

# **Collaborative professional development: An examination of changes in teacher identity through the professional learning community model**

Michelle Prytula  
University of Saskatchewan

Kari Weiman  
University of Saskatchewan

## **ABSTRACT**

The purpose of this article is to describe a study of the development of and changes in high school teacher identity through the collaborative professional learning community (PLC) model. Using Coldron and Smith's (1999) conceptual framework of teacher identity, being the craft, moral, artistic, and scientific traditions of teaching, a case study was conducted to determine the development of and changes in the four traditions of teacher as a result of working in a collaborative PLC.

Through this study, it was found that all four traditions of teacher identity were impacted as a result of working in a collaborative PLC, meaning that teachers reported growth in the craft, moral, artistic, and scientific teacher identities following working as PLC. Notable, however, was that because of the work done through the PLC, we found that the scientific tradition was not only affected by the work done through the PLC, but that the scientific tradition also effected changes in the other traditions of teacher identity. The method, data, and findings are discussed, as well as the implications that the findings have for theory, research, and practice.

Keywords: teacher professional development, professional learning communities, teacher identity, traditions of teacher identity, high school teacher

## INTRODUCTION

In the formation of their identity, the teacher's answer to the question of who they are is constantly being shaped by what they perceive their work to be (Graham & Phelps, 2003). From the beginning of their careers, teachers are engaged in the process of creating their identities (Coldron & Smith, 1999; Walkington, 2005). The professional identity of a teacher is central to the practices, behaviours, and competencies that teachers exhibit in action (Beijaard, Meijer, & Verloop, 2004; Walkington, 2005; Wenger, 2004). This process starts with teachers' pre-service years and continues right up until their retirement. Based on the teacher's core beliefs about teaching, their identity as a teacher is continually constructed and reconstructed through experience (Coldron & Smith, 1999; Mayer, 1999; Walkington, 2005). Teacher identity is also dependent upon how teachers view themselves and the environments in which they work (Flores & Day, 2006). Although much research focuses on the development of teacher identity in beginning teachers as they combine their past, their expectations, and their identities of self into their professional identities, teacher identity is never stable, thus is malleable throughout a teacher's career (Flores & Day, 2006).

## TEACHER IDENTITY AND THE TRADITIONAL PRACTICES OF TEACHING

Lortie (1975) identified that teachers tended to practice their craft as well as learn about their profession in isolation from their colleagues. Traditionally, teachers have taught in their individual classrooms with the doors closed to any outside influences. Unless there were problems in the classroom or complaints from parents, the teacher was left alone to practice his or her craft largely uninterrupted. "Historically, schools have been structured so that teachers work alone, rarely given time together to plan lessons, share instructional practices, assess students, design curriculum, or help make administrative or managerial decisions" (Darling-Hammond et al., 2009, p.11). Research, however, has shown that teachers who engage in collaboration have improved perceptions of their own identities as well as satisfaction from their work (C. Day, Kington, Stobart, & Sammons, 2006). Even so, changing to a process of collaboration is a significant task, as it entails both a challenge to educational tradition as well as the structure of the school day. In order to effect change, administrators may be required to restructure the school time-table to facilitate opportunities for teachers to work collaboratively in a professional learning community. After this time has been made available, however, teachers may still need to be nudged in the collaborative direction and this may require a change in the culture of the school. Changing the culture of a school is not an easy task, especially if the existing school culture and structures favor privacy and isolation (Darling-Hammond et al, 2009).

Twenty-five years after Lortie's (1975) identification of teacher isolation, Richard Elmore (2000) continued to pan teacher isolation, noting that little has changed, and claiming that isolation reduces the quality of the individual classroom teacher. One of the problems with working in isolation is that an individual teacher is not exposed to different ways of doing things and may begin to believe that his or her way of teaching and assessing student learning is the only way or the best way of doing things. Another potential problem is that an individual teacher does not get to share the successes and struggles of his or her own experiences and the experiences of the other teachers in the school, or depending on the level of collaboration, the school system. Kanold, Tonchef, and Douglas (2008) described teacher isolation as "the enemy

of improvement” (p.23). In isolation, teachers are left to their own resources to improve their teaching methods and strategies or become fluent in the new research on learning improvement. Elbousty and Bratt, in their 2010 study on teacher collaboration, stated:

It is certainly the case that a few teachers (in our survey, two of six) prefer to work in isolation, even when offered the opportunity to work with others. They view their solitude as beneficial to their work, and they view themselves as experts in their fields and in pedagogical practice. They feel that, for them, to collaborate means to mentor less capable teachers. They state that they work diligently in isolation and that collaboration slows their progress. (p.5)

The opposite to this isolation, then, is for teachers to be willing to share what is working and what is not working for them in the classroom, in addition to being willing to make the changes necessary to benefit the students. This may seem to be a very practical and straightforward solution to the problem of teacher isolation, but it is actually quite complex and difficult to implement. Moving from isolation to collaboration involves teachers changing their practice, thus this change threatens the teacher’s identity. According to Coldron and Smith (1999), a teacher’s identity is revealed in his or her classroom practice.

One approach to changing teacher identity that is increasingly gaining momentum in schools across the nation is to engage teachers in collaboration and honest discourse about classroom practice such as the practices inherent in the professional learning communities.

## **TEACHER IDENTITY AND PROFESSIONAL LEARNING COMMUNITIES**

Social learning and learning in community with others is known to have significant impact on knowledge, the creation of knowledge, and knowledge of self (Bandura, 1977; Evers & Lakomski, 2000; Lave & Wenger, 1990; Nonaka, Umemoto, & Senoo, 1996; Wenger, 2004). Integral to the development of an educator, social learning theory rests on the idea that in groups, educators share their ideas and perceptions. Learning is especially powerful when a learner recognizes a difference between theory and practice, creating a *knowing-doing gap* (Schmoker, 2005). Working alongside dissimilar thinkers provides necessary cognitive dissonance, which causes needed reflection. Developing and changing teacher identity occurs through consolidating the dissonance between personal experience as a student, pre-service theoretical education, and practical education through teaching experiences (Parkinson, 2008), as without stopping and reflecting, deconstructing, and reconstructing what one does, one has little chance to make sustained improvements (Mitchell & Sackney, 2000).

Fullan (2001) stated that a collaborative culture is a powerful learning and change agent in schools. When teachers participate in dialogue, they become aware of the many approaches and ways of doing things, are engaged with a range of resources, and share ideas so that they can locate themselves in current and potential practice (Coldron & Smith, 1999).

“Starting with teachers’ knowledge dignifies the ‘wisdom of practice’ and helps open teachers’ classrooms to inquiry, breaks the isolation that keeps teachers from becoming colleagues and forms the basis for a professional learning community” (Lieberman and Mace, 2009, p.469). The purpose of the professional learning community is not to shine light on all of the weaknesses of the individual teacher members, but to draw attention to and share those practices, strategies, and ideas that are working to improve student learning and then build on them.

Wenger and Snyder (1998) maintained that professional learning communities “are about knowing, but also about being together living meaningfully, developing a satisfying identity, and altogether being human” (p. 134). When a teacher feels that he or she is doing meaningful work as a part of a group that is trying to make a difference in improving student learning outcomes, he feels a sense of belonging and this, in turn, will have a positive effect on his sense of well-being. Hannikainen and van Oers (1999) found the concept of togetherness in the context of a professional learning community. They maintained that group members tended to maintain or even strengthen the sense of group togetherness in an attempt to counter any conflicts that may arise during the course of the collaboration activities. This demonstrates a need and a desire on the part of the individual teachers involved in a professional learning community to protect the sense of belonging and positive well-being that is a product of collaborating with colleagues for a common purpose. In fact, following their work on teacher identity, Flores and Day (2006) found that “teachers who worked in collaborative cultures were more likely to develop and to demonstrate positive attitudes towards teaching” (p. 230). Once teachers experience a feeling of belonging to something that matters and is making a difference for students, they have a tendency to want to continue working in that environment.

## **TEACHER IDENTITY AND PROFESSIONAL DEVELOPMENT**

Beijaard, Meifer, and Verloop (2004) argued that “identity formation is a process of practical knowledge-building characterized by an ongoing integration of what is individually and collectively seen as relevant to teaching” (p. 123). Identity is shaped by experiences (Lave & Wenger, 1990), and by the knowledge and skills that are acquired in practice (Battey & Franke, 2008). One of the core activities in which teachers participate is reflection upon one’s own practices, beliefs, perceptions, and experiences (Walkington, 2004). Throughout their development as professionals, teachers negotiate their work through choices. By incorporating some elements into their work, in their classroom, teachers build a repertoire of what they do and don’t do. Teacher identity is something that may change and evolve as the individual teacher grows in experience and is exposed to more educational ideas and practices through their own learning.

Teacher identity is also formed through interaction with others. That is, identity is formed both in relation to students, but also in relation to other teachers. Galman (2008) contended that identity is socially constructed through interactions with others through a maintenance of one’s own beliefs, but over time, influenced by others’ beliefs and the context of the learning. Teacher identity forms as teachers position themselves in relation to these traditions, patterns, or the culture, both in their classrooms and among one another. “The tradition constrains and, at the same time, nourishes the possibilities of creative action” (Coldron & Smith, 1999, p. 714). An individual’s identity as a teacher is linked to the existing culture of the school, especially if that particular teacher has spent a significant number of years teaching in that building. Some staff members may even prefer and insist upon continuing to work autonomously instead of working in collaboration with other colleagues. Some teachers may see collaboration as an abdication of their power over their own teaching.

Coldron and Smith (1999) emphasized that teacher identity is partly given and partly achieved through a variety of relations in social space, including social structures, relationships, and practices within that space. To that end, they described the facets of educational practice that impact the development of professional identity, being the craft, moral, artistic, and

scientific dimensions of teaching. Based in social theory, they suggested that the four areas of identity be considered when designing professional development for teachers, as it is appropriate for the work of the teacher, including the aspects of technician as well as that of enquirer.

According to Coldron and Smith (1999), the craft of teaching is that set of skills which can be trained. It's like a toolbox, attached to a resume of what a teacher can offer. It is tangible, and poses itself as a minimum skill level. The moral tradition of teacher identity consists of the critical analyses that the teacher engages in determining the 'right thing to do'; out of a set of multiple options. Coldron and Smith identified that this is done in three ways: the teacher evaluating what it is that they are asked to do, the teacher critically evaluating the culture in which they are a part, and the teacher using values in negotiating competing priorities. The artistic tradition of teacher identity requires individuality and the knowledge of how the teacher negotiates their practice. That is, knowing when he or she has captured the attention of the students through a combination of relationship, care, content, style, and skill. The scientific tradition of teaching is, to use a common adage, the search for "best practice". The scientific tradition of teaching comes to fruition when teachers conduct their own investigations to solve the problems of teaching and learning. It places the teacher as researcher. Teachers engage in the scientific tradition when they critically reflect on their successes in the classroom.

Because the identity of a teacher is rich and complex (Wenger, 1998) it should be nurtured and cultivated under conditions surrounded by mutual respect and open communication (Sachs, 2001). Because the identity is complex, it must also be nurtured in all four traditions.

## **SASKATCHEWAN CONTEXT**

School reform, change initiatives, and accountability policy in Saskatchewan have initiated transformations in teacher roles (Darby, 2008), shifting the definition of performance competency from autonomous to accountable (Cross & Hong, 2009). These initiatives impact the conceptions of teacher identity in pre-service and in-service teachers (Day, 2002; Lasky, 2005; Sachs, 2001).

The Ministry of Education in Saskatchewan has implemented the Continuous Improvement Framework (CIF) (2008), calling for a response to the changing needs of students, families, and communities. The role of the CIF is to "strengthen teaching and learning for improved student outcomes" (p. 2). Due to this accountability movement, educators are facing a shift in the way education is delivered in the province, changing the role of the teacher. In response to this accountability movement, professional learning communities are developing in schools and school divisions throughout the province, presenting an optimal and unique opportunity to examine the development of teacher identity through the collaborative environment present in a professional learning community.

## **PURPOSE OF STUDY**

The purpose of this case study research was to examine the development of and changes in high school teacher identity through the collaborative professional learning community model. As illustrated in the review of literature, the rationale for this study is clear: The teacher's identity determines her work. "Research into teacher identity can generate insights into how teachers contribute and respond to change. Researchers face the challenge of representing

findings that are useful at the policy level but do not essentialise the collective identity of a diverse occupational group” (Barrett, 2008, p. 496).

Specifically, this study aimed to answer these research questions: (1) How do distinct collaborative experiences affect teacher identity and professional development? and (2) Does this effect transpire in the craft, moral, artistic or scientific tradition of teaching, or a combination of these traditions, and how?

The case study was conducted in one school, in one distinct professional learning community. Eight participants were chosen for this study based on maximum variation sampling. The sample included four females and four males ranging in experience from veteran teachers to beginning teachers: Two participants had over 30 years of experience, three had between 20 and 30 years, two had between ten and 20 years of experience, and one had less than five years of experience. Five participants had both elementary and high school experience, two had administrative experience, and three had taught in alternative education programs. Two participants had rural and urban experience, and six had urban experience only. Participants were asked to engage in a series of interviews and written reflections regarding their work throughout the year.

All humanities departments were involved in this PLC, with the goal of improving student writing in all classes, and across all departments. None of the teachers had been a part of a formal professional learning community prior to the study. Among the activities in which the PLC engaged, the participants developed a common rubric to assess student writing, regardless of the subject area. This rubric contained curriculum criteria for writing to be used in all classes (History, Law, Psychology, English, English as an Additional Language, Native Studies, Core French, and French Immersion). Throughout the year, the PLC also engaged in calibration sessions, wherein the teachers would assess writing samples and compare scores. These sessions created dialogue regarding why teachers assessed in the ways that they did, and what ought to be the most appropriate assessment score. The teachers also discussed collecting exemplars for student work as well. Student scores were also collected for a database, and a program was designed for score inputs to be converted to visual graphical outputs to determine student progress.

Participants were asked to engage in a series of interviews and written reflections regarding their work throughout the year. The first interview occurred at the beginning of the year, when the effects of the PLC would likely not have existed in the grand culture of the school. The second occurred seven months later, after the PLC was established and functioning, and the written prompt was collected in early May. All interviews were recorded and transcribed, and transcriptions were sent to participants for member checking and approval.

Data was analyzed in two ways: horizontally and vertically (Miles & Huberman, 1994). The horizontal data analysis revealed common themes across all interviews, which were subsequently collapsed into findings for the study. The vertical data analysis revealed changes in participant perceptions of teacher identity from the outset of the study to the conclusion of the year. The vertical data analysis, as per Miles and Huberman, was conducted within each interview rather than across the interviews, so that the changes could be documented as they were perceived by each participant. These changes are also presented as findings.

The data is presented along the themes of the traditions of teacher identity, being the craft, moral, artistic, and scientific traditions. The collaborative experiences are described as they affect teacher identity within each of the traditions.

## DATA PRESENTATION AND FINDINGS

*“Teachers need, however, to distinguish between the location they are each given and that which they achieve” (Coldron & Smith, 1999, p. 714).*

The following section reveals data organized into the four traditions of teaching. Citations derived from the horizontal data analysis were selected from many, and classified according to each tradition of teacher identity. The data from the vertical analysis is presented in the section that describes the scientific tradition of teaching, as it was this tradition that experienced the most change. Discussion pertaining to each tradition follows the data presentation section.

### Teaching and the craft tradition

The craft of teaching, being that set of skills which can be trained, manifests itself in different ways in education. Schools of education use that set of skills as observations to complete checklists; students of education use that set of skills as self-reference for observable competencies which they have achieved; and employers use it to determine whether or not one teacher may be a better hire than another. It’s like a toolbox, attached to a resume of what one can offer. It is tangible, and poses itself as a minimum skill level. Although most would refer to craft as a set of observable skills (Coldron & Smith, 1999), others have further considered this set as less observable, including thinking on the job or reflection in action (Schon, 1995).

Collaboration through this professional learning community impacted the craft tradition in three ways. The first is that it provided teachers with new ideas and approaches for their work in order to augment their skill set and improve their practice. This is no news to the literature on professional learning communities, but it does help to exemplify the value of new learning when studying the craft tradition of teacher identity. New approaches were gleaned through discussions about classroom practice:

“We’ve got a huge amount of people sharing ideas and dialoguing about what good teaching practices are, and what different people are doing in their classrooms and just in doing that there’s been a really good spread of teaching tools that are moving from person to person to person.”

These discussions further evolved into talk about specific approaches: “It’s giving people a chance to see that maybe there’s a different activity they can do or a different way to do it that makes things better or easier”, as well as discussions about curriculum and assessment: “I think it opens the door for more discussion on learning and assessment and curriculum than I ever had a chance to before”. Lastly, along with enabling teachers to share, they also became aware that the benefits of this sharing were inherent in the PLC:

“I’m used to in high school doing my own thing, shutting the door and teaching, and not having that opportunity to share. We share in departments what’s going on in the school, but never based on something specific like the writing... I’ve learned in the last two years and it’s been very beneficial because it’s provided me with a positive opportunity to learn more and when I see the results of student learning, it gets me quite excited.”

The second way that the PLC impacted the craft tradition of teaching is that it

changed the way that teachers worked, and they recognized it. The PLC moved them from the role of a self-learner to a social-learner; from isolation to collaboration, and the teachers noticed that this was a significant change, and they appreciated this change: “This is far and away the biggest change, in my opinion. People are talking about learning, they’re talking about teaching, they’re talking about how they use strategies in the classroom, they’re being more open with each other”. Another noted that the change allowed for learning: ” “I find teaching can sometimes be very much you are teaching in isolation where you can, especially in this room, where you’re kind of cut off from the rest of the school, and you don’t know what people are doing and PLCs give you a chance to learn”. This learning was affirming and gave teachers a sense of community and belonging: “There is that sense of, being more like everybody. Sort of being in the same boat as everybody, rather than working in isolation. That’s what I’m finding.” It also affected the work of teaching, taking it from a self-study to a type of social, collaborative work environment:

“You know as well as I do it can be a very isolated world: Close your door, you teach what you teach, you don’t have to share anything with anyone else. (Now) we’ve got people walking down the hallways sharing ideas, sharing tests, looking at each other’s assignments, taking notes about what people are thinking about their assignments, and changing their assignments because they had a good discussion with someone.”

The third way that the PLC impacted the craft tradition of teaching is that it affirmed a lot of the good practices that teachers exhibited. Teaching in isolation not only meant that no one would oversee their work, but it also meant that no one would praise their efforts. The PLC in this high school changed that: “Well, I was just talking with Dean (the assistant principal) and ... he seemed to think my ideas were pretty good”. This validation was also gained internally: “It was validation of the things I was already doing before those meetings started. I was doing some things that were on the right track”. The validation increased teacher confidence: “I have more confidence and I’m more at ease to talk to people in the other departments in regards to knowing that, again, we’re all working from the same level and that there is consistency going on from one area to the next”, and this confidence not only resulted in changes in self-efficacy, but also changes in instruction:

“I’m pleasantly surprised by how much it’s had a positive impact on my ability to instruct and teach and, as importantly, evaluate even from a time saving standpoint it’s been a very . . . I’m pleasantly surprised by how beneficial using the tool and the things that we’ve managed to agree on have benefitted my individuality in the classroom.”

### **Teaching and the moral tradition**

Although the teacher, operating within the craft tradition, exercises a set of skills and competencies, often, because of conflicts at work due to conflicting demands, the teacher must choose to prioritize some and not others (Coldron & Smith, 1999). It is through making moral judgments in these cases that the teacher engages in the moral tradition of teaching. Coldron and Smith identified that this is done in three ways: the teacher evaluating what it is that they are asked to do, the teacher critically evaluating the culture in which they are a part, and the teacher using values in negotiating competing priorities.

The professional learning community model had a dramatic impact on the moral tradition of teacher identity. Likely due to the creation of cognitive dissonance (Mitchell & Sackney, 2000; Schmoker, 2005) when teachers discuss theory and practice, one's moral identity is disrupted when confronted with the discrepancy between what is done and what ought to be done, and the meanings of the work. As a result of working in collaboration, participants in this study began to examine the moral aspects of their work: "So now we've taken that from the meeting and going to the classroom, what do we think about that? Do we agree with it, disagree with it and why?" Participants also began both questioning and reflecting on the work that they were asking students to do, and whether or not this work was significant:

"It's really made me look at the things that I'm assessing, not just the ways I'm assessing but I'm really making a conscious effort to think about how I'm assessing. But looking at the items that I'm assessing (to see if) this is something that is really important, is it a learning objective that's appropriate?"

Thinking about assessment in this way was new for some teachers, and it allowed them the time and insight to consider the purposes of and impacts of teaching: "It's made me aware that I'm not just looking for what they're thinking, I'm also need to be more aware of their writing skills and the skills that they're going to use. I always use the excuse that I'm not here to teach them Language Arts, and perhaps that was the wrong idea". It also allowed them the space to examine the purposes and impact of assessment:

"If you're thinking about how you're going to assess things and if you're becoming more conscious . . . I think that's a natural progression to back up and say why? Why am I giving this assignment and . . . becoming more conscious about your methodology."

The PLC also affected teachers' identity in the moral tradition by engaging their thinking around the morality of consistency from marker to marker, noting that inconsistency between teachers is not fair to students. One participant shared the following: "If I'm marking something exactly the same way as David's marking then I feel that maybe more confident that I am marking fairly, that I'm not marking too easy or I'm not marking too hard." Another pondered the idea that, "Consistency, (is important) and perhaps even ultimately more fair than the marks." The idea that consistency was even possible was appealing to some: "I really like the idea that within a school that we can be more consistent in marking and more consistent in expectations because, you know, if the kids are going to get good at something it has to be consistent from one classroom to the next, from one subject area to the next."

There was also the realization that it was the work done in the PLC that created the opportunity for the consistency and fairness:

"The rubric is consistent with all the teachers in the school so I think there's definitely benefits to that in that students are kind of seeing the same sort of assessment. Also maybe just looking at marking a little bit too and how critically a person's marking and if the right information is getting back to the students."

The moral tradition of teacher identity was examined at a deeper level when discussions in the PLC developed into the potential of delivering good education through existing structures of school. Comments included references about the morality of taking the time to communicate with students: "I think it just makes you more aware and makes

you think specifically about student writing and how their, if they're getting the information that they need back in order to be successful."

Participants also considered the bigger picture or morality, questioning if the structures of school even make it possible to be fair to students. Comments ranged from teachers considering what is possible for them to do in terms of their own preparation without the PLC: "Before that, (issues with student writing) really didn't occur to me because we didn't have time to do it so the PLC has given us some time to look at student writing, pick a focus and then try to carry on that focus in our school" to the structures of time-tabling and scheduling:

"I'm not sure if we necessarily have time for the feedback the students need so like I think maybe if you're doing it in English, and maybe the course is designed so you can have more time and actually do more feedback that would be more beneficial."

Participants also noted that the PLC had effected change in the practices of administration, effecting changes in the way that their role was structured and carried out:

"In the past when (the AP) walked into a classroom it was more about finding a kid, talking to people about attendance and that kind of stuff, not to say that we don't do that yet, but there's all those other conversations that have sprung up because we are talking about learning and invariably they can go in lots of different directions, some really positive directions in the sense of talking about learning and learning objectives and what can be different with that so I think it has, immensely changed."

Finally, the moral tradition also caused teachers to question their own success as teachers, conjuring up feelings of doubt, discomfort, and insecurity:

"Maybe I'm not living up to expectations of the rest of the group or, more importantly, living up to my own expectations of doing things properly. So if other people are doing things better or differently from me, maybe their way is right and I've been doing things wrong".

Teachers, although quietly, compared what others were doing with what they themselves were doing, and they were unsure how to get better: "I want to be the best and I want to try to be the best. Sometimes I might not know how to be as good as another teacher". Some teachers still struggled with feelings of inadequacy, and this caused discomfort: "Well, I can't say I feel really comfortable, no, because I feel that they (other teachers) know way more about it than I do." Self-doubt revealed itself again, as one teacher commented on sensing a notion of the watching 'big-brother': "One of the things that makes me anxious is where does my teaching stack up? ...Am I being judged? Who's looking at me? How do I stack up against this teacher and that teacher and what do they think of me?" Following the PLC experience, one experienced teacher felt a sense of guilt – that he had spent years teaching in a way that he now knows was not as effective as it could have been:

"In some respects, when I look at what staff are doing now with their classes and what I did, let's say, 12 years ago when I was in a classroom, the shame or guilt that I feel is that I wasn't doing some of those processes six or eight years ago to help kids. I was looking at it way more in a global sense that they have to meet the expectations that I have and if they can't, oh well."

## Teaching and the artistic tradition

The artistic tradition of teaching entails a richer, deeper understanding of identity as it is carried out in relation to others. It is the way in which they “create new resources in relation to existing discourses” (Coldron & Smith, 1999, p. 718). It is conducted in the space where knowledge sharing, building, relationships, tensions, and the self, exist. The outcome is the creation of meaning through both the meaning builder and the meaning interpreter. It is a combination of “feeling and understanding” (p.719), and requires understanding the complexity of the need for knowing the self, the meaning, and ones location among listeners to deliver the message that they intend to. This cannot be done simply within the craft tradition, as it requires individuality and the knowledge of self; knowing when one has captured the attention of the students through a combination of relationship, care, content, style, and skill. The teachers were well aware of the need to maintain the artistic tradition in their teaching, and this surfaced in two ways. Teachers in this PLC realized that the PLC process in and of itself was increasing their teacher skills, and they were proud because they felt a sense of ownership of the PLC: “I think they see value in it and I think ultimately they see value because they were part of building that process.” Teachers recognized that although the work in the PLC was challenging, it was all coming together to form a positive change for how they were teaching at that school: “I think it’s great. I think it’s coming together. It makes me excited that different minds and different experiences are coming together . . . and we’re creating what I think we’re here to create, you know, exciting learning in the classroom.” Teachers accepted the ambiguity of the artistic tradition of teaching. They knew that in order to achieve the benefits, they had to develop their creativity and find a balance that worked in the classroom:

“Sometimes you just get into a rut and you want to get creative and you don’t know how and that’s where it comes back to collaboration and also expectation where I feel like my classes should be constantly evolving and changing . . . constantly trying to be, not inventive, but more creative. Being creative as a teacher and keeping the students engaged.”

This collaboration fueled the teachers and provided them with motivation to continue to work as a group:

“Enthusiasm comes from seeing some good assignments or having some good activities with good results and being able to share that with the group and maybe they can help their own (students) do things better or at least having the chance to do it.”

Secondly, the teachers in this group were very aware that any initiative that would threaten the autonomous aspect of the artistic tradition would have been short-lived. The identity of the teacher entails choice in putting a schema together that connects style, self, and purpose. Teachers valued autonomy: “When I see that I’m being asked to go in a direction that I know is counter-intuitive to what I’ve come to believe is really important, (I don’t go for it).” Teachers resisted the idea that a teacher is a deliverer of material. They realized that they needed to add their own style, understanding, and connections in order to reach students:

“I’ve said this before, I don’t want to be a robot in my class, I don’t want robots as students, I want individuals. So if I lose the individuality in my classroom, that’s going to take a major step back in my career and how much I care and the effort level that I give.”

This group of teachers realized that the PLC allowed the artistic tradition to survive:

“That’s one thing that we’ve done well with the group is that we haven’t rammed anything down anyone’s throat. I think it’s been collective idea that we want to make things better, we want to make students do better in their writing, or help students do better in their writing and we have to get there.”

Although there was initial skepticism, teachers felt that working in collaboration with one another was not a necessary threat to autonomy:

“Once I got on board with it, I still maintain my individuality but using the common tool that everyone else is using... I’ve even made modifications myself that have really tailored it to exactly how I want it to be used so that being said, even though it’s a common tool, I was able to fine tune it for myself to use in the way that suits me and my students best so there’s the upside to that. It’s common enough for everyone to be familiar with it but it’s specific enough that it meets the needs that I need for each and every activity that I use it for.”

### Teaching and the scientific tradition

Originating in public policy, and largely emphasized through the accountability based paradigm in which we exist, the scientific tradition of teaching is, to use a common adage, the search for “best practice”. The scientific tradition of teaching comes to fruition with the realization that “teachers need to employ the procedures as well as the fruits of such scientific inquiry...by conducting their own investigations and testing their own assumptions and perceptions” (Coldron & Smith, 1999, pp. 720-721). Teachers engage in the scientific tradition when they critically reflect on their successes in the classroom, seeking to improve student learning. It assumes that problems in teaching and learning can be isolated and solutions can be identified. It places the teacher as researcher.

This group yearned for a scientific solution to their problem of teaching and learning in writing. Evidence for their success, to this point, was found in the use of the rubric tool, which isolated student performance according to writing criteria. A second scientific approach occurred through calibrating sessions, where one’s assessment practices or tendencies were compared to other teachers’ practices. This provided teachers with knowledge that was new to them, and more objective than it had been in the past.

Although the horizontal data analysis revealed the following themes emerging in the scientific tradition of teacher identity, the citations for the scientific tradition revealed here were derived from the vertical data analysis only, to better reveal the changes in teacher identity as a result of the PLC. Specifically, teachers were asked to explain how they knew that their teaching was effective and how they knew that students were learning. This teacher moved from using body language as an indicator for student learning outcomes to wanting more empirical evidence:

Pre-PLC, teacher A: *“For the most part, body language. I think that’s a big thing...I can kind of see how people are doing; what indicators they have whether it’s body language or is it verbal or whatever cues.”*

Post-PLC, teacher A: *“I don’t think I can answer that question until we can see some stats back ... to see where students are and if this is improving or what’s happening in terms of student writing.”*

This second teacher used verbal student feedback as an indicator of success. Now, she is aiming at using the data from the learning outcomes on student writing:

Pre-PLC, teacher B: *“You know I don’t, other than the things the kids come back and tell you. Certainly the last few years have been really awesome when I’ve done the grad retreat and the notes that I get from kids ... How does anybody know other than those kinds of things? It’s not measurable, really.”*

Post-PLC, teacher B: *“I’m curious about what the data’s going to show in terms of the writing. I’m curious as to whether people will continue with using the rubric. If they’ll feel that there’s benefit enough.”*

One teacher who already used marks to determine growth, realized that there’s more to measuring growth than a simple pre- and post-term grade; rather, they now had a bank of measures:

Pre-PLC, teacher C: *“If you have your mark in English and it goes up, you’d say they’re learning, but nothing more specific than that.”*

Post-PLC, teacher C: *“If you’ve taught it well you’ll see that they’ve learned. They’ve learned from one assignment to another. You’ll see the rubric. You can use your assessment tool and use the same tool, same assignment and give it to them twice and you’ll see that they’ve learned.”*

This teacher, prior to the PLC, had not really thought about concrete student learning evidence in the classes which she taught. Her comments in the post-PLC interview revealed that the PLC caused her to think more deeply about learning outcomes. Whether or not this is the best approach, the PLC still caused her to examine her beliefs – a practice which teachers self-report that they don’t often do.

Pre-PLC, teacher D: *“I’m very good at planning, organizing and getting things done...One of the areas where I feel that I’m lacking is in the inter-personal relationships with kids.”*

Post-PLC, teacher D: *“I’m not just looking for what they’re thinking, I also need to be more aware of their writing skills and the skills that they’re going to use. I always use the excuse that I’m not here to teach them Language Arts, and perhaps that was the wrong idea.”*

Lastly, the vertical analysis revealed a teacher’s comments that their work within the classroom was adequate, but that consistency from classroom to classroom was rarely considered prior to the PLC, and that data had a role to play in this consistency:

Pre-PLC, teacher E: *“I would wait for end assignments, quizzes, tests, day to day walk-around, checking to see if kids are understanding, but from room to room it would have been different. Inconsistent.”*

Post-PLC, teacher E: *“Consistent standards are being used now in our school. We’re actually using data to make informed decisions.”*

After the integration of the PLC and the use of the rubric, teachers also realized that they were on the brink of more quantitative information, which they looked forward to. But because the data had yet to be collated for the staff to see as a whole, some staff yearned for this information, while others felt that its delay affected PLC momentum:

## **DISCUSSION**

The purpose of this study was to examine the development of and changes in the high school teacher identity through the collaborative professional learning community model. Using Coldron and Smith’s (1999) framework on teacher identity, being the craft, moral, artistic, and scientific traditions of teaching, a case study was conducted to determine the development of and changes in the four traditions of teacher as a result of working in a collaborative PLC.

Teacher identity, the belief that a teacher has about who they are and what they perceive their work to be, has a stronghold on the practices and traditions in the school (Walkington, 2005; Wenger, 2004). Because teacher identity is amenable to change and because teacher identity is key to teacher learning (Beijaard, et al., 2004), it is a both a logical and prudent course to examine teacher learning and professional development according to the elements of teacher identity to understand how environments, structures, and habits affect the progress of schools, as the environment and work habits of a teacher have an impact on how the teacher views themselves and their work (Flores & Day, 2006). Situated in a context of reform, Saskatchewan teachers are challenged with improving teaching and learning to meet areas of priority and focus that will allow students to fare well on a national and global scale. When considering teacher identity within this reform, approaches to teacher learning that complement the development of teacher identity have the potential to have the most positive impact on school improvement initiatives.

Through this study, it was found that the PLC had an impact on all four traditions of teacher identity. As evidenced in the data presentation in this paper, impact was found both across the group of teachers (horizontal analysis) as well as within the teachers (vertical analysis). The craft tradition of teacher identity was directly impacted. Teachers realized that the benefits of collaboration through the simple opportunity to share ideas had a significant impact on their work. They were able to add new ideas and approaches to their set of strategies, and they appreciated it. Secondly, working through the PLC model changed teachers' perceptions of the benefits of working in collaboration with others versus working alone. This was a new way to work for this group, as nothing like the professional learning community had ever been implemented at that school. As collaboration brings about knowledge creation (Lave & Wenger, 1990; Nonaka et al, 1996), teachers realized that they had a structure in which they could build knowledge. Thirdly, the PLC affirmed their good work as teachers. They felt comfort in sharing ideas that had been validated by others, as well as realizing that others also had struggles. It brought them together both through strengths and weaknesses. Parallel to the work of Day et al., (2006), this collaboration increased their level of satisfaction in their work, moving it from the isolation that plagues teaching and learning (Darling-Hammond et al, 2009; Elmore, 2000) to improved perceptions of their work and work lives.

The moral tradition of teaching was also impacted, perhaps in a less direct, but potentially more surprising way for these teachers. As teachers were exposed multiple approaches to their work through listening to others or thinking about what they had done in the past, this caused cognitive dissonance, and made teachers realize that perhaps they as a group or as individuals could do more to improve student learning. Although this dissonance was initially discomforting, it forced teachers to reflect on what they were actually doing, and what impact it had on their students. Teachers questioned what they were assessing in the classroom as well as the merits of their approaches to assessment or the merits of certain assignments. The knowing-doing gap (Schmoker, 2005) was experienced by most, forcing them to re-examine what they were doing in the classroom and why. The environment of the PLC forced them to look at what the group was doing as a whole and if those activities were even the 'right' things to do. It turned their attention to the potential unfairness of differences among the group and the impact that different approaches to assessment would have on the students. Lastly, it caused many of the teachers to even question some of the structures and traditions of school itself, revealing concerns that unquestioned assumptions of the past could have had a negative impact on student learning. This level of thinking was powerful for this group. It took them to a level of dialogue

and reflection that many of them had not yet encountered in their careers. Deconstruction and reconstruction (Mitchell and Sackney, 2000) took place, as the PLC provided teachers with an opportunity for closely examine their practices. Important in the process is that they were able to negotiate their learning through maintaining their own beliefs (Galman, 2008), while at the same time, being influenced by others' beliefs and practices.

The artistic tradition of teaching served as a check and balance for this group of teachers. First, although the teachers in this group appreciated the collective and collaborative work done through the PLC, they were aware that it allowed them to be creative with their work. They were building their own paths to success, and being creative about it. The artistic component of teacher identity, requiring that the autonomy of the teacher be respected, was not impeded through the implementation of the learning community. Starting with the "wisdom of practice" (Lieberman & Mace, 2009, p. 469), the teacher's style, values, experience, and knowledge were maintained and combined or contrasted with others' resulting in approaches that suited both the teacher and the learner. Starting with the good work of the teacher is important, as many in this group held tightly to the belief that they would not simply tag on to any initiative if it didn't make sense with who they were or what they were doing in the classroom. Their perception was that the PLC was an avenue to accomplish *their* goals, and it made sense to them. Secondly, the teachers in this group realized that they were not a simple set of skilled workers, rather they valued their ability to make choices to enhance their teaching. The work done through this PLC, to them, was a series of choices from the outset of the process to where it ended. It was clear that they had no desire to follow a mandate or top-down reform, and that the collaborative approach was a result of options that were carefully chosen by the group. The in-house nature of the initiative was valued and was likely the reason that it had survived in the school.

The scientific tradition served as the backbone to many of the changes in identity. As shown through the vertical data analysis, prior to the PLC, there was little evidence to the scientific tradition in their identities as teachers. As present in the data, prior to the PLC, qualitative measures were often used (and that they were valued) to assess student learning and progress. As a result of the PLC, many teachers were either using or optimistically waiting for the 'scientific' data to show whether or not they were accomplishing what it is that they set out to do, and waiting for it to further guide their teaching. Although this finding requires further research, the evidence in this study indicates that without the focused goal of improving student learning resulting from the PLC, the scientific tradition would be barely affected. Furthermore, from the data resulting from this study, it is also evident that the scientific tradition present through the PLC was not only affected as one of the four traditions, but is also was instrumental in effecting changes in the other three traditions.

To elaborate on the effect of the scientific tradition on the other three traditions of teacher identity, consider the following:

The craft tradition was influenced by the scientific tradition in that teachers were developing new strategies for teaching and assessment, realizing that their current practices did not satisfy their new goals. Teachers were motivated to learning the new strategies because it influenced the outcomes observable in the scientific tradition.

The moral tradition was influenced by the scientific tradition through the cognitive dissonance created among members of the group. The root of this dissonance was finding out that there were multiple choices to make along the route to improving student learning, and determining which were the right choices to increase student learning outcomes forced teachers to weigh these value-laden options.

The artistic tradition was influenced by the scientific tradition in that teachers were accustomed to being able to resist those initiatives that didn't match their approaches to teaching and learning in the classroom; however, the PLC did not threaten their autonomy and creativity, and they consciously realized that they were not as resistant as they were to other past initiatives. Furthermore, since the PLC wasn't mandated, they accepted it as an invitation to dialogue and to contribute to improving student scores.

Lastly, the scientific tradition was new, in and of itself. Teachers, at the outset of the study, had a method for assessing whether or not student learning was occurring, but this was largely based on their teacher-made assessments, thus they were inconsistent, norm-based, and as the data revealed, frequently qualitative. The scientific tradition provided teachers with an opportunity to compare what other teachers were doing in other classrooms and how this affected student learning. This allowed teachers to experience both affirmation, as well as cognitive dissonance.

The four traditions is expressed in figure 1, revealing the emerging finding that the scientific tradition of teacher identity is not only a part of the four traditions of teacher identity, but that through the PLC, it is a catalyst to the changes in identity in the other three traditions. The scientific tradition emerges as an important component for the functioning of the PLC, as well as the central reason for its success. See Figure 1 in the Appendix.

## **CONCLUSION AND IMPLICATIONS**

This purpose of this study was to examine the development and changes in the high school teacher identity through the incorporation of the professional learning community model. The numerous data from this study are evidence that the professional learning community model affects all four traditions of teacher identity, and is an integral component to the development of the scientific tradition of teacher identity. The data also point to the appropriateness of the professional learning community model as an agent to change in a context of reform. Because of these findings, the following implications are made:

The professional learning community is a strong change agent to the four traditions of teacher identity, as the professional learning community goal, resting in the scientific tradition, serves as a catalyst to the other three traditions. This creates interesting implications for conceptual frameworks of teacher identity. Furthermore, in a context of reform, as exists in education, this finding raises significant theoretical implications for professional development and change in teaching. Because of its recent emergence, the model presented in this paper is proposed as an introduction to complement theory in the field, and to stimulate dialogue and research on its relevance to teacher identity and change. Further studies will reveal whether or not it emerges in other settings.

The professional learning community model was shown as an effective teacher identity change agent, but it leaves several opportunities for further research, especially looking into the association of each identity tradition to different aspects of the PLC, and the long-term, sustainable improvements to student learning.

In practice, the findings of this study hold several implications. First, if teacher identity is both given and socially achieved, then educational leaders must take advantage of professional development through the social environment, allowing for affirmation, information, or dissonance. This study revealed evidence that the professional learning community is an environment in which affirmation, information, and dissonance takes place. Secondly, if the

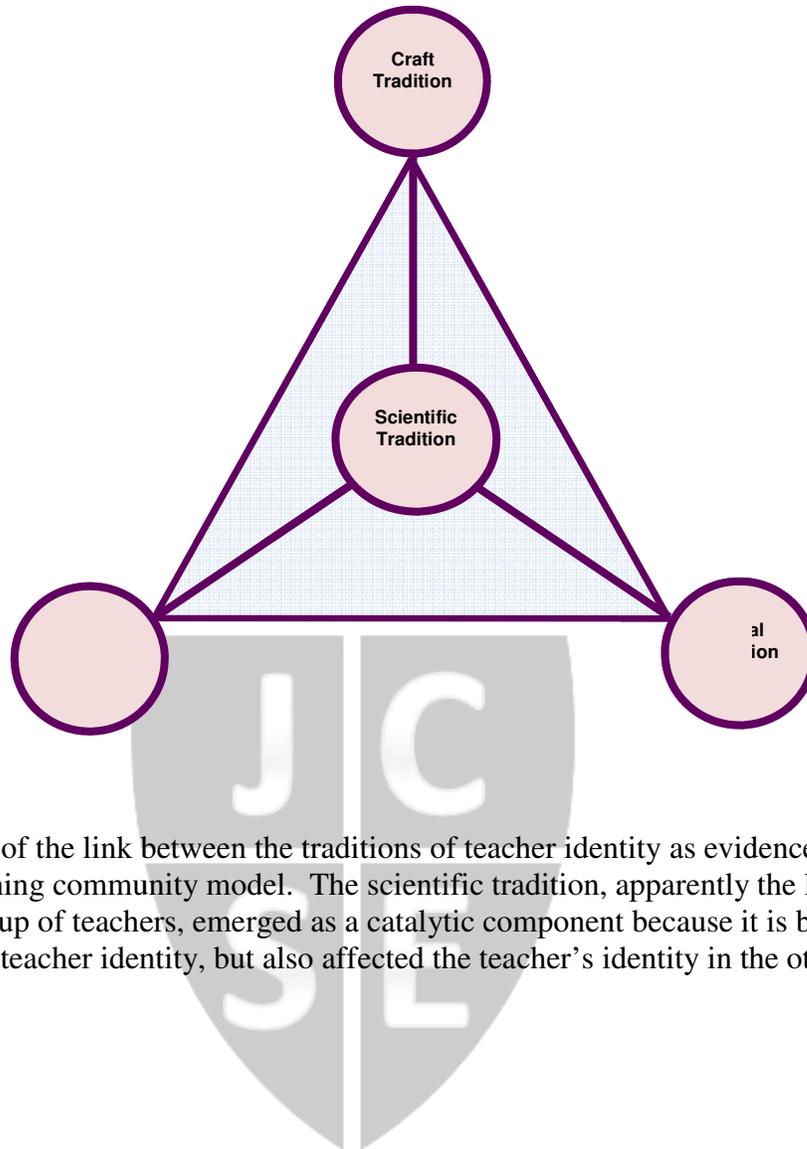
professional learning community is an effective tool to effect changes in teacher identity in the context of reform, as found in this study, policy makers and leaders must invest in its potential.

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## APPENDIX



**Figure 1.** Depiction of the link between the traditions of teacher identity as evidenced through the professional learning community model. The scientific tradition, apparently the least developed in this group of teachers, emerged as a catalytic component because it is both a part of the four traditions of teacher identity, but also affected the teacher's identity in the other three traditions.

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