asked each member of your team what was working well in your collaboration. How would you answer that question today?
- 2) In the fall, I asked each member of your team what wasn't working well in your collaboration. How would you answer that question today?
- 3) If you were giving your team suggestions for what to do to make your collaboration run more smoothly, what would you tell yourself?
- 4) If you could set up the start of year PD to help collaborative teams work and learn together best, what would you emphasize in that training?

#### → Post-Intervention Self-Assessment

*Respond with Strongly Agree (4), Agree (3), Disagree (2), Strongly Disagree (1)*

- We generally establish clear goals for a meeting.
- Our meeting goals are generally consistent with our broader goals for collaboration.
- Our meeting goals are generally related to improving teacher and/or student learning.
- We generally accomplish our goals in a given meeting.
- Any additional information you would like to provide about goals?
- We generally set an agenda that is consistent with our meeting goals.
- We generally keep to our planned agenda.
- We generally uphold our agreed upon norms.
- Any additional information you would like to provide about structures?
- We generally use evidence of student learning to inform planning decisions.
- We generally consider the explicit needs of struggling students in planning decisions.
- We generally consider the explicit needs of high achieving students in planning decisions.
- Any additional information you would like to provide about focus on students?
- We are generally willing to try new ideas and offer a “yes, plus” (helpful additions to ideas offered by team mates.
- We offer dissent with rationale when decisions are not in service of our goals or goals for student learning.
- Anything else to add?

**Appendix D: Comparison of Quantitative Results Pre- and Post-Intervention**

→ Average Likert Score on self-assessment questions pre- and post-intervention  
 Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1

Statement	Pre-Intervention Average	Post Intervention Average
We generally establish clear goals for a meeting.	3.0	3.5
Our meeting goals are generally consistent with our broader goals for our collaboration.	3.3	3.7
Our goals for our meetings are generally related to improving teacher and/or student learning?	3.0	3.5
We generally accomplish our goals in for a given meeting	2.3	3.2
We generally set an agenda that is consistent with meeting our goals	3.3	3.2
We generally keep to our planned agenda	2.0	2.5
We generally uphold our agreed upon norms	2.3	2.7
We generally use evidence of student learning to inform planning decisions	2.7	3.3
We generally consider the explicit needs of struggling students in planning decisions?	3.0	3.5
We generally consider the explicit needs of higher achieving students in planning decisions.	3.0	3.5
We are willing to try new ideas and offer a yes, plus (helping additions to ideas)	NA	3.7
We offer dissent with rationale when decisions are not in service of our goals or goals for student progress	NA	3.7

**Appendix E: Comparison of Qualitative Results Pre- and Post-Intervention – Meeting Transcripts**

<b>Category Code</b>	<b>Pre-Intervention</b>		<b>Post-Intervention</b>	
	# of Occurrences	% of total comments	# of Occurrences	% of total comments
Accountability	0	0.00	0	0.00
Agenda - Building an Agenda	0	0.00	20	5.90
Agenda - General	0	0.00	0	0.00
Agenda - Returning people to agenda	2	1.50	13	3.83
Collab skills - Assigning to dos	1	0.75	16	4.72
Collab Skills - Offering Ideas	10	7.52	17	5.01
Collab Skills - Offering Pushback	0	0.00	0	0.00
Collab skills - Value of Collaboration	0	0.00	0	0.00
Goals - General	0	0.00	0	0.00
Goals - Reminding/Referencing goal	0	0.00	0	0.00
Goals - Setting Meeting Goals	0	0.00	4	1.18
Planning - Clarifying Learning Objectives	36	27.07	21	6.19
Planning - Deciding on Learning Objectives	2	1.50	1	0.29
Planning - Talk about Learning Activity - Logistics	55	41.35	93	27.43
Planning - Talk about Learning Activity - Student Product	14	10.53	10	2.95
Reflection	0	0.00	11	3.24
Structure - Organization	0	0.00	51	15.04
Structure - Referencing Time	0	0.00	26	7.67
Structure - Referencing Use of Notes/Docs	8	6.02	13	3.83
Structure - Roles	0	0.00	2	0.59
Structure - General	0	0.00	15	4.42
Talk about Student Learning - Addressing needs of high Achievers	0	0.00	9	2.65
Talk about Student Learning - Addressing needs of Struggling Students	1	0.75	4	1.18
Talk about student learning - referencing patterns of student work	0	0.00	1	0.29
Time	0	0.00	0	0.00
Team Relationships	4	3.01	3	0.88
Off Task	0	0.00	9	2.65