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Principals’ moral purpose in the context of LGBT inclusion

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Abstract

Purpose – The purpose of this paper is to highlight the complicated nature of safeguarding lesbian, gay, bisexual and transgender (LGBT) students. First, this paper will address the issues that LGBT students face as a minoritized group in their school system, which inhibits their opportunities to reach their full potential when it comes to emotional and academic growth. Second, this paper will be used to discuss how leadership is vital in order for school communities to help address the issues that their LGBT population face. Third, the author will make the case that a lack of leadership self-efficacy can hinder the process.

Design/methodology/approach – Three different research studies were used to highlight the needs of LGBT students. However, there is additional research that is used as well to illustrate the need for leadership self-efficacy to support LGBT safeguards. When it comes to LGBT research the research of GLSEN (formerly known as the Gay, Lesbian, Straight Education Network) was used. GLSEN’s research consisted of 7,898 students between the ages of 13 and 21. Second, data from the Every Teachers Project by the Manitoba Teachers’ Society were used which involved 3,400 teachers around Canada. Although there are certain nuances between international examples which include those LGBT students living in the dominant culture as well as within indigenous populations, the author builds the case that the harassment and bullying has a common theme and can be addressed through common methods. Additionally, qualitative doctoral research was used, which consisted of 20 interviews of school leaders from three different school districts in New York State. Lastly, for the purpose of this paper the author will use the acronym LGBT to identify those in the lesbian, gay, bisexual and transgender community. There are many acronyms (e.g. LGBTQ, LGBTI, etc.) representing the community, and only when the research use those other acronyms, will those be used to highlight subgroup populations.

Findings – Findings indicate that, as a minoritized population, LGBT students are highly at risk for being verbally and physically harassed at school, and go unprotected by the adults who are in charge of keeping them safe. School leadership is instrumental in the safeguarding of LGBT students. Additionally, safeguarding is not nearly enough. It is important to understand that LGBT students should not just be safeguarded, but should also be surrounded by curriculum and images that will help them feel accepted into the greater school community, which takes an increased level of self-efficacy on the part of the leader.

Originality/value – The topic of engaging LGBT students in the school community is sparse at best. Additionally, this paper provides the case for safeguarding and engaging LGBT students, as well as all minoritized populations, but also discusses why it is the moral purpose of leaders to do so. However, the author believes that the addition of understanding leadership actions around safeguarding LGBT students through the lens of leadership self-efficacy and building collective efficacy is an important one, and will add to the originality of this paper.

Keywords Collective efficacy, Leadership, Professional development, Self-efficacy, LGBT, Leader self-efficacy

Paper type Viewpoint

Introduction

We need look no further than North Carolina’s recent passage of House Bill 2 (HB2) to understand that there is still anti-gay bias in the USA. Avianne Tan, a reporter for ABC News, writes that HB2, “Declares that state law overrides all local ordinances concerning wages, employment and public accommodations.” This, according to Tan (2016) means:

The law now bars local municipalities from creating their own rules prohibiting discrimination in public places based on sexual orientation and gender identity. Though North Carolina does have a statewide nondiscrimination law, it does not include specific protections for LGBTIQ people.
According to Tan (2016):

The law also directs all public schools, government agencies and public college

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The law also directs all public schools, government agencies and public college
campuses to require that multiple-occupancy bathrooms and changing facilities, such as
locker rooms, be designated for use only by people based on their “biological sex” stated
on their birth certificate. Transgender people can use the bathrooms and changing facilities
that correspond to their gender identity only if they get the biological sex on their birth
certificate changed.

Since the passage of the law, there has been pushback from those in support of safeguarding
members of the lesbian, gay, bisexual and transgender (LGBT) community, and those on the
other side who do not support the LGBT community at all. Musicians such as
Bruce Springsteen, Boston and Pearl Jam canceled concerts, and the NCAA threatened to
cancel all national athletic tournaments scheduled for North Carolina unless the bill is
repealed. HB2 has just been another example in a long series of examples of discrimination
against the LGBT community.

At the national level, the rhetoric around discrimination of members of the LGBT
community continues. President Donald Trump has reversed the guidelines set in place by
former President Barrack Obama that protected transgender students from discrimination
under Title IX. Secretary Devos said that the reversal was due to the need for these
situations to be dealt with at the state level, rather than at the national level. Many believe
that the reversal represented President Trump’s lack of support for those in the LGBT
community. It is important to note, however, that this does not end legal protections.
Kreighbaum (2017) reported that, “the bottom line is that this does not undo legal
protections for trans students, and school districts can and must continue to protect them
and all students from discrimination.”

Although those in the community have seen an increase in public support which brought
about changes to legalizing gay marriage, and the media attention behind the discourse
around HB2 and the reversal of Title IX, the LGBT community still lacks full support in
society, which plays out in schools around North America, as well as internationally.
Kosciw (2013) National School Climate Survey reported that:

55.5% of LGBT students felt unsafe at school because of their sexual orientation, and 37.8%
because of their gender expression. 30.3% of LGBT students missed at least one entire day of
school in the past month because they felt unsafe or uncomfortable, and over a tenth (10.6%)
missed four or more days in the past month.

However, it is not just in the USA that there is a concern for the growing number of LGBT
students, but in countries such as Australia we can find the same disturbing bullying
statistics. Research by the Australian Human Rights Campaign (2014) shows:

- LGBTI young people report experiencing verbal homophobic abuse (61 percent),
  physical homophobic abuse (18 percent) and other types of homophobia (9 percent),
  including cyberbullying, graffiti, social exclusion and humiliation.
- In total, 80 percent of homophobic bullying involving LGBTI young people occurs at
  school and has a profound impact on their well-being and education.
- Gay, lesbian, bisexual and transgender people are three times more likely to
  experience depression compared to the broader population.
- Around 61 percent of same-sex attracted and gender-questioning young people said
  they experienced verbal abuse because of their sexuality, while 18 percent reported
  experiencing physical abuse. Young men (70 percent) and gender-questioning young
  people (66 percent) were more likely than young women (53 percent) to experience
  verbal abuse.
Considering that public schools around the world are a microcosm of society at large, it is important to understand that all of these issues intersect at school and not all leaders are prepared for the educational, pedagogical and political ramifications.

**How safe is school for LGBT students?**

There are numerous reasons why LGBT students feel unsafe. Some bullying takes place because heterosexual students lack an awareness of what it is like to be LGBT and they have biases based on that lack of understanding. The lack of awareness is often inspired by the curriculum and images that are seen in school. Schools often have an overwhelming number of heteronormative images which can perpetuate the feeling of superiority on the part of one group over another. McNeill (2013) described heteronormative as a "specific normative form of monogamous, marital, middle-class, normatively gendered, and in many implicit and explicit ways, white, heterosexuality." McNeill further defined heteronormative as the promotion, “of a specific family form – a nuclear family made up of married heterosexual parents with children who are biologically theirs.”

In classrooms, novels and stories read by teachers, and books available to students in their school libraries are predominantly heteronormative in nature. Other times, the lack of safety comes from less subtle experiences where students use the word "gay" as slang for being weird. Additionally, they hear the word being used to elude to the fact that a student may actually be gay, and in the eyes of the student using the word, less than everyone else in school because somehow being gay is wrong.

When it came to anti-LGBT remarks at school, the GLSEN report showed that:

- 71.4% of LGBT students heard “gay” used in a negative way (e.g. “that’s so gay”) frequently or often at school, and 90.8% reported that they felt distressed because of this language. 64.5% heard other homophobic remarks (e.g. “dyke” or “faggot”) frequently or often. 56.4% heard negative remarks about gender expression (not acting "masculine enough" or "feminine enough") frequently or often.

Using the word “gay” and “faggot” in a negative way may be a part of the teenage and early adult vernacular. However, for smaller percentages of students, using those words is merely a gateway into more destructive behavior. That more destructive behavior may show itself in the form of bullying or harassment of students who are perceived to be a part of the LGBT community.

When looking at harassment and assault at school, the GLSEN report found:

- 74.1% of LGBT students were verbally harassed (e.g. called names or threatened) in the past year because of their sexual orientation and 55.2% because of their gender expression. 36.2% were physically harassed (e.g. pushed or shoved) in the past year because of their sexual orientation and 22.7% because of their gender expression.

Going even deeper with the physical harassment and assault of LGBT students, GLSEN found that, “16.5% were physically assaulted (e.g. punched, kicked, injured with a weapon) in the past year because of their sexual orientation and 11.4% because of their gender expression. 49.0% of LGBT students experienced electronic harassment in the past year (e.g. via text messages or postings on Facebook), often known as cyberbullying.”

In the National School Voice Report (Quaglia and Corso, 2016), students who are engaged in school are 17 times more likely to be successful in school. LGBT students who are not engaged because they feel as though their school community does not support or safeguard them, are highly at risk of not being as academically and socially successful as they could be, as well as, are at high risk of dropping out of school (Kosciw, 2013).
Fostering an inclusive school climate
Given all of these statistics, it may be surprising that, “56.7% of LGBT students who were harassed or assaulted in school did not report the incident to school staff, most commonly because they doubted that effective intervention would occur or the situation could become worse if reported.” Whether that feeling was real or perceived does not matter. What does matter is that these students did not feel supported within their school environment, and no one should have to spend day after day in an environment where they do not feel safe. The lack of safety these students felt was partly due to the perceptions of their teachers, which contributes to a hostile school climate.

School safety and student engagement, regardless of how a student identifies, is an important element of school climate, which is a necessary component of how our schools function (DeWitt and Slade, 2014).

According to the Ice et al. (2015):

School climate refers to the quality and character of school life. School climate is based on patterns of students’, parents’ and school personnel’s experience of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.

National School Climate Center goes on to say:

A sustainable, positive school climate fosters youth development and learning necessary for a productive, contributing and satisfying life in a democratic society. This climate includes:

- Norms, values and expectations that support people feeling socially, emotionally and physically safe.
- People are engaged and respected.
- Students, families and educators work together to develop, live and contribute to a shared school vision.
- Educators model and nurture attitudes that emphasize the benefits and satisfaction gained from learning.
- Each person contributes to the operations of the school and the care of the physical environment.

DeWitt (2017) wrote, “taking action to make sure we have a positive and inclusive school climate means those actions include all students, regardless of race, religion, sexual orientation, or gender” (p. 40). Unfortunately, not all of the students that enter into school buildings on a daily basis feel supported. Out of the research that GLSEN has provided regarding the safety and engagement of LGBT students, there is one piece that is most disturbing. GLSEN reports that “61.6% of the students who did report an incident said that school staff did nothing in response.” Given that statistic it would be easy to say that this represents a student’s perspective and it may be incorrect. However, 61 percent of students have the perspective that the bullying and harassment they dealt with was never addressed by the adults in their building who are charged with educating and protecting them. Parents send their children to school to learn, but they expect them to be safe.

The Every Teachers Project by the Manitoba Teachers’ Society (Canada) found that “Almost all educators (97%) considered their school to be safe but when they were asked questions that focus on the safety of LGBTQ students the numbers dropped substantially, especially for transgender students.” Additionally, the Project found that, “One in five participants overall reported hearing teachers make homonegative comments such as ‘that’s so gay’ at school, with likelihood higher among Catholic school participants (28%) and Ontario participants (also 28%). A third of participants (34%) reported having heard teachers use homophobic remarks such as ‘faggot’ and ‘dyke’ at school.” All of this negative rhetoric can lead LGBT students to feel minoritized.

The author understands that references to the above Canadian and Australian studies can be complicated due to the support, or lack thereof, when it comes to LGBT students who...
also identify within an indigenous population due to cultural circumstances. However, the complicated nature of the home lives of students, regardless of their status as indigenous or part of the dominant culture, will result in the same negative effects when they approach their own schooling.

Minoritized students are the students who are pushed into feeling like the minority by another more dominant group. Minoritized students rarely see images in school that look like them, have teachers who read books on topics that address their needs, or hear common language that makes them feel included in the school community.

Harper (2012, p. 9) explained the use of minoritized instead of minority because:

Persons are not born into a minority status nor are they minoritized in every social context (e.g. their families, racially homogeneous friendship groups, or places of worship). Instead, they are rendered minorities in particular situations and institutional environments that sustain an overrepresentation of Whiteness.

This feeling of being minoritized does not just happen based on race but it can take place based on gender or sexual orientation depending on the situation. Given the research on how often LGBT students are bullied and harassed, their status as a minoritized population which puts them at risk, as well as current events like the battle over repealing HB2 in North Carolina, it is important to understand how important of a role that schools can play in the acceptance of these students. One of the key aspects to ensuring that LGBT students are safeguarded in order to meet their full potential and possibly even exceed it is through school leadership.

Leadership self-efficacy
In a small mixed method approach (DeWitt, 2010), it was found that only about 30 percent of school administrators in New York State took steps to safeguard LGBT students even though there had been an increase in the number of students who came out as LGBT. Additionally, leaders within NY State understood that the Dignity for All Students Act would be passed and enforced in 2011. The law was created to help safeguard the increasing number of students bullied based on sexual orientation, sex, gender expression and race.

Fast forward a number of years and many schools still look the same with one exception. Schools have seen the increase in, not only students who identify as gay, but also the number of students who are identifying as transgender. The awareness of transgender issues alone has increased due to the mainstream media’s coverage of Caitlyn Jenner’s transition, as well as transgender actresses like Laverne Cox, and transgender portrayals like that of Jeffrey Tambor. With all of this media coverage of real life as well as television shows, schools were bound to see an increase in the number of students identifying as LGBT.

However, not all schools are safeguarding students to the extent that they could be in a time when there is so much coverage of LGBT issues. Elizabethe and Smith (2017) found:

Reasons for this are multiple, but often it is because of [educators’] own fear and concerns and because of a prevailing belief that sexual orientation [...] is not an appropriate focus for education (p. 333).

That leaves many LGBT students feeling very disengaged within their school system and considerably minoritized to the point of isolation. It is also a bit hypocritical considering the amount of heteronormative images displayed around schools and included in textbooks and the curriculum.

It is the moral purpose of leaders to take on this issue. Michael Fullan (2001) wrote:

You don’t have to be Mother Theresa to have moral purpose. Some people are deeply passionate about improving life (sometimes to a fault, if they lack one or more of the other four components of leadership: understanding of the change process, strong relationships, knowledge adding, and
coherence making among multiple priorities.) Others have a more cognitive approach, displaying less emotion, but still being intensely committed to betterment. Whatever one's style, every leader, to be effective, must have and work on improving his or her moral purpose.

So why do not leaders take this on? Why do so many leaders continue to lag behind society with this issue? First and foremost, it is difficult for leaders to take on the issue of safeguarding LGBT students if they do not fully understand the context which LGBT students are living, or have their own biases when it comes to the LGBT community. It is a concern of the author that these leaders will never address the needs of LGBT students, as well as any students who are not part of the dominant culture.

Additionally, few leaders will take on the issue because they rarely want to talk about sexual orientation with students, which means that many leaders spend time being reactive rather than proactive in these situations. This lack of understanding, and needing to understand, may be caused by the leader lacking a sense of self-efficacy when it comes to addressing the needs of minoritized populations. The author believes that this population of leaders are the very population that are within the reach of the LGBT community and can be used to build bridges rather than walls.

Bandura (1994) defined self-efficacy as “people’s beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave” (p. 2). Self-efficacy is situation specific, which means that a leader may have a strong sense of self-efficacy in one area but lack it in another. Many times that other area where a leader lacks a sense of self-efficacy is when it comes to those students who do not always fit into the dominant culture.

Bandura (2000) found:

When faced with obstacles, setbacks, and failures, those who doubt their capabilities slacken their efforts, give up, or settle for mediocre solutions. Those who have a strong belief in the capabilities redouble their effort to master the challenge.

Leithwood and Yantzi (2008) found:

[...] efficacy is a key variable in better understanding effects in most organizations. Pointing to the similarity of efficacy and self-confidence, McCormick (2001) claims that leadership self-efficacy or confidence is likely the key cognitive variable regulating leader functioning in a dynamic environment.

The following image represents how a lack of self-efficacy when it comes to providing inclusive safeguards for students in that dynamic environment known as school. Clearly, self-efficacy is a complicated topic which has been addressed through research, articles and books, so the image may seem simplistic. However, Figure 1 is meant to represent how important self-efficacy may be to the topic of safeguarding LGBT students.

**Figure 1.** Impact of self-efficacy on carrying out inclusionary practices
To further illustrate the need for leadership self-efficacy, the author believes that when leaders begin to safeguard LGBT students there are a variety of issues that take place. Leaders receive pushback from parents. For example, many high schools across North America take part in the GLSEN's sponsored “Day of Silence” where students do not speak for the day in recognition of all of the other LGBT students who have been silenced around the world because of their LGBT status. There have been cases where parents kept their high school students home for the day in protest of a school leader’s willingness to encourage their students to take part in the Day of Silence.

Other times when a leader stands up for one minoritized group over another they are seen as pushing their agenda. This constant push and pull requires a great deal of self-efficacy. The reasoning is that safeguarding LGBT students can become such a divisive conversation that it often creates sides. One side stands for the support of LGBT students while the other side looks for a counterargument, and the pushing of an agenda is seen as that counterargument.

The author believes that the key behind raising the self-efficacy of leaders in order to help them find the belief that they can overcome any obstacles that arise from safeguarding LGBT students is through the use of collective efficacy. Tschannen-Moran and Barr (2004) defined collective efficacy as “the collective self-perception that teachers in a given school make an educational difference to their students over and above the educational impact of their homes and communities” (p. 190). It is the belief of the author that through the combined effort of school leaders and staff, they together can find ways to help support the needs of LGBT students.

What can educators do collectively?

It is important to remember, in this case, that safeguarding LGBT students and including curriculum and books that represents them is not just good for the LGBT student population but is equally as good for the rest of the student population because it helps prepare them for the diverse society we live in. Safeguarding LGBT students can be a part of a bigger picture of making sure that leaders safeguard all minoritized populations, which will also help alleviate the argument of pushing one’s agenda.

Additionally, it is important to do more than just house books that include LGBT students in the school library. It is important to offer books where LGBT students or adults are depicted in a positive way. Too often the literature and movies revolving around the LGBT community have focused on sexual promiscuity and the AIDS epidemic. Although those are issues that the LGBT community face, it is equally as important to provide stories that show the positive side of the LGBT community.

In the research of John Hattie, which involved more than 300 million students from developed countries around the world, he found that teacher-student relationships had a 0.72 effect size which is well over the hinge point of 0.40 which many researchers agree can provide a year’s worth of growth for a year’s input. Although there are many nuances to Hattie’s research because he averaged effect sizes for his influences on learning, educators can agree that relationships are central to fostering a supportive and inclusive school climate, and a necessary component of including all students so they can reach their maximum potential. Teachers who take an interest in the lives of their students, including those who are LGBT, can have a profound impact on how the student does in school.

There are some basic steps that schools can take to safeguard LGBT students, but also all minoritized populations. These simple steps may make it more palatable for leaders to take on such issues. First and foremost is to create a school board policy that safeguards all students, regardless of race, gender, gender expression and sexual orientation, and then follow through on that policy when students report being bullied and harassed (DeWitt, 2010). Schools that have a policy in place safeguarding minoritized populations are
more likely to support LGBT student during times of bullying. According to the Australian Human Rights Commission:

LGBTI young people at schools where protective policies are in place are more likely to feel safe compared with those in schools without similar policies (75 per cent compared with 45 per cent). They are almost 50 per cent less likely to be physically abused at school, less likely to suffer other forms of homophobic abuse, less likely to self-harm and less likely to attempt suicide.

Second, school leaders and teachers can display images that are less heteronormative and more inclusive that support LGBT students. Beyond the images that hang on the walls of the school building, leaders and teachers can provide curriculum that represents all of the students within their school building. Perhaps that curriculum includes literature that is age appropriate and a special category within their school library where students can take out books that have LGBT characters or plots (DeWitt, 2012).

Additionally, teachers can focus on issues that involve LGBT students, like a debate around the HB2 Bill, the reversal of Title IX or gay marriage. Debates are an important method that teachers can use to teach students how to interact around a controversial topic and learn from one another (DeWitt, 2012). Confrontation is not a bad thing if it leads to a better place, and not all students have to agree on the topic of being gay, but they can certainly take time to have conversations about it to open up a reciprocal understanding. This idea is supported by the research from the Manitoba Teachers’ Society, which found that:

Educators were most likely to report that LGBTQ content was relevant to “health/family studies/human ecology” (86%), but this was closely followed by many other subjects including social studies (79%), English language arts (78%), and social justice/law (78%). Many participants also saw LGBTQ content as relevant to history (63%), religion (59%), the arts (57%), French language arts (53%), science (46%), and physical education (46%). One in five saw it as relevant to mathematics (22%).

Professional learning and development of teachers and leaders are a necessary way to understand the needs of the LGBT community (DeWitt). According to Hattie, professional development has an effect size of 0.51. Timperley et al. (2007) found that effective professional development occurs:

Over a long period of time (three to five years), involves external experts, teachers are deeply engaged, it challenges teachers’ existing beliefs, teachers talk to each other about teaching, and school leadership supports teachers’ opportunities to learn and provides opportunities within the school structure for this to happen.

When considering LGBT students, and the research presented in this paper, it is clear that professional development around inclusive practices for LGBT students would challenge the beliefs of teachers. For example, in the Manitoba study, researchers found that, “Almost all (99%) participants agreed that “it is important for students to have someone to talk to, “but only 73% indicated they would be comfortable discussing LGBTQ topics with students.” When it comes to professional development it is important for schools to work with experts in the field of safeguarding LGBT students.

In many large towns or cities, there are LGBT community organizations that would enjoy the opportunity to work within a school system. Those organizations are always prepared and eager to do outreach with any school or organization that has an interest in LGBT issues. This is a necessary component to supporting LGBT students, because very often teachers and leaders do not know how to help support that marginalized population within their schools. Professional development can help bridge a level of understanding for the school community.

Additionally, leaders need to engage families, which is where leadership is necessary. Schools all have LGBT students, and in many cases schools have LGBT parents who are a
part of the school community. Parents need to understand that the school climate is supposed to be safe and inclusive for all students who enter the doors. That takes dialogue at parent-teacher conferences, PTA meetings and open house.

Clearly, there will be pushback on the part of parents, which is why many school leaders will not follow through on safeguarding LGBT students. There are countless examples of parents pulling their students out of school when those schools are honoring the Day of Silence, which is a national event across the USA where students remain silent protest for all of those LGBT students who do not feel as though they have a voice, and we just need to refer back to HB1 where there are states that go out of their way to discriminate against the LGBT community, as well as the reversal of Title IX which seems to indicate that President Trump may offer the same type of discrimination.

Leadership is about working with all stakeholders to make sure that they are maximizing the potential of all of the students who enter into school. Dialogue, professional development, school board policies and codes of conduct are some of the necessary components to making sure that this happens.

In the end
When leaders care about including all students in their community in the greater conversation about academic and social-emotional growth, should it be considered pushing one’s agenda? No, it should not. The research presented above illustrates the need for immediate action on the part of leadership in schools because there is a high percentage of LGBT students who are risk of being bullied and harassed.

Furthermore, the job of the school is to make sure that students not only meet their own expectations, but teachers and leaders should be instrumental in helping students exceed their expectations. In order for that to happen, school leaders must help teachers address the absence of curriculum, images and the common language necessary for LGBT students to flourish in their school setting. That is why the discussion around self-efficacy is necessary. Leaders need to feel a sense of self-efficacy to make these situations happen, and that self-efficacy has to include the belief that all students are welcome in school.

Schools should have climates where all students feel engaged socially, emotionally and academically. We understand from the research presented that that is not happening. It is the moral imperative of leaders to make sure that all students are engaged to the fullest extent. When the person in charge of the school neglects this moral imperative, they fail to live up to the title of leader.

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Further reading


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Leading cultural coherence: cases from New Hampshire

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Abstract

Purpose – This paper is concerned with the cultural components of change and district coherence. The purpose of this paper is to present two district cases studies, illustrating their experiences with a particular initiative that guided local leaders through both structural and cultural changes.

Design/methodology/approach – The paper uses two qualitative case studies to illustrate how a new initiative led by an external partner might help local district leaders learn to shift from financial pass-through or compliance-oriented observer to coherence-making, capacity-building force for schools. Cases were conducted in New Hampshire, USA, studying two districts implementing an RTI-related initiative.

Findings – The project was an opportunity to use a common objective – improving learning for all students – and several common school elements – team meetings, student data and job-embedded professional development – in combination to impact how staff work and how they work together for the benefit of students. In particular, team-based leadership, instructional coaching, and collaboration structured around instruction and student data were all powerful practices with structural and cultural impacts.

Research limitations/implications – It remains to be seen if the districts can both initiate these changes on their own as well as sustain these culture-making roles over time.

Practical implications – The paper illustrates several activities that other districts may use to work toward becoming cultural learning organizations.

Originality/value – The value of district central offices taking on new roles, such as learning organization or cultural coherence maker, is established by authors like Honig. This paper illustrates on way district offices might learn to take on these roles.

Keywords Organizational learning, Case studies, Professional community, Central offices, Districts, Response to intervention

Paper type Research paper

Reform in education is not a new endeavor. Many efforts, however, often fail to make substantive and lasting change to educational organizations or to teaching practice. Policies often travel down a hierarchical chain of loosely connected organizations, losing meaning, intent, and potential for impact along the way (Datnow, 2006). In particular, local leaders are often left with few opportunities to negotiate meaning between their conditions and the demands of new policies (Honig and Hatch, 2004).

In response, researchers have called upon local leaders to be cultivators of coherence to create substantive and lasting improvement (see Honig, 2008; Johnson et al., 2015). More recent policy initiatives offer flexibility, shifting from an emphasis on bureaucratic control to an emphasis on professional judgement (Jaafar and Anderson, 2007). Flexibility, however, can present its own challenges as educators work to make sense of new projects that must coexist with current demands (Datnow and Park, 2009). Research on implementation, consequently, too infrequently explores how local leaders go about creating, not only the technical alignment of various procedures, but also professional cultures that can help staff make sense of new initiatives and create lasting change.

This paper is concerned with what role local leaders, such as school administrators and district office staff, might play in creating coherence at the local level that is both structural and cultural, which in turn will improve student achievement. It illustrates how a project led by an intermediary might model this coherence-making role for local leaders, positioning them to take on this role going forward.
The paper presents two case studies of school districts implementing the same reform initiative. This unique project and its manifestations in two cases demonstrate how a project might build coherence-making capacity in local administrators through attention to structures and professional cultures. These two case studies are instances of districts learning to create local coherence. They illustrate the ways that local leaders were supported in their efforts to take on coherence-making roles, and the challenge that remains for leaders when such initiatives end. This study is significant in three respects:

1. It illustrates the process by which two districts used a project and the support it provided to create more cohesive models of instruction and support;
2. It illuminates the ways that a local authority can create structures that also shape local professional cultures, helping sustain efforts; and
3. Finally, the study brings attention to a state-level policy that helped to facilitate these changes at the local level, offering a model for effecting these changes at scale.

**District coherence and sense-making**

The two districts in question used the project in question to create more cohesive approaches to teaching and supporting students. Johnson and her colleagues (2015) have argued that district coherence is a correlate to increasing achievement, provided that resources, structures, and systems (e.g. time, staffing, and processes) are all used in complementary ways. These authors note that shifting roles and resources to accommodate a new project is a difficult, but realistic prospect for local leaders.

In addition to these technical aspects, however, new initiatives may require staff to learn to negotiate new understandings of their practice and new relationships with colleagues (Datnow and Park, 2009). Changes in roles entail alternations in an organization’s routines, relationships, and formal as well as informal structures (Datnow and Park, 2009; Brown and Duguid, 1991; Levitt and March, 1988). Highlighting changes to relationships and informal processes alongside fixes to formal structures means that achieving coherence requires more than realigning resources. Assuming an organization is a fluid set of interactions and processes (Van de Ven and Poole, 2005), or a set of “roles and role relationships” (Fullan and Pompert, 1977, p. 337), such relationships will shape new policies as much as schedules or resource allocations. When considering the cultural and human elements of change, then, one must consider the drivers of coherence proposed by Fullan and Quinn (2016), namely that achieving coherence will require capacity building, collaboration, attention to pedagogy, and an iterative, collaborative attention to system change. Structures and cultures must complement one another for change to be achieved and sustained (Biancarosa et al., 2010).

Research taking this view can illuminate the process by which local leaders and teachers go about learning to engage in sense-making and achieving coherence. This is done by exploring the context of learning and the decisions that local implementers make that shape policy (Datnow and Park, 2009). Studying such transformation of structure and culture means viewing these transformations as a process rather than a single event, and one that involves ongoing negotiation (Datnow and Park, 2009; Honig and Hatch, 2004; Fullan and Pompert, 1977).

**Data sources and methods**

The paper presents two case studies of districts in the state of New Hampshire, USA who chose to participate in the NH Responds (NHR) project. The research questions that guided this study were:

**RQ1.** What theories of action in each district support the coherent interaction of concurrent policies in districts and schools, including changes to local structures and professional cultures within the district?
RQ2. How did leaders stimulate and support these changes and ultimately alter structures, roles, and relationships in local schools?

The two districts were selected from the small pool of five who applied and participated in NHR. These two were recruited to represent differences in geography (one a small city and another a rural area) as well as approaches to central office authority (one taking more central control, the other taking a looser approach). These contrasts in district character were meant to illuminate different approaches to offering centralized, deliberate support for creating coherence and helping local staff engage in sense-making (or, potentially, not supporting these changes at all).

The two case studies included interviews with 28 participants, including district-level staff and policy-level planners. These participants represent Fullan’s (2003) three levels of policy making: the policy level; the district office; and the school. Interviews followed a semi-structured protocol designed to understand participants’ recollections of the project, its local goals and structure, and its impacts on their roles and relationships with colleagues.

Yin (2003) has described the various forms of validity to be considered in multiple case designs. His concepts were instrumental in ensuring that each case compared common elements. In this study, replication was intended to establish “external validity” by relying on “analytical generalization,” or the use of a key theory through which each instance of change is viewed (p. 31). These case studies strove to explore the range of interacting initiatives, cultural elements, and instructional systems simultaneously at work in a co-constructed project. Studying these organizational changes in districts of different sizes and with different approaches to central office authority strengthened the validity of the study and its conclusions.

Data analysis
Qualitative analysis was conducted employing a priori categories and codes, therefore the study adheres to a confirmatory analysis framework, or one where similar themes are explored in each case, and then compared to one another through the use of the categories and matrices (Onwuegbuzie and Teddlie, 2003). The use of the qualitative software ATLAS.ti was helpful in not only ensuring consistent use of coding procedures, but also in grouping and re-grouping responses by district, role, and other categories to make further comparisons.

Interview data included here come from 26 participants implementing NHR in two districts that I call Springdale (14 participants, including three from the central office, two principals, and nine teachers from two schools) and Norton (ten participants, including two from the central office, two principals, and six teachers from one school). Data are also included from two participants from the intermediary organization that led the implementation of the project.

New Hampshire Responds and districts’ experiences
In 2007, several New Hampshire agencies worked together to launch NHR, including the New Hampshire Department of Education, the US Department of Education’s Office of Special Education Programs (using Federal funding in the form of a State Personnel Development Grant), the Institute on Disabilities (IOD) at the University of New Hampshire, and other agencies. The project included several elements designed to foster what Fullan and Quinn (2016) might call a coherent approach to improvement: opportunities for districts to design and lead systematic local implementation plans, support for instruction, and teacher collaboration. At the time of this study, NHR was entering its fifth and final year of implementation in five districts throughout the state.

In particular, NHR focused on implementing the data-driven practice response to intervention (RTI) as a universal model of instruction and intervention. In RTI, at minimum, teams identify students who are struggling, support them with tiers of interventions tailored...
to their particular needs, use data to monitor their progress, and to adjust supports over time. In NHR, the effort not only focused on establishing school teams to support interventions and progress monitoring, but also formed district teams to support cohesive approaches to RTI district-wide.

Authorities in each participating district, with guidance from project facilitators, had to support not only data gathering, but also the cultural and relational aspects of coherence-making defined by Fullan and Quinn (2016), including building capacity for collaboration. All participating schools had to demonstrate cultural support for the project through staff votes, and to agree to implement “a complete unified model within the system,” impacting not only the way people work in the district, but also the way they work together. Implementing NHR included the use of district leadership teams and school-based teams not only to help staff make more effective use of data to identify struggling students, but also to co-create interventions and to share responsibility for supporting those students.

The project’s designers from the IOD played the guiding and monitoring role of state-level policy makers in Fullan’s (2003) tri-level vision of reform. The IOD were experienced educational leaders in the state, having coordinated statewide projects before NHR, including The Beyond Access (BA) project, which promoted collaborative, team-based approaches to inclusion and to the crafting special education plans. Like BA, NHR was a systemic project, meaning that it was designed to involve district-level actors as well as all faculty and staff in schools in an effort to address resources, structures, and systems (see Johnson et al., 2015) in monitoring and supporting all students.

While systematic within districts, NHR offered – and directly supported – flexibility and local sense-making across districts. The two planning-level participants from the IOD referred to the importance of promoting commonly accepted, but broad, guiding principles of RTI[1]. The project’s seven guiding principles (e.g. need for a single education system, collaboration), taken from what participants called the “Iowa Principles,” offer one example of how project leaders offered consistent, but flexible guidance to participating districts while allowing for local sense-making. NHR was intended to focus on structure and culture across the whole district. Each participating local authority had to form a whole-district team, involve representatives from all levels, and establish “a common framework for how [to] do business.” While most daily activities were implemented at the school level, NHR’s leaders and designers said the involvement of the district office was essential:

District-level support is necessary for sustainability. [...] The district approves professional development activities, approves expenditures, sets policy, and creates initiatives that can often compete with RTI implementation if the district has not bought in. Also, district-level policies can contradict what we are trying to do.

This district-level approach primarily attended to Johnson and colleagues’ (2015) technical elements, trying to ensure districts aligned resources, structures, and systems.

Springdale context
The City of Springdale is a small former mill community in New Hampshire’s more populous southeastern coast. It is a modest sized city, with just under 12,000 residents and four schools. Springdale’s leaders hoped to use NHR as an opportunity to accomplish two goals. First, project leaders reported the project offered an opportunity to create more consistent models of instruction, progress monitoring, and support. Second, they planned to cultivate a more collaborative professional culture that would build the capacities of teachers to more effectively share responsibility for instructing all students, including those with special educational needs. District leaders began NHR after previous efforts to create a more uniform approach to literacy and a uniform approach to addressing problem behaviors
(Positive Behavioral Intervention and Supports, or PBIS). These efforts formed a foundation for NHR through similar, team-led efforts to achieve not only cohesive approaches within the school system, but also shared responsibility for issues like behavioral expectations.

Springdale’s district leadership team employed three strategies in their efforts to implement NHR’s RTI model in their elementary schools:

1. establish local, team-based leadership, including a district team and school-based implementation teams;

2. provide guided coaching to teachers for improving instruction and making use of data; and

3. create common planning time to aid in collaboration, planning, and implementing instructional principles related to RTI.

This plan not only was meant to reshape the use of resources like time, but also to foster collaboration and to develop individual teacher capacity. In short, Springdale’s NHR vision was one that, with guidance from the lead organization, approached RTI not just as a system of meetings and assessments to assign interventions and monitor progress, but as a new way of working together in order to share responsibility and serve students.

Springdale findings

Staff reported that facilitators from the IOD were an important component of the concept behind the implementation of NHR teams. These facilitators regularly attended local team meetings and guided the collaborative process of implementing RTI. Their function was to guide the formation of teams, help to run initial meetings, and then to gradually release responsibility to local leaders. The elementary principal noted that support from facilitators included protocols for meetings, for example.

Principals and teachers participating in this study all argued for the importance of facilitators in school-based teams, especially skilled group leaders who were not part of the local professional culture. One elementary principal argued for the importance of having “an external facilitator” to “keep [us] focused” during meetings. Another elementary principal valued her facilitators, because she saw that her school “needed someone outside to come in and […] direct us.” Like her colleague, she reported her staff were initially “too close” to their work on the project to serve in the facilitation role of remaking basic processes and staff relationships.

Teachers also expressed appreciation for support staff from outside the district, though they were far more concerned than principals or central office staff about the upcoming departure of the NHR facilitators. The facilitators’ roles were seen as being very important “because they’re an outside entity coming in and facilitating a process, someone from the outside […] to hold us accountable.” One superintendent and one of the project’s key leaders argued that NHR was “not just a project, but […] [a] form of support.” This support had been regarded as “really strong and hopeful” in the early stages of implementing the project:

I think they laid a good strong foundation that first year that we were doing it, and we didn’t feel like we were floundering. I just felt like we had a lot of strong guidelines on where to begin because it was kind of an ominous process of knowing where to begin.

Staff in Springdale seemed to welcome external facilitators and value the structure and guidance that they brought to the early meetings:

You have someone coming in from the outside saying, we’re here to fix your school, the shields go up immediately. Especially if you feel like you’re doing a really good job in your classroom. So […] you have to be very careful when you make that first introduction to a school, you have to show that you have the credentials to be helping but that you’re here […] to facilitate the staff finding their own answers, and I think New Hampshire Responds did a pretty good job of that.
Staff received help in working toward local solutions and creating local collaborative cultures in addition to implementing principles of the project. Project Leaders noted, however, that the goal was to help local staff begin to own the work as the project came to an end. Several participants recalled that the initial implementation and roll-out of NHR in Springdale was a slower process than they anticipated. One principal said, however, that despite being "slower [...] [this process is] more effective because there’s buy-in.” In particular, NHR’s leadership team pushed participants in Springdale to co-create the district’s local adaptation of the project:

We just wanted [leaders from NHR] to tell us, just tell us what we should use, [...] just tell us what we should do for RTI and they very deliberately did not. Forcing us to go through that process of evaluating these tools and even trying to decide what data we really want to make decisions from I think that was a very wise decision from them.

The group of teachers who discussed this slow, early process cited initial difficulty. One teacher called it “frustrating,” another “painful.” But the participant also reported that these early, challenging discussions were valuable because “that’s partly how you get buy-in. [...] [It’s] those conversations that bring out what the real issues are and, [...] [as a result] we can kind of take credit for our own solutions.”

In response to a question about lessons learned from NHR, one elementary principal remarked that an important aspect of implementation was the use of facilitators to help the district create their central and school-based teams, and use the formation of these teams to address the various structures, routines, and policies that enabled them to begin to cultivate a common culture:

I think we wanted to move quicker than they, the project, wanted us to move [...] The project helped us to slow down and take a deeper look within ourselves [...] [T]here were structures that had to be put in place and there were pieces that were critical to build [...] consensus throughout the building.

Impacting teachers’ individual practice was another important goal of NHR in Springdale. NHR’s project facilitators used guided coaching in teachers’ classrooms, where staff had to open their doors to visitors and engage in more public discussions of practice. Beyond the relational aspect of the teams, coaching helped to reshape teachers’ data use and instructional design. Participants noted that work set a firm cultural foundation for the project that led to greater trust and collaboration. The visiting NHR staff, in entering not only meetings, but also classrooms, spurred the de-privatization of instructional practice.

Springdale’s school teams also brought together staff in new ways and helped to unite various efforts. One principal remarked that, “one overriding goal [...] is the further establishment of collaborative teams [...] Those collaborative teams will include all of [it]: the literacy piece, math, [and the] behavioral piece.” Collaborative teams brought together administrators, general educators, and special educators to solve problems in ways they had not done before. This series of team-based efforts, including NHR and its predecessor projects, were what one special education teacher called “the foundation of how we were able to change our school and our thinking.” Bringing representative teams together and giving equal voices were one way that the project contributed to the establishment of a more trusting and cooperative culture among colleagues, especially between general and special educators. Participants from both schools and the central office emphasized the importance of having a diverse set of voices on teams.

In addition to spending more time together in meetings, NHR pushed more special educators and general educators into the same classrooms. For special educators, this often meant working in new ways with colleagues and students. One special education teacher
remarked that she felt she was spending more time in general curriculum classrooms than before, and that groups of students she was working with were more diverse:

I do have the flexibility because I’m not specifically mandated that I can’t work with other students so if there are other students that are struggling with a certain skill that my student is struggling with then I can pull them into a group and we can work together.

While staff members were generally appreciative of the role these project facilitators played, some expressed frustration at the instability of the position. A common complaint among staff about the implementation and future prospects of NHR was inconsistency and the instability of the facilitators, noting that their visitors were not always the same people. Educators in Springdale reported this made relationship-building difficult and that it impeded the sustainability of the project by failing to help them codify their new culture. One school had several different facilitators over the course of the project. Another facilitator departed prematurely. In these conditions, participants noted they were worried that transformation and local ownership of their professional culture may not fully take place.

Norton context
The Town of Norton is in the more rural northern half of New Hampshire, just a short drive from several ski resorts, state parks, and a national forest. The town of just over 9,000 residents feels much smaller with inhabitants spread over a large area at the foot of the mountains. Norton’s rural character and location made it a unique case of implementation of NHR. In a district like Norton, where there was a significant level of localized, school-level authority, a project like NHR – that combined site-level voice and ongoing capacity-building support – was of special interest.

Norton is a School Administrative Unit (SAU) with a common central office, but is ultimately a confederation of seven smaller, highly independent, rural districts, some of which did not operate any schools. The district’s 12 schools, including eight elementary schools, are spread over several towns. The SAU’s leaders, who are based in Norton and to whom I refer as the district office, noted that they saw NHR as an important opportunity to bolster their role in schools and achieve a more unified, coherent system of education across their local authority. For example, the hamlet-level districts within the larger SAU (hereafter, the district or district office) had selected five different math programs. At the district level, RTI was attractive as a tool for creating greater consistency in pedagogy and providing tools for raising achievement within a framework that acknowledged local authority. NHR was attractive to many school-level staff because it provided tools to meet the many demands of their everyday practice.

Staff members from all levels in Norton were adamantly that the project was not a special education project. Instead, most saw NHR, as “something the whole school is doing.” This was partly because Norton’s schools “don’t really separate” students by need. Holistic change in Norton meant that more teachers and support staff would be aware of common expectations and practices along a “continuum” of student needs.

In particular, Norton planned to implement NHR through three strategies:

1. Creating leadership teams that would bring coherence not only to individual schools, but also to the district as a whole.

2. Increasing teachers’ use of data, both individually and in groups.

3. Providing more on-site professional development, leading to enhanced teacher capacity.

Norton’s strategy, similar to Springdale’s, promoted support for collaboration and teacher capacity to use data and to improve instruction for all students.
Norton findings
One district-level leader recalled that the idea of consistency embedded in the project’s
design made the NHR project attractive to Norton’s leadership:

The summer prior to New Hampshire Responds coming in, one of the topics at our admin
retreat was interventions. We were doing a lot of work on interventions and each district and each
building kind of was doing their own thing. We knew we wanted to move forward, but we [also]
wanted consistency.

This same district-level participant noted that this desire for consistency was slightly different
from the intended theory of implementation held by the project’s directors at the IOD. The two
district office participants both reported that Norton was, originally, less cohesive as a district
than NHR’s leadership would have preferred. They attributed this to being a relatively recent
amalgamation of seven previously independent, small, rural districts into a regional SAU.
As a result, local leaders saw the district as being in a much more nascent stage in the
development of common instructional practice:

In their mind, [the NHR leadership] [...] were focusing on building-level teams, building-level
direction, RTI, interventions and everything. We were telling them, “wait a minute, back up, we’re
doing good things in our buildings. We think we’re headed in the right direction there. What we
don’t have is consensus in the SAU.” And at first they couldn’t understand that.

Norton’s goals for building relationships, then, included connecting staff and approaches
not only within, but also across schools.

Like other districts participating in NHR, Norton and its participating schools created
leadership teams to guide implementation of the project. Through these teams, the project’s
first objective was “focused on creating that positive climate” for helping staff take on a
sense of collective responsibility of implementing RTI. As in Springdale, one participating
school was able to build on its existing leadership team from previous work with PBIS.
These teams were meant to lead the local, school-level development of a unique iteration of
NHR and RTI.

Teachers and district-level staff alike described a desire to create more cohesive schools
(and, to a lesser extent, a more cohesive district) as the root of their desire to participate in
NHR. According to one Norton central office staff member, the impetus for change began
with “a collaborative discussion between the central office and [one local elementary
school’s] staff and administration.” One senior level participant recalled that the majority of
changes that come to his attention were discussed collaboratively with principals,
a common occurrence since the advent of NHR. RTI, in this case, was a path to an end
similar to the superintendent’s math program project: to get schools and teachers to
adopt similar pedagogical stances and to foster greater systemic coherence across schools.

NHR facilitators were regular visitors to schools, especially in the early years of
implementation. They frequently led group meetings and PLCs, and were an important
manifestation of what one principal called “high-quality, team-based professional
development.” One senior-level staff member did express some frustration with the
percentage of professional development sessions that were held in more distant locations,
but was especially appreciative of the later work that was both local and collaborative.
These regular opportunities for staff to meet and to collaborate allowed for a co-constructed
balance between the project outcomes that designers desired and the needs of district- and
school-level participants.

Collaboration and cultural consensus – pursued through what two participants called
the “process” approach – were powerful elements of the culture-building process that
helped to cultivate this greater sense of collective responsibility among staff for all
students. Similar to staff in Springdale, two Norton staff members – a district-level leader
and a principal – recalled feeling held back by the facilitator’s initial attention to
“too much process,” but reported eventually being grateful for this deliberate, cultural work. Both recalled feeling initially frustrated at too much preparation for cultural growth and too little immediate action in classrooms. Each made sharp distinctions between the extensive discussions that characterized the early stages of NHR’s implementation in Norton and what they saw later as a more active approach to enact the project. Each, however, came to see these early stages as foundational to later action. The principal noted that he later came to see the importance of the slow, cultural development of norms of collaboration and other cultural structures as a “framework for sustainability.” A principal echoed these sentiments, arguing that “the culture has changed” in team meetings and PLCs, where data collection became more diversified, its use became more accepted among staff, and staff now had a cultural framework for collaboration and problem-solving.

Progress monitoring, the regular use of data to gauge students’ progress and the impact of interventions, is an essential component of RTI. Norton planned to use data-based meetings to foster collaboration and use discussion groups to help shape this growth and assist teachers in making use of this new data in their classrooms. The idea, according to one district-level participant, was that major decisions would be “driven by data.” Professional learning community meetings, often led by NHR facilitators, began to include “data days,” or sessions built around extended examination and analysis of instructional impacts on students’ learning. These discussions were a key part of establishing more consistent practice in the district, and the incorporation of common planning time helped to translate impressions gained from these discussions into action, as well as building a culture of collaboration.

The capacity-building use of guided coaching also had a cultural impact in Norton as a result of NHR. The district’s leadership sought to build the capacity of all teachers. This included refocusing the work of all staff toward improving instruction and offering teachers the tools to enable them to meet the academic needs of all students. Teachers reported that the facilitators that NHR brought to Norton’s schools to conduct this guided coaching reflected an important commitment to offering support for local conditions while using external pressure to push for change. This combination of pressure and support was unique in New Hampshire, given the tradition of local control. Norton, as a rural district, had also not had many on-site opportunities before, with many previous efforts requiring travel and not providing ongoing, embedded support. These external staff, in supporting staff in the context of their work, made an effort to “push some change,” and “push [staff] out of the nest,” serving as both an “irritant” and a catalyst for change.

An important step in dissolving the atomized professional culture in Norton was the changing relationship between mainstream curriculum teachers and special educators. Staff became more collaborative, professionally trusting, and willing to open their practice to support. A special educator noted that students in need of additional support were better off because of the extensive amount of data now available to resource staff, and the greater number of staff who knew those children’s strengths and needs:

[The RTI process] makes you more confident. When […] [the student was referred, they] had worked […] with the reading specialist, worked with the Title I teacher, worked with the special educator, worked with the regular educator […] That’s pretty solid evidence that something’s up.

One senior-level participant noted that general curriculum teachers increasingly came to support meetings for struggling students with a more thorough knowledge of the students’ needs and past experiences. This shift was evident, she said, in increases in teachers’ all taking a more active role in supporting students and collaborating with colleagues in this process:

People are much more open now than even two years ago. [For example, before an intervention] I said, “Have you talked to the special ed case manager yet, have you talked to the guidance counselor about the 504 plan yet?” Usually the answer now is, “Yes, of course that person’s been involved.” […] There’s more respect, I think, among the staff.
These increased contacts are not just evidence of greater collaboration, but enhanced trust and mutual respect. A principal cited evidence of increased “trust between the special educator and classroom teachers.” As staff broadened their professional horizons, their experiences of working more closely with colleagues created greater cohesion and mutual respect that was expected to benefit students over time, though one staff member did report that the burden for initiating this change fell disproportionately on special education staff.

Both teachers and staff described the combination of teams and coaching contributed to the significant cultural impact. A veteran teacher noted that, more than student impacts, the first three years of the project “more affected how I work with other adults.” She said that this happened through a combination of deliberate and emergent events that re-shaped the way that local communities of practice were organized.

One senior-level participant recalled that cultural change came about in part through pairing teachers with differing views of the new data sources, one of many ways Norton’s leaders attempted to disseminate the values of the project over a wider field:

Leadership teams have evolved […] they’ve become a membership that includes people who are very data-driven and […] then also the teacher who is just driven to get in the classroom, follow curriculum and teach and not pay attention to the numbers and scores. I think that combination has really been embraced and honored […] [We’ve tried to] take [these] two characteristics and put them together and be able to answer the needs of everybody.

A principal echoed these sentiments, arguing that, “the culture has changed” in team meetings and PLCs, where data collection became more diversified and its use became more accepted among staff.

While the project was intended to create a greater level of consistency and consensus in participating districts, some participants reported it was unable to do so in Norton. Participants attributed that in part to a vaguely defined role for the district office in implementing the project and in part to the strong tradition of site-level autonomy. One central office staff member said that there were many good things happening in Norton, but “they’re all different things.” Similar to Springdale, staff also expressed frustration that relationships with facilitators lacked “that consistency of somebody taking it from the beginning to end.” Several teachers and one principal noted that these frequent changes made it difficult to sustain the project’s momentum. Participants wished for more consistent relationships with these important NHR support staff. They reported this would have fostered relationships among staff that were stronger, cultures that were tighter and more geared toward sustainability, and clearer plans for surmounting local obstacles to implementation.

Lessons from New Hampshire
Authors from Sarason (1971) to Datnow and Park (2009) have all touted the importance of culture in the process of implementation. In particular, Datnow and Park reminded readers that teachers engage in active sense-making of new initiatives in the context of their environments and existing knowledge and beliefs, forming new “ways of thinking, relational patterns, and practices” (p. 351). Coburn and Stein (2006) argued that new formal structures in schools can help to establish and sustain these new cultures and relationships. Springdale and Norton began to achieve success in implementing NHR through not only new technical procedures like data meetings, but also through increased attention to existing relational patterns; Staff reported learning a great deal from the initial “process,” or focus of team formation and cultural norms while also implementing structural changes and new procedures.

NHR was an opportunity to use a common objective – improving learning for all students – and several common school structural elements: team meetings, student data, job-embedded professional development – in combination to impact how staff work and
how they work together. Second, it allowed local leaders to begin to understand the ways that teachers engage in sense-making, or learn and grapple with new practices and ways of collaborating. Local leaders were shown an example of how to create social settings wherein new technical and cultural learning can take place. Structures such as RTI teams can pave the road to remaking culture – shaping processes, roles, and relationships – in ways that result in greater collaboration and trust. In particular, team-based leadership, instructional coaching, and collaboration structured around student data and interventions were all powerful practices with cultural impacts in both Springdale and Norton.

While teams were vehicles for sense-making and cultural learning, facilitators helped to shape these meetings into sessions meant to set norms, bring diverse voices to the table, solve problems rather than reviewing more mundane business largely through the use of protocols and routines for examining data. These common elements in most RTI models were structures that helped teachers to think differently about their instruction and their relationships to colleagues. If an organization is a collection of processes, altering these processes – and having teachers stick to them – can impact culture significantly.

But the facilitators themselves were another important element. A challenge in both Springdale and Norton will be to think about how to continue this work in the absence of facilitators, who ran meetings and offered some guided coaching to teachers, and were instrumental to the implementation of NHR in these two districts. The lack of consistency in these relationships was frustrating to participants. Their absence, especially in districts where staff reported that the burden of collaboration was uneven, may present an additional challenge for sustainability, where leaders must now step into the role of manager of roles and role relationships.

The two districts in these cases may also have different paths to learning to be shapers of professional roles and relationships. Consistent with Datnow and Park’s (2009) definition of the influences of political environments on co-constructed policies, district staff in Norton may need to take on a new, stronger role from the central office. In Springdale, leaders have a strong central office infrastructure and a history of district-wide projects, including PBIS, which serves as a foundation for role-making activities. In Norton, however, authority is more diffuse over the many school sites and smaller, distinct communities in the area. Each set of district leaders will need to assume a contextually appropriate role of managing teams across schools while supporting them within schools. Doing so will entail aligning the use of schedules, roles, and systems in a manner consistent with recommendations from prior research (see Johnson et al., 2015).

While districts have the power to create such technical coherence within and across schools (Johnson et al., 2015; Honig, 2008), especially when approached with flexible policies (Honig and Hatch, 2004), not all have the capacity to lead the accompanying cultural component. Other districts should consider the value of role- and relationship-shaping as part of their central office role, attending to capacity, collaboration, and the surrounding systems as Fullan and Quin (2016) have advised. Even if those districts do not have a particular project like NHR to focus their work, the lessons of Springdale and Norton still hold:

- create structures that not only bring people together, but also allow them to shape their individual and collective goals;
- spend time shaping culture, surfacing current realities about roles and relationships in connection to goals, and making plans to reshape these relationships;
- plan for ongoing contact between staff; and
- structure meetings with protocols that push staff to have difficult conversations and solve particular problems together, including sharing the work and responsibility for interventions and action plans.
These are difficult processes to put in place. They involve committing time and energy, but also opening the door to professional conflict in settings that often value people getting along. Honig and Hatch (2004) found that organizations that can successfully navigate change often have a means for negotiating professional conflict, rather than a culture of constant consensus. NHR provided facilitators to break this initial tension. Further, Honig (2009) found that external, non-state third parties, like those leading NHR, serve this role of initiator of organizational learning well. While taking on this role of leading cultural learning will be valuable for each district, it remains to be seen if central offices can initiate this work without external support.

Note
1. Some participants called these the “Seven Iowa Principles.” They appear in guidance documents published by IOD to guide the implementation of RTI. Taken from Heartland (Iowa) Area Education Agency (2011), www.aea11.k12.ia.us

References


Further reading


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Rooted in relationships
An analysis of dimensions of social capital enabling instructional coaching

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Abstract
Purpose – The purpose of this paper is to draw on the concepts of social capital in order to reveal the organizational conditions, including structural and relational factors, associated with reform-oriented instructional coaching (ROIC) in an urban school district.

Design/methodology/approach – An interpretivist approach was used to analyze organizational conditions enabling ROIC. Interview, observation and document data collected focused on coaching, leadership, and school-level organizational conditions. Qualitative data analyses, including coding and memoing, were used to summarize key information and quotes across data sources; this was followed by qualitative comparative analysis (QCA) to identify combinations of factors associated with reform-oriented coaching.

Findings – The findings identified particular structures, systems, and activities enabling ROIC at the school level, with social capital playing a role in facilitating or impeding implementation of such work. That is, relationships, routines, norms, and webs of interaction enabled coaching. Principals’ prioritization of coaching as an improvement lever and their persuasive framing of coaching, coupled with principal-coach collaboration, fostered a positive culture for ROIC.

Practical implications – This paper points to the vital role of collaboration amongst administrators, coaches, and teachers. Principals play a significant role in defining coaching, setting up structures, and creating conditions supportive of the implementation of ROIC. By managing structures and routines, principals can encourage coaching aligned with reform efforts to yield positive outcomes.

Originality/value – This research advances the field’s understanding of organizational factors influencing the enactment of ROIC. It uses QCA to reveal the value of leadership in shaping structural and relational conditions in a school site.

Keywords Social capital, Leadership, Collaboration, Coaching

Standards, instructional materials, and high stakes testing affect schools and teaching in numerous ways (Anagnostopoulos and Rutledge, 2007; Booher-Jennings, 2005; Diamond, 2007). More specifically, Race to the Top’s attention to teacher evaluation and Common Core’s ambitious standards put instructional improvement at the center of reform efforts and placed pressure on the education system to raise educator quality and improve instruction. To meet these demands, states and districts turned to instructional coaching (Deussen et al., 2007; Neufeld and Roper, 2003), a capacity-building instrument for promoting individual and system-level instructional change (McDonnell and Elmore, 1987). Coaching systems and models are “predicated on the notion that change efforts cannot be successful without building capacity for change” (Mangin and Dunsmore, 2015, p. 180). Millions of dollars in federal funding, including Title II of the Elementary and Secondary Education Act and turnaround School Improvement Grants, are allocated toward coaching (Kutash and Nico, 2010). Instating this reform lever requires investments in financial and human capital to hire, train, and supervise coaches.

Within this policy context, coaches are intermediaries who engage with district leaders, school administrators, and teachers, about instructional issues (Marsh et al., 2009; Neufeld and Roper, 2003). Coaches play an educative role by developing teachers’ understanding of
In particular, coaches provide teachers with content-specific instructional expertise, and they develop teachers’ understanding of standards and curricula to encourage shifts in classroom practice (Matsumura et al., 2013; Woulfin and Rigby, 2017). Coaches also play a political role by engaging with a variety of stakeholders around issues of reform (Kersten and Pardo, 2007), and framing policy messages for teachers and leaders (Woulfin, 2015). Specifically, coaches strategically communicate ideas about reform and its intended changes. Although coaching is a popular (and relatively costly) instrument for capacity building, there is much variation across models as well as substantial differences in practice across settings. At the discretion of district leaders, coaches may work as curriculum specialists, data analysts, or mentors (Mangin and Dunsmore, 2015). Depending on the system context and structures and routines for coordination and collaboration, coaches may lead grade level team meetings or professional development (PD) sessions. Taken together, organizational conditions and leadership matter for the enactment of coaching (Matsumura et al., 2010); however, many questions remain about factors enabling reform-oriented coaching.

Objectives
In this paper, we apply concepts of social capital to uncover organizational conditions associated with reform-oriented instructional coaching (ROIC). This paper responds to the following research questions:

RQ1. How do dimensions of social capital influence the enactment of ROIC?

RQ2. What activities of principals enable ROIC?

To advance our understanding of coaching as a policy instrument, this paper illuminates the social contexts supportive of reform-oriented coaching in urban schools. Furthermore, this paper describes organizational factors that ameliorate the implementation of instructional coaching – a prevalent, but costly and under-studied, policy instrument.

Literature review
This study of organizational conditions associated with reform-oriented coaching is grounded in the literature on instructional coaching and social capital theory. Below, we briefly review major themes from the scholarship on instructional coaching. Then we define concepts from social capital theory, describe its application in the field of education, and explain its utility for understanding the enactment of coaching.

Instructional coaching
With the objective of building teacher capacity and improving outcomes, many districts, including Boston, San Francisco, and New York City, have instituted coaching (Foote et al., 2011; Teemant, 2014). Reformers and administrators wield coaching as a lever to foster schools’ instructional capacity (Kutash and Nico, 2010). Joyce and Showers (1980) assert that, as compared to other modes of PD, coaching offers “hands on, in-classroom assistance with the transfer of skills and strategies to the classroom” (p. 380). For instance, coaches can advance teachers’ understanding of certain forms of instruction and can support their design of units, lessons, and pedagogical activities (Atteberry and Bryk, 2011; Bean, 2004; Kersten and Pardo, 2007).

The coaching literature addresses the effectiveness of coaching in addition to the characteristics of coaching for instructional improvement (Kraft et al., 2016). Researchers present findings on the impact of content-focused coaching on promoting teachers’ adoption of specific practices and in increasing student achievement (Knight, 2007; Matsumura et al., 2013).
Teemant (2014) ascertained that coaching positively impacted teachers' adoption of an innovative instructional model in an urban elementary school. Researchers have also analyzed coaches' role in developing teachers' knowledge and skills and in catalyzing reform (Huguet et al., 2014; Kersten and Pardo, 2007). In the area of reading policy, Kersten and Pardo (2007) explained coaches' role in teaching teachers about a new, standards-based reading program. This included individualized consultations on how to adapt the instructional materials to meet the needs of students as well as the teacher. Additionally, several researchers have focused on the coaching cycle, in which coaches observe classroom practice and provide feedback on the content and pedagogy of instruction, finding that in-classroom coaching plays a role in changing the quality of teaching (Knight, 2007; Teemant, 2014).

Researchers have begun to grapple with coaches' political role in translating policy. Several studies point to the ways in which coaches engage with policy and carry out reform-oriented work (Coburn and Woulfin, 2012; Kutash and Nico, 2010). For instance, turnaround initiatives typically provide funding and training for coaches and may direct coaches to facilitate particular tasks with teachers (e.g. leading learning walks). Other studies depict how coaches' promotion of instructional practices sways teachers' implementation (Teemant, 2014). More concretely, coaches may prioritize specific elements of instructional policy in their work, such as protocols for analyzing student achievement data (Huguet et al., 2014).

Social capital
Organizational and social factors influence the coaching's implementation. The infrastructure for instructional improvement, comprising of interrelated systems to support the technical work of teaching and learning (Cohen, 2011; Hopkins et al., 2013), enables coaches to carry out reform-oriented practices. Researchers underscore that organizational features influence the path of policy implementation (Datnow et al., 2002). First, organizational factors shape how actors learn about and respond to (or reject) messages on coaching (Spillane et al., 2002). For example, a school's grade level or department structure plays a role in shaping teachers' access to ideas about reform (Coburn, 2001; Little, 2002). Second, the organizational context matters in the success or failure of reform. Frank et al. (2004) emphasize that the "organization establishes context for sharing resources and social pressure for implementation" (Frank et al., 2004, p. 162). Therefore, a school's context provides venues and forces for engaging with coaching in particular ways.

To understand the context enabling or constraining coaching as a policy instrument, we turn to social capital theory. This theory concentrates on the web of cooperative relationships yielding resources for organizations; these relationships benefit actors and their activities (Adler and Kwon, 2002). Thus, social capital theory attends to the beliefs, norms, rules, and networks that facilitate coordination and cooperation amongst organizational actors (Adler and Kwon, 2002).

Social capital is the "set of resources rooted in relationships" within an organization (Nahapiet and Ghoshal, 1998, p. 243). More precisely, social capital represents the "culture of trust and tolerance in which extensive networks of voluntary associations emerge." This culture promotes actors' compliance with system procedures via norms and customs, thereby reducing dependency on formal rules. Importantly, social capital is a feature of social systems and, as such, is a characteristic of a school (Adler and Kwon, 2002). In this manner, a school's social capital could assist in the adoption of coaching.

Scholars have characterized three dimensions of social capital: structural, relational, and cognitive (Nahapiet and Ghoshal, 1998). The structural dimension of social capital, relating to properties of the social system, is comprised by organizational factors plus network ties and configurations. The density of actors' linkages and the hierarchical positioning of actors are prominent for this facet of social capital. For example, organizational structures influence which actors engage with each other and form network ties. The relational dimension of social capital

Dimensions of social capital

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hones in on personal behaviors and relationships, with emphasis on trust, norms, and actors’ commitment to future activity and their identification with the group. This key aspect of social capital draws attention to the degree of consensus amongst organizational actors. For instance, in certain contexts, actors trust others and believe that they will fulfill obligations. Within that type of setting, actors can rely on norms over formal regulations to control behavior. In addition to the structural and relational dimensions, scholars have begun attending to the cognitive dimension of social capital. The cognitive dimension is composed of actors’ shared language and narratives, including communicating myths and metaphors, with the objective of “creating, exchanging, and preserving rich sets of meanings” (Nahapiet and Ghoshal, 1998, p. 254). Thusly, webs of actors use a common language to share ideas and advance change.

In the field of education, scholars have drawn on social capital to investigate educators’ social networks and the spread of innovations schools (Bryk and Schneider, 2002). For example, Daly and Finnigan (2011) used concepts of social capital to analyze the evolution of district and site leaders’ network configurations and ties. Daly and Finnigan (2011) noted that “the underlying social structures determine the access and flow of resources in the network” (p. 47). Coburn and Russell (2008) drew on social capital theory to ascertain how district policy influenced teachers’ social networks. However, social capital theory has not been applied to interrogate the organizational context enabling instructional coaching. Therefore, we utilize social capital theory to illustrate the structural and relational factors enabling reform-oriented coaching in urban schools.

Methods
Over the 2015-2016 school year, we conducted a qualitative case study of coaching in District D (Creswell, 1998)[1]. Located in a city in a northeastern state, this district served approximately 24,000 students in 45 K-12 schools; about 90 percent of its students were eligible for free/reduced lunch and over 40 percent are English learners. As District D was one of the state’s lower performing districts, it faced significant accountability mandates from the state department of education.

We selected District D because of its system of school-based instructional coaches. This district had over 50 coaches who were full-time school employees without classroom teaching duties and who reported to school administration. While holding a teacher-contract, coaches did not hold administrative authority. The district’s 2015 instructional coaching framework articulated that a coach collaborates as a colleague with classroom teachers to drive student learning and develop teacher practice. The instructional coach uses various data sources to identify and facilitate individual and group professional learning. The instructional coach provides differentiated one-on-one support based on the goals of individual teachers (p. 1).

Thusly, in this district, coaching centered on working with teachers – individually and in teams – to improve instruction and achievement. Coaches were also responsible for leading data meetings and assisting with assessment administration.

We purposively sampled 11 of the district’s higher and lower performing elementary schools; Table I lists contextual information on the schools (Creswell, 1998). The study’s sampling was guided by the notion that, depending on their school’s performance level, coaches and principals would be more or less constrained by district accountability policies (Diamond, 2007; Mintrop and Trujillo, 2007). It is necessary to acknowledge that we were engaged in a research practice partnership (Coburn et al., 2013) with district administrators on leadership development.

Data collection
Using an interpretivist approach to analyze organizational conditions enabling instructional coaching, this study involved collecting multiple forms of data. We collected interview, observation, and document data on coaching, school-level organizational conditions, and leadership. The interview data provided insights on coaches’ and administrators’ beliefs and
practices, while the observation and document data included information on organizational conditions. Aligning to the case study methodology, we considered how various data sources offered different perspectives to answer the research questions (Creswell, 1998; Miles and Huberman, 1994).

First, we conducted two rounds of interviews with coaches and school administrators. Using a semi-structured protocol, the coach interviews asked about the nature of their work, how their coaching activities advanced reforms, and district and school supports for reform-oriented coaching. The school administrator interviews asked about structures and systems for coaching, the nature of coaching activities, and perceptions of strengths and limitations of coaching within their context. We conducted a total of 26 interviews, ranging in length from 45 to 60 minutes; all interviews were audio-recorded and transcribed.

Second, we observed nine, three-hour, district-sponsored coach PD sessions that incorporated learning opportunities on district priorities. These sessions addressed how coaches should structure their work (i.e. how to lead grade level team meetings), enact the coaching cycle (i.e. preconference, observation, and feedback), and communicate ideas about district priorities (i.e. data-based decision making; a new reading intervention program). While observing these sessions, we took ethnographic field notes (Emerson, 1995). In addition, we collected documents distributed in PD sessions. The observational data yielded information on coaches’ activities within their sites.

Third, we obtained and analyzed approximately 35 documents with information on district’s formalized priorities, elements of several instructional reforms, and expectations on coaches’ role. These documents included PowerPoint presentations from coach, principal, and teacher PD sessions; handouts from meetings; and websites.

Data analysis
After reviewing the complete set of interview, observation, and document data, we carried out several phases of data analysis to respond to the research questions. First, we wrote memos on each school that summarized details on its organizational context, leadership, systems and structures for coaching, and coaching practices (Miles and Huberman, 1994). The memoing enabled us to identify contrasts in coaches’ and administrators’ conceptualizations, practices, and organizational contexts. Second, we applied deductive and inductive codes to all interview data in Dedoose, an online qualitative data analysis program (Miles and Huberman, 1994). The deductive codes were based in the literature on coaching and social capital. The inductive codes arose from salient themes in the data. After coding data, we created matrices to analyze data on school conditions, administrators’ beliefs and practices, and coaches’ work (Miles and Huberman, 1994). Within the matrices, we summarized key information and quotes across sources. For example, we created a matrix with a row for each school and columns for...
evidence on administrators’ prioritization of coaching and the nature of coaching activities. We also wrote analytic memos to surface preliminary findings.

In the next phase of data analysis, we employed qualitative comparative analysis (QCA) to identify sets of conditions associated with reform-oriented coaching. QCA employs quantitative, algebraic calculations to determine the combination of factors associated with a particular outcome across qualitative cases. QCA is well-suited for investigating the connections between complex sets of conditions and a given outcome. QCA employs Boolean algebraic techniques to surface multiple, alternative combinations of conditions associated with specific outcomes (Cress and Snow, 2000; Ragin et al., 2006). Notably, QCA findings do not represent merely a value or proportion, but a set of factors that have been determined to work together to produce an outcome (Ragin, 2008; Trujillo and Woulfin, 2014).

Findings
In District D, administrators invested considerable resources toward coaching; approximately $8 million was budgeted annually for coaching. This provided funding for site-based coaches, district-level supervision of coaches, and PD sessions for these coaches. Yet, coaches were based in schools, and the enactment of coaching, as a policy instrument, was influenced by school-level conditions. To comprehend the enactment of coaching, it is necessary to unpack the structures, systems, and activities enabling ROIC in schools (Coburn and Russell, 2008; Frank et al., 2004). After summarizing QCA findings on sets of conditions associated with a school’s adoption of ROIC, we depict the structural and relational dimensions of social capital guiding the implementation of ROIC across schools.

Overview of conditions permitting ROIC
Within schools, a combination of organizational conditions was conducive to ROIC, which entails coaches supporting teacher development through contextualized, evidence-based work inside, as well as outside, of classrooms. We lay out core practice of ROIC. First, coaches conducting ROIC carry out observational-feedback cycles with teachers, involving:

- preconference;
- observation of instruction; and
- post-observation debrief conversation with specific feedback to change classroom practice.

Second, coaches conducting ROIC facilitate data-based decision making by:

- analyzing teachers’ student assessment results;
- leading data-team meetings; and
- explaining steps to improve student outcomes and classroom practice in order to benefit school-level outcomes.

QCA results (see Table A1) indicate that principal prioritization of coaching, principal framing of coaching, and principal-coach collaboration comprised the set of organizational and social conditions that, in combination, were associated with ROIC.

First, a principal’s prioritization of coaching entailed the leader understanding the role of coaching in instructional change, valuing coaching as a reform lever, and protecting the coach from activities disconnected from instructional improvement efforts. Second, a principal’s framing of coaching involved strategically, persuasively communicating the purpose of coaching to teachers to introduce them to ROIC and to set expectations for engaging with coaches. Third, principal-coach collaboration involved the administrator and
coach communicating in regular, routinized ways to insure that the principal and coach share common understandings of ROIC and the nature of coaches’ work. Across these three conditions, the web of cooperative relationships (Adler and Kwon, 2002) among teachers, the coach, and principal or social capital, facilitated coaches’ enactment of ROIC. In particular, principals played a key role in setting up collaborative routines and framing coaching in order to develop a positive culture for ROIC. After this overview of conditions conducive of ROIC, principal prioritization of coaching, principal framing of coaching, and principal-coach collaboration, we now illuminate the structural and relational factors enabling ROIC.

### Structural dimension of social capital

The structural dimension of social capital enabled coaches’ reform-oriented work. Principals created and maintained structures enabling ROIC. In particular, leadership teams and grade level teams were two formalized systems with activities designed and maintained by school leaders. As discussed below, there were differences in the leadership and grade level team structures and practices between schools with higher and lower degrees of ROIC.

**Leadership team system.** Leadership teams typically included the principal, coach, and a subset of teachers meeting on a weekly basis to discuss school improvement goals and current priorities. Notably, leadership team meetings created a site for forming a network of teachers, coaches, and the principal, and this network could help develop an aligned understanding of work roles, problems, and initiatives, including the nature of coaching.

In all sampled schools, coaches were invited to serve on the leadership team. However, there was variation as to coaches’ role as members of the team and as to the degree to which coaching was discussed in team meetings. In some schools, coaches were not in a prominent position on the leadership team. Coaches in those schools mentioned having a lack of clarity about their responsibilities as part of the leadership team. Additionally, they frequently declared that the content of leadership team meetings was weakly coupled to instructional reform. So, leadership team meetings were merely a time for updates on operations and planning for events. For instance, at School J:

> I feel like we [leadership team] haven’t been able to meet as regularly. I think we meet more informally, I would say, than formerly lately. In part, it [coaching] comes up in conversation sometimes or it’s part of the discussion, but I don’t know that it’s as target, maybe, as it needs to be. Sometimes I guess there’s more conversation about classroom — the initiatives or classroom strategies or protocols teachers might be using, so big picture conversations more so than my coaching work being part of the conversation.

Thusly, in this school, ROIC was only incidentally discussed by the leadership team. This indicates that principals did not always fully leverage the structure of leadership team to connect with coaching or promote substantive changes in teaching and learning.

However, in schools with a higher degree of ROIC, as well as a relatively stronger coaching culture (see Table I), coaches expressed greater clarity around their role and responsibilities on their school’s leadership team. For instance, a coach in School T described regularly sharing updates on the nature of instructional coaching and upcoming foci for their work during these team meetings. And, an administrator at School M stated:

> Yeah, so the instructional coaches are on the leadership team. Within the agenda, we have a space to talk about they’re aligned with improving academics. On top of that, just from my own management and academics being my rock that I’m in charge of and need to be reporting on, I meet with the instructional coaches bi-weekly, so twice a month, just for about an hour to address needs or concerns or visions or how we’re going to move forward throughout the year. That has just started. We’ve maybe had three of those meetings, and they’re scheduled out for the year. Never are we talking about teachers. I do just say, “How’s the coaching process going? Have you reached out to anybody? Has there been positive response?” But not on an evaluative level at all.
In this manner, within these schools, principals constructed systems so that ROIC was a central point of conversation and collaboration in leadership team meetings. It follow that the consistent discussion of coaching permitted teachers plus the coach and principal to form congruent understandings of the nature and purposes of coaching. Furthermore, this played a role in creating conditions legitimating ROIC.

**Grade level team system.** In addition to the formalized system of leadership teams, many school leaders instituted grade level teams. Those teams served as structures for collaboration—through which a coach led a group of teachers at a particular grade level in content- and grade level-specific instructional improvement activities. For instance, in these team meetings, most coaches engaged in data analysis and standards-aligned lesson planning. Once again, there was some variation in the structure, format, and practices of grade level teams across sites with a relatively weak vs strong coaching culture. In the six schools with a weaker coaching culture and a lower prevalence of ROIC, although coaches were participants in grade level teams, they remained uncertain about their function on the team. It seems that, in some schools, coaches served as observers, as opposed to leaders, of team meetings. As a consequence, they participated in conversations but did not explicitly guide data analysis or facilitated professional learning opportunities within this social structure.

Within the five schools with higher degrees of ROIC, coaches controlled the structure, format, and practices of grade level teams. First, coaches frequently drafted the grade level team meeting agendas. In this way, coaches directed the content and format of these meetings. Second, coaches facilitated these meetings, guiding conversation and ensuring collaboration around instructional issues. This collaboration sometimes involved studying standards and instructional materials or planning units and lessons. Third, the coaches of Schools R, S, and T, articulated that they enacted core routines, such as looking at student work and reviewing meeting norms, during team meetings. In sum, the grade level team meetings provided a venue for a network of teachers and the coach to engage in grade level-specific and content-specific PD with the potential to improve grade level and school level outcomes. Simply stated, this network, facilitating cooperation and change, bolstered an improvement-oriented culture in which teachers accepted, or responded positively to, ROIC.

These structures, or venues for coordination and cooperation, permitted differentially positioned educators to work together on issues of instruction and reform. That is, in these venues, teachers, coaches, and administrators collaborated, furthering ROIC. Additionally, these social structures played a role in building networks among differentially positioned educators. Thus, these structures, designed by school leaders, facilitated in breaking down the individualism of educators’ work and encouraged teachers to engage with coaches. Taken together, these social structures, including routines for collaboration, cultivated the coaching culture (Cohen, 2001).

**Relational dimension of social capital**

In addition to the structural properties of schools as social systems, the relational dimension of social capital also mattered for the enactment of ROIC. More explicitly, educators’ behaviors and relationships, or bonds, played a role in facilitating coaches’ reform-oriented work practices. Thus, while principals created structures enabling ROIC, they also defined and promoted ROIC for teachers in their schools. Therefore, we turn attention to these social practices of leaders which were supportive of ROIC. Additionally, we highlight the way in which principal-coach interdependency plays a role in developing the capacity of both administrators and coaches regarding instructional reform and aligning coaching with school improvement efforts. In so doing, I reveal how the relational aspects of social capital act as resources facilitating the enactment of ROIC.
Framing instructional coaching. Principals’ prioritization and framing of coaching assisted with focusing attention on coaching and formulating shared understandings of ROIC. In most schools with a high level of ROIC, principals prioritized coaching as an improvement strategy. Their prioritization, entailing devoting time and resources toward coaching, was grounded in a principal’s conceptualization of the potential of coaching to promote teacher development and school improvement. While defining coaching as a valuable strategy for reform, school leaders elevated it and, in turn, set up conditions for ROIC. For example, at School Q, the coach mentioned:

But [our principal] has, to the best of the budgetary possibilities, had more of an emphasis on coaching. I’d say that she sees herself as a coach and every administrator as a coach. It’s her philosophy of, “I’m here to grow people. I’m not here to get rid of people” […] She really passionately believes in the power of what we [coaches] do and does all that she can to make sure we have time to do it.

The principal of School S expressed:

I would love to see it just be a really big focal point because for me it’s so important […] Coaching to me needs to be front and center.

Additionally, within most schools with a greater degree of ROIC, principals framed coaching to teachers in particular ways. That is, while aiming to define coaching as a solution to particular problems in their context, principals engaged in strategic communication regarding ROIC as an improvement strategy. This agentic framing of ROIC helped teachers, administrators, and coaches create a common understanding of ROIC. In two schools, coaches reported having explicit, principal-led conversations with teachers about: what coaching will and will not, and norms for working with the coach. For instance, in School S, the principal facilitated an activity with their staff at the beginning of the school year in which the group defined coaching:

I think the way we laid it out to teachers, and the way we formatted it, and we even took a chart paper up and saying this is what it looks like. This is what it does not look like. I think they were like oh, this is very clear. We understand exactly what the purpose of it is. We understand exactly when we are in a cycle what to expect and those expectations, so I think that made them feel a little bit more comfortable, so I think that was a big turning point for staff in building that trust as well.

This activity helped unite the staff and educators in order to form common understandings of the coach’s role and responsibilities. In addition, the principal’s clear, strategic framing of coaching could raise teachers’ willingness to participate in coaching activities.

There existed wide variation in the nature of administrators’ framing of coaching. At School R, an administrator expressed how, in collaboration with the coach, they defined the distinct characteristics of administrator evaluation vs instructional coaching:

We’ve been pretty clear with the staff on that’s how our [principal and coach] relationship works in that we really try to set up as much of a supportive conversation with them as possible – with the understanding that, at the end of the day, yeah, I do have to evaluate you, but her coaching you doesn’t have any real impact on my evaluation of you.

Finally, the coach of School Q described the nature of their principal’s framing of coaching:

She mentioned it a lot more at the beginning, but I think it’s become a much more accepted part of the culture […] she puts us in a role in faculty meetings and everywhere else where we’re constantly thrown out there as, “If you need help, that’s what they’re here for.”

This reveals that this administrator explicitly defined coaching at the beginning of the year but, as time passed, conducted less framing of ROIC. In sum, by defining coaching and setting parameters for coach-teacher engagement, principals actively designed conditions enabling ROIC.
However, amongst schools with relatively lower degrees of ROIC, there were striking differences in the nature of leaders’ framing of ROIC. Specifically, principals of School G, School J, and School L did not articulate the purpose of coaching or the roles and responsibilities of the school’s coaches for teachers in their buildings. And, coaches within those schools perceived that teachers lacked a common understanding of the goals or nature of ROIC. Specifically, in School L, the principal did not introduce the new coach to the school staff or lay out expectations for coaching; this was an obstacle to enacting ROIC. At School P, with a medium-high ROIC orientation, the coach stated:

It’s more like at the beginning of the year when the whole staff gets together at the end of the summer, they tend to announce any changes, any new arrivals, and that’s how it was announced.

It is probable that the coach’s lack of introduction hindered their establishment of relationships with teachers as well as the development of expectations around ROIC. This points to the benefit of principals framing ROIC to legitimate coaches’ work and to encourage teachers to open up their classrooms to coaches. When principals did not formally distribute leadership to coaches, there was greater ambiguity about the purposes and practices of ROIC.

Collaborative routines. In addition to school leaders’ framing of ROIC for teachers, several routines for principal-coach collaboration played a role in advancing the implementation of ROIC. These routines (Feldman and Pentland, 2003) included regular, intentional meetings which provided opportunities for clear, consistent communication between the principal and coach. In most of the schools with a strong culture for ROIC, administrators dedicated time to meet with coaches, contributing to principal-coach interdependency. By listening to coaches, principals gained a sense of the direction of coaching efforts as well as necessary resources to bolster ROIC in their schools. The intentional, strategic principal-coach communication and coordination shaped the adoption of ROIC. Notably, this level of collaboration was tied to principals’ prioritization of ROIC.

While principal-coach collaboration served as a necessary, supportive condition for ROIC, in schools with weaker orientations for ROIC, coaches reported divisions between coaching and administration. It appears that coaches in these schools operated independently and, at times, actively removed themselves from the principal’s sphere. Coaches strategically elected to distance themselves to separate coaching from evaluation. Yet, this system decreased coaches’ authority and also decoupled coaching from other school improvement efforts. This contrasts with the principal’s norms at School M:

From an administrative perspective, we don’t have a culture in the building where we have administration deeming coaching. After an observation, it’s in a recommendation it’s suggested like, “This is an area or domain that you might need some working on questioning 3B, so why don’t you reach out and schedule an appointment with one of the coaches.”

Therefore, this administrator did recommend ROIC to teachers as an improvement strategy in post-observation conferences. Thus, the school leader capitalized upon the coach-teacher relationship in the service of achieving evaluation goals. Based upon the reports of coaches and principals, there are indications that the relational dimension of social capital mattered for establishing and maintaining a school environment receptive to reform-oriented coaching.

Conclusions
This paper explores organizational factors that steer the implementation of ROIC. By depicting schools’ social structures and processes, we reveal how the structural and relational dimensions of social capital facilitate ROIC. The paper’s findings acknowledge that, in a single urban district, there exists a spectrum of coaching models amongst schools. We shed light on principals’ role in defining coaching and setting up structures supportive
of collaboration amongst leaders, coaches, and teachers. In this manner, the paper’s findings indicate that the principal plays an active role in creating conditions that enable the adoption of ROIC. Our findings also reveal that, by managing structures and routines for teams (e.g. leadership and grade level team meetings), principals can reinforce the web of teachers and coaches – with benefits for coaching and school improvement.

Attending to the organizational structures and social systems of urban schools, we deepen the field’s understanding of the ways in which social capital is a vital resource for the adoption of capacity-building policy instruments, such as instructional coaching (Frank et al., 2004). Although it is not a financial resource, social capital legitimizes coaching and, in turn, enables coaches to carry out reform-oriented activities, such as in-classroom observations and instructionally focused conversations with teachers and administrators. First, in schools with relatively strong structural dimensions of social capital, leaders created and facilitated meetings in various configurations. Second, in schools with relatively strong relational dimensions of social capital, leaders engage in a variety of activities to purposefully define and prioritize coaching. However, in contexts with diminished social capital, there may exist weaker systems for collaboration as well as weaker relationships amongst teachers and leaders. These organization conditions present multiple obstacles for enacting ROIC.

This paper also advances our understanding of principals’ roles in cultivating conditions for implementing coaching. While functioning as instructional leaders (Rigby, 2014), school administrators should define and prioritize ROIC so that coaches’ work is deemed legitimate by teachers (Colyvas and Jonsson, 2011). Thus, principals should engage in strategic communication on what coaching is (and is not) and should broker between educators in different roles and positions. Thusly, a principal’s social skill (Fligstein, 2001; Woulfin, 2015), or capacity to frame messages in a persuasive, differentiated manner, is crucial so that coaches’ role can be fully realized.

**Implications**

The paper’s findings on organizational conditions supportive of instructional coaching have implications for future research, policy, and practice. Although this paper begins to unpack the role of social capital, as a key resource in educational organizations, in the adoption of ROIC, additional research is needed on how dimensions of social capital influence the trajectory of the implementation of coaching-based reforms. Both qualitative and quantitative research should be conducted on the organizational conditions enabling coaching to carry out their catalytic activities.

It would be important to study the way in which facets of social capital vary across districts in order to determine the role of both district and school leaders in cultivating conditions for coaching. To map the shape of networks, as well as the nature of ties, associated with coaching, these studies could utilize social network theory and related analytic techniques (Coburn and Russell, 2008; Daly and Finnigan, 2011). Furthermore, future research should involve in-depth data collection and analysis on the collaborative routines of principals, coaches, and teachers. This could reveal the work practices that bolster a coaching culture – with webs of relationships amongst teachers and leaders situated at the school and district levels. It is also crucial that future research studies how different models of coaching exert leverage to improve instruction and student learning. This line of research should determine which types of coaching tasks are most conducive to shifting classroom practice. For instance, are teachers more likely to change their approach to writing instruction after an observation-feedback cycle or after a coach-facilitated data-team meeting?

As federal, state, and district policymakers continue formulating policies that hinge on coaching to foster educator development and propel changes in the content and pedagogy of instruction, they should be attuned to the organizational conditions necessary for ROIC. That is, policy should target and, where necessary, ameliorate schools’ underlying structures and
systems so that coaches can engage in work to yield positive outcomes in teaching and learning. At the district level, district administrators should provide quality professional learning opportunities to principals so they have the knowledge, skills, and will to design and sustain coaching systems and, more broadly, a trusting, collaborative culture (Bryk and Schneider, 2002). Finally, principals and coaches within schools should find ways to construct structures with the potency to catalyze instructional improvement. These systems and routines can harness the knowledge and skills of current educators in the service of ambitious goals to raise the quality of instruction and to promote positive educational outcomes.

Note
1. All names are pseudonyms.

References


Ragin, C., Drass, K. and Davey, S. (2006), *Fuzzy-Set/Qualitative Comparative Analysis 2.0*, Department of Sociology, University of Arizona, Tucson, AZ.


Further reading


Appendix

<table>
<thead>
<tr>
<th>Leadership team</th>
<th>Principal framing</th>
<th>Principal-coach collaboration</th>
<th>Principal prioritization</th>
<th>Number of cases</th>
<th>Raw PRI</th>
<th>SYM</th>
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<td>0</td>
<td>1</td>
<td>2</td>
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</tbody>
</table>

Table AI.
QCA results for the outcome of reform-oriented coaching

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School conditions of different forms of teacher collaboration and their effects on instructional development in schools facing challenging circumstances

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Abstract
Purpose – Teacher collaboration is regarded as a central feature of school quality that promotes students’ learning processes, teachers’ professional development, and school improvement. Although the phenomenon is complex, studies often use global constructs and measures. To meet the research demands, the purpose of this paper is to take a differentiated perspective on teacher collaboration, its particular school conditions and effects on instructional development.

Design/methodology/approach – Data were collected through a survey of 1,105 teachers at 36 secondary schools in North Rhine-Westphalia (Germany). Using multivariate analysis of variance and structural equation modeling, the occurrence of three different forms of teacher collaboration and their relations to activities of instructional development, structural and cultural working conditions, represented by appropriate scales and indexes, are analyzed.

Findings – The results show that teachers use less resource-intensive forms of collaboration more often and practice more demanding forms of collaboration less frequently. More demanding forms of collaboration not only depend on the working climate but also on individual self-efficacy, institutionalized teams, collaborative and instructional principal leadership and in turn promote the development of interdisciplinary curricula and concepts for individual support.

Originality/value – This study provides evidence for the importance of distinguishing different forms of teacher collaboration. Furthermore, by relating different collaborative activities of teachers to certain school conditions and instructional development, this study makes a contribution to research by emphasizing the relativity of teacher collaboration regarding its desired outcomes as well as its necessary requirements.

Keywords Teacher collaboration, Teamwork, Instructional development, Professional development, Working climate, Principal leadership, Institutionalized teams

Paper type Research paper

1. Introduction
Based upon an extensive body of literature, collaboration between teachers is considered as a key characteristic of effective schools and as a crucial factor of school development (Terhart and Klieme, 2006). In particular, schools that are improving in socioeconomically disadvantaged areas are often shaped by intensive teacher collaboration and continuous professional development in the context of professional learning communities (PLCs) (Muijs et al., 2004). Teacher collaboration is generally included in systematic models of school quality as a feature of process quality on a school level (Kyriakides et al., 2010).

Although the effects of teacher collaboration on the schools’ organization, students, and teachers are commonly viewed positively, the schools’ conditions for teacher collaboration are usually seen negatively (Hargreaves, 2010). In addition, schools facing challenging circumstances are often striving against greater obstacles that hinder collaborative activities (Reynolds and Teddlie, 2001). Besides the schools’ practice, two main problems accompany the
discussion about teacher collaboration in educational research: A common critique is that the term “teacher collaboration” is used as an umbrella term that is inconsistently or imprecisely defined and measured with heterogeneous instruments (Ahlgrim et al., 2012). Thus, research findings on teacher collaboration are often not generalizable. Kelchtermans (2006, p. 220) notes that “even a quick look at the literature shows that the term is far from being unequivocal.” Moreover, a simplified linear relation between collaboration and goal achievement has been implicitly assumed to mean “the more intensive the first, the better the last.” However, it has been explicitly argued that more intensive collaboration does not necessarily lead to higher goal achievement (Johnson, 2003). Fullan and Hargreaves (1996, p. 7) state that “there is nothing automatically good about collegiality; people can collaborate to do good things or bad things or to do nothing at all.” More specifically, under certain conditions, different qualities of collaboration with different quantities can be more or less effective and efficient for goal achievement than others (Fussangel, 2008; Pröbstel, 2008). This argument requires a criteria-oriented and differentiated conceptualization and operationalization of the construct of “teacher collaboration.” Here, different forms of teacher collaboration with different intensities have to be distinguished and related to specific conditions and effects in the schools’ context (Fussangel and Gräsel, 2011; Steinert et al., 2006).

So far, not enough research has been carried out on collaborative activities of teachers that fulfill the demand of a more criteria-oriented and differentiated perspective on the phenomenon of “teacher collaboration” (Gräsel et al., 2006). According to the aforementioned research demands, we use a distinction of three different forms of teacher collaboration (exchange, division of work, coconstruction) resting upon an organizational psychological definition of the term “collaboration” in the present paper. On this basis, we examine certain school conditions and effects on instructional development for each form of teacher collaboration.

2. Theoretical framework
2.1 Organizational psychological definition of the term “collaboration”

Following the organizational psychological definition by Spieß (2004, p. 199), collaboration “is characterized by mutual relationships, joint tasks to be fulfilled [or goals to be achieved]; it is intentional, communicative and needs trust. It requires a certain degree of autonomy of actors and is obliged to the norm of reciprocity.” According to this definition, collaboration is distinguished from other forms of social interaction, e.g. competition or coaction, by its defined core characteristics, that are as follows: common goals or work tasks, which have to be achieved or fulfilled, mutual trust and a certain degree of autonomy (Balz and Spieß, 2009).

While common goals or work-related tasks influence the individual decision to collaborate, the work structure determines possibilities and limitations for collaborative work (Deutsch, 1949; Hacker, 1994). In addition, collaboration needs mutual trust because collaboration partners have to rely on one another’s work performance (Bierhoff, 1998). Furthermore, collaboration requires a certain degree of autonomy that must be balanced because too much hinders group cohesion and a sense of common accountability, while too little reduces the motivation to collaborate (Johnson and Johnson, 2003).

Compared with other definitions of collaboration, grounded in work psychology, where collaboration arises from the work structure and fulfillment of work-related tasks (e.g. Hacker, 1994), the organizational psychological definition of collaboration described here, is more appropriate for defining teacher collaboration in schools for at least two reasons. First, the concept of collaboration as a special form of social interaction that pursues specific goals, aligns with the idea that schools are social organizations pursuing
educational goals (Rolff, 2012). Second, this definition of collaboration is flexible enough to adapt it to the school context because it does not contain either an officially recognized work task, or formal and regular teams at work (Fussang, 2008; Pröbstel, 2008).

2.2 Distinction between different forms of teacher collaboration

For the first time in the Anglo-American-speaking area, Little (1990) developed a heuristic model that contains four different forms of collegial relationships between teachers based on theoretical considerations: “storytelling and scanning,” “aid and assistance,” “sharing,” and “joint work.” These forms of collegial relationships comprise varying collaborative activities of teachers and lie on a continuum ranging from mutual independence to reciprocal interdependence in teachers’ daily work. Two decades later, in the German-speaking context, based on the organizational psychological definition of collaboration by Spieß (2004) with its core characteristics, Gräsel et al. (2006) conceptualized a theoretical approach that distinguishes three different forms of teacher collaboration: exchange, division of work, and coconstruction.

Exchange means that teachers inform each other about work-related contents and exchange ideas and materials (Fussang, 2008). An exchange of work-related contents serves to spread helpful information among teaching staff.

Division of work means that every teacher works on his or her own work tasks first before individual work results are collected and combined in collective work (Pröbstel, 2008). In such a work setting, collaborative activities include an agreement on common goals, the coordination of the work process, and the connection of work results, as well as shared responsibility. From an economic perspective, division of work increases efficiency.

Coconstruction means that teachers refer to and exchange their individual knowledge (coconstruct) to generate new knowledge and solutions for problems (Gräsel et al., 2006). From a learning theory perspective, coconstruction increases the professional development of teachers, the improvement of their teaching practice and teaching quality through mutual observations, feedback, and reflections with other teachers (Putnam and Borko, 2000). Hence, coconstruction is seen as an essential part of teachers’ professionalism.

Similarly, with regard to PLCs, teacher collaboration is considered as a necessary yet insufficient condition. Other features, including a collective focus on student learning, shared visions, collective responsibility, reflective dialog, and deprivatization of classroom practices, must be present (Hord, 2004). PLCs can be compared with coconstruction, particularly because of reflective dialog and deprivatization of classroom practices.

The similarity of these forms of teacher collaboration is based on their focus on instruction, teaching, and learning. In terms of the organizational psychological definition of collaboration, the differences between the three different forms of teacher collaboration can be described as follows. From exchange to collaboration, common goals and the bond to them become more extensive, increasingly interdependent, and more persistent. In addition, mutual trust between cooperation partners increases, whereas their autonomy in decision making decreases (Gräsel et al., 2006). Moreover, organizational supports (e.g. planned times) for collaborative work become more necessary. However, the schools’ organization is described rather as obstructive for teacher collaboration (e.g. Lortie, 1975; Weick, 1976). As such, even if teachers are interested in and motivated to collaborate with their colleagues, some transaction costs for collaborative work occur, being “most prominently in time (an opportunity cost) and the risk of conflict (a cost to organizational cohesion)” (Little, 1990, p. 530). Because of this, exchange is referred to as a “low-cost” and coconstruction as a “high-cost” form of teacher collaboration (Gräsel et al., 2006).

Although organizational requirements and the intensity of collaborative activities differ according to type, exchange, division of work, and coconstruction do not stand below or above each other in a hierarchical order. On the contrary, under certain conditions different
forms of collaboration can be more or less effective and efficient for goal achievement than others. In comparison with other conceptual frameworks of teacher collaboration, which show certain disadvantages in terms of missing distinctions related to synonymous terminology (cf. the critical argument of Kelchtermans, 2006), global definitions (cf. the critical argument of Vangrieken et al., 2015), or missing distinctions of different forms (cf. the critical argument of Hargreaves, 1994a, b) the described theoretical approach of Gräsel et al. (2006) holds several advantages: First, teacher collaboration is demarcated clearly from other concepts by its core characteristics (common goals, mutual trust, autonomy) and divided into three different forms (exchange, division of work, coconstruction) along these central features. Second, the measurement of the three different forms of teacher collaboration by Gräsel et al. (2006) has been empirically validated in several studies (Fussangel, 2008; Harazd and Drossel, 2011; Pröbstel, 2008).

3. State of research

3.1 Occurrence of teacher collaboration

According to existing research on the occurrence of teacher collaboration in schools, teacher collaboration:

- has been mostly restricted to informal contacts and relationships (Richter and Pant, 2016; Soltau and Mienert, 2009);
- has been used less often in the context of instruction, teaching, and learning (e.g. team teaching, observations), and more often in the context of extracurricular contents (Holtappels, 1998; Johnson, 2003; Munthe, 2003);
- has included the entire teaching staff or groups of teachers (Vangrieken et al., 2015);
- has generally been practiced more intensively between female and younger teachers in comparison to male and older teachers (Richter and Pant, 2016);
- has been less frequent between teachers from secondary schools, especially Gymnasien, compared with primary schools (in Germany), while differences between subjects were inconsistent (Helmke and Jäger, 2002; Radisch and Steinert, 2005); and
- Nevertheless, teachers stated mainly positive attitudes, interest, and motivation in collaborating with their colleagues (Richter and Pant, 2016; Soltau and Mienert, 2009).

Studies showed that – across different school types of secondary schools – teachers practiced those forms of collaboration less often whose realization required higher individual and organizational demands, e.g. coconstruction, while teachers practiced those forms of collaboration more often whose realization required lower demands, e.g. exchange (Fussangel, 2008; Pröbstel, 2008). Investigations also revealed that differences between gender and age of teachers, as well as school types, existed across all three forms of teacher collaboration (Harazd and Drossel, 2011).

3.2 Effects and conditions of teacher collaboration

To date, there are also several lines of evidence concerning positive and negative effects as well as facilitating and hindering conditions of teacher collaboration (Fussangel and Gräsel, 2011; Steinert et al., 2006). In their review, Vangrieven et al. (2015) found positive effects of teacher collaboration on the student, teacher, and school level. On the student level, teacher collaboration promoted students’ motivation, learning, and academic achievement (e.g. Scheerens and Bosker, 1997). On the teacher level, collaborative work supported teachers’ opportunities to learn with and from each other. This impacted their professional development, as well as student-centered classroom practices, instructional
improvement, and instructional quality. Teacher collaboration also increased their individual and collective self-efficacy, mutual support, participation in decision making, and work satisfaction, and it reduced their perceived workload, absenteeism, stress, and burnout. On the school level, collaboration between teachers supported organizational learning and the implementation of innovations (Holtappels, 2013; Marks et al., 2000).

Similarly, studies showed that all three forms of teacher collaboration were associated positively with subject-specific and didactic knowledge, and teachers’ focus on student learning, and they were all related positively through goal commitment to school innovations (Fussangel, 2008; Probstel, 2008). Moreover, exchange and division of work correlated positively with a perceived reduction in workload, whereas coconstruction correlated positively with a perceived reduction in emotional exhaustion (Fussangel et al., 2010). Besides, the three different forms of teacher collaboration were connected to different activities of instructional development, from exchanging information to dividing work through interdisciplinary or cross-grade planning, and coconstructing strategies for solving professional problems (Richter and Pant, 2016).

Research also suggested that personal characteristics, as well as organizational features relating to principal leadership and cultural and structural working conditions promoted teacher collaboration (Vangrieken et al., 2015). Personal characteristics included a willingness to collaborate, social skills, teamwork experience, commitment toward the school and students, and individual self-efficacy. On the organizational level of schools, structural features included, e.g. institutionalized teams, while cultural features included, e.g. participation in decision making and positive social atmosphere. As Huber and Ahlgrimm (2013) summarized in their review, instructional, and democratic principal leadership styles were beneficial to teacher collaboration.

Likewise, investigations revealed that all three forms of teacher collaboration required common goals, mutual sympathy, work-related trust, and interest in collaborative work, whereas only division of work depended on perceived utility for everyday work (Drossel and Bos, 2015; Fussangel, 2008; Probstel, 2008). Furthermore, exchange and division of work were influenced by an appreciative and respectful leadership style of the principal, while coconstruction was affected by an indirect principal leadership style that focused on establishing structural working conditions for teacher collaboration (Harazd and Drossel, 2011).

In addition to these findings, especially effective schools facing challenging circumstances were characterized by PLCs, where teachers learned with and from each other to enhance student learning (Muijs et al., 2004; Stoll and Louis, 2007). Schools in socioeconomically deprived regions are confronted not only with external difficulties but also struggle with internal problems. Issues such as low staff continuity and high staff turnover, high rates of illness and absenteeism, negative social relationships and climate among teaching staff and between teachers and students often hinder teacher collaboration (Reynolds and Teddlie, 2001).

4. Research questions and hypotheses

Based on the theoretical framework and the research findings, the following research questions and hypotheses guide our analyses:

RQ1. How often do teachers use each form of collaboration in their everyday work?

The hypothesis is that:

H1. Teachers practice those forms of collaboration less often whose realization requires higher individual and organizational demands, e.g. coconstruction, whereas teachers use those forms of collaboration more often whose realization requires lower individual and organizational demands, e.g. exchange (a). In addition to this, it is
expected that differences concerning gender, age or work experience and school type exist in a way that female teachers (b), younger or less experienced teachers (c) and teachers of other school types than Gymnasium (d) collaborate more intensively than other groups of teachers.

**RQ2.** Can differentiated effects of teacher collaboration on activities of instructional development be found?

**H2.** In general, it is assumed that all forms of instructional teacher collaboration are associated positively, to different degrees, with certain activities of instructional development. More precisely, the collection of teaching and learning materials should be influenced more strongly by exchange of information and materials (a). The correlation between the development of interdisciplinary curricula and division of work should be stronger because this activity can be implemented more efficiently when teachers agree on an interdisciplinary curriculum, prepare lessons for it on their own, and teach in their classrooms. (b). The development of concepts for individual support should correlate more strongly with coconstruction because this form can be implemented more effectively by agreement on a common understanding of individual support and differentiation (c).

**RQ3.** Can specific school conditions of teacher collaboration be identified?

**H3.** It is suggested that under the control of gender, work experience and school type, schools’ structure, principal leadership, and individual and collective self-efficacy have a greater positive influence on the more demanding forms of collaboration, whereas the other features of schools’ culture and climate have a stronger positive influence on less demanding forms of collaboration.

5. Methods

5.1 Sample

Data for the present study were collected in the context of a school development project. A total of 1,105 teachers at 36 secondary schools in North Rhine-Westphalia, a federal state of Germany, that are confronted with challenging circumstances, filled out and returned questionnaires (50.1 percent response rate) for the first measurement point (2014/2015) of a longitudinal survey. The selection of the school sample was based on a social index that represents the social structure of the population living in the school’s catchment area. In centrally administered achievement tests in North Rhine-Westphalia, the social index is used for the feedback of test results to schools (Isaac, 2016). For the school sample, only schools with a number of students with migration background of at least 30.0 percent and with a number of unemployed adolescents under 18 years of at least 10.0 percent were selected (Isaac, 2011). The teacher sample included female (59.9 percent) and male (40.1 percent) teachers, with a mean age of 41-50 years (Mdn.) and an average work experience as a teacher of $M = 17.4$ years ($SD = 12.3$ years). Half of the surveyed teachers worked at Gesamtschulen (46.9 percent), one-third at Gymnasien (33.3 percent), 11.6 percent were employed at Hauptschulen and 8.2 percent at Realschulen.

5.2 Measures

Besides the three different forms of teacher collaboration and activities of instructional development, personal characteristics of teachers, perceived cultural and structural working conditions in schools were represented by certain scales and indexes rated by teachers. Table I provides an overview of all scales and indexes included in the analyses by giving an exemplary item, number of items, response scales, and internal consistency.

Most of the scales were derived from reliable and valid measurement instruments, whose measurement quality was tested in a variety of former studies. For the present study, almost
<table>
<thead>
<tr>
<th>Features</th>
<th>Indicators</th>
<th>Exemplary item</th>
<th>Number of items</th>
<th>Response scale</th>
<th>Cronbach’s α</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher collaboration</td>
<td>Exchange</td>
<td>I exchange teaching and learning materials with my colleagues</td>
<td>3</td>
<td>(1) never [to] (5) almost everyday</td>
<td>0.80</td>
<td>Gräsel et al. (2006) to the indicator division of work</td>
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<td></td>
<td>Division of work</td>
<td>I prepare lessons together with my colleagues</td>
<td>3</td>
<td>(1) never [to] (5) almost everyday</td>
<td>0.85</td>
<td>Gräsel et al. (2006) to the indicator coconstruction</td>
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<td></td>
<td>Coconstruction</td>
<td>To get feedback, my colleagues and I observe each other in lessons</td>
<td>4</td>
<td>(1) never [to] (5) almost everyday</td>
<td>0.61</td>
<td>Gräsel et al. (2006) to the indicator coconstruction</td>
</tr>
<tr>
<td></td>
<td>Activities of instructional</td>
<td>Collection of teaching and learning materials</td>
<td>3</td>
<td>(1) never [to] (4) almost always</td>
<td>0.81</td>
<td>Own development</td>
</tr>
<tr>
<td>development</td>
<td>development</td>
<td>Development of tests and exercises</td>
<td>3</td>
<td>(1) never [to] (4) almost always</td>
<td>0.70</td>
<td>Own development to interdisciplinary curricula and concepts for individual support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Development opportunities for extracurricular learning through projects and study groups</td>
<td>3</td>
<td>(1) never [to] (4) almost always</td>
<td>0.74</td>
<td>Own development to interdisciplinary curricula and concepts for individual support</td>
</tr>
<tr>
<td></td>
<td>Development of concepts for</td>
<td>Individual support of language skills</td>
<td>3</td>
<td>(1) never [to] (4) almost always</td>
<td>0.74</td>
<td>Own development to interdisciplinary curricula and concepts for individual support</td>
</tr>
<tr>
<td></td>
<td>individual support and</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>differentiation</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Personal characteristics of</td>
<td>Individual self-efficacy</td>
<td>6</td>
<td>(1) totally disagree [to] (4) totally agree</td>
<td>0.72</td>
<td>Rakoczy et al. (2005)</td>
</tr>
<tr>
<td>teachers</td>
<td>toward school</td>
<td>If I try, I can also get in good contact with problematic students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>I feel a strong sense of attachment to this school</td>
<td>5</td>
<td>(1) totally disagree [to] (4) totally agree</td>
<td>0.89</td>
<td>Felfe and Franke (2012)</td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Features</th>
<th>Indicators</th>
<th>Exemplary item</th>
<th>Number of items</th>
<th>Response scale</th>
<th>Cronbach’s α</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural working conditions</td>
<td>Collective self-efficacy</td>
<td>I am convinced that our teaching staff can work together to ensure educational quality, even if the resources of the school are sparse</td>
<td>12</td>
<td>(1) totally disagree [to]</td>
<td>0.91</td>
<td>Schwarzer and Jerusalem (1999)</td>
</tr>
<tr>
<td></td>
<td>Working climate</td>
<td>When teachers of our school get together, there is generally a good mood</td>
<td>8</td>
<td>(1) totally disagree [to]</td>
<td>0.79</td>
<td>Holstappels (2004)</td>
</tr>
<tr>
<td>Principal leadership</td>
<td>Collaborative leadership with focus on instruction</td>
<td>The principal discusses with teachers how lessons could be organized more efficiently</td>
<td>10</td>
<td>(1) totally disagree [to]</td>
<td>0.87</td>
<td>Developed based on the definition by Hallinger and Heck (2010)</td>
</tr>
<tr>
<td>Structural working conditions</td>
<td>Goal consensus</td>
<td>Our teaching staff agree about the aims that our school has to achieve</td>
<td>2</td>
<td>(1) totally disagree [to]</td>
<td>/</td>
<td>Own development</td>
</tr>
<tr>
<td></td>
<td>Planned times and rooms</td>
<td>How do you evaluate schedules for teacher collaboration outside the classroom at your school?</td>
<td>2</td>
<td>(1) very poor [to]</td>
<td>/</td>
<td>Own development to planned times and institutionalized teams</td>
</tr>
<tr>
<td></td>
<td>Institutionalized teams</td>
<td>Do you regularly participate in cross-grade teams?</td>
<td>3</td>
<td>(0) no / (1) yes</td>
<td>/</td>
<td>Own development to planned times and institutionalized teams</td>
</tr>
</tbody>
</table>
all original versions of the scales were adapted by reducing the number of items or modifying the response scale. However, referring to confirmatory factor analyses, the theoretically expected factor structure could be empirically replicated and all models showed at least an acceptable fit to the data \( \text{CFI} \geq 0.94 \), \( \text{TLI} \geq 0.91 \), \( \text{RMSEA} \leq 0.08 \), \( \text{SRMR} \leq 0.05 \). With regard to the Cronbach’s \( \alpha \) coefficients, all scales yielded satisfactory to very good internal consistencies \( \alpha \geq 0.61 \).

Because several studies confirmed relationships between demographic characteristics of teachers and teacher collaboration (Vangrieken et al., 2015) gender \((0 = \text{male}, 1 = \text{female})\), age \((1 = \text{younger than 30 years}, 2 = 31-40 years, 3 = 41-50 years, 4 = 51-60 years, 5 = \text{older than 60 years})\) and work experience (continuous), as well as school type \((0 = \text{other school types}, 1 = \text{Gymnasium})\), are controlled as covariates in the present analyses.

5.3 Strategy of analysis

To test our hypotheses, analyses were carried out in two steps. First, (multivariate) analysis of variance ((M)ANOVA) with post hoc tests were performed with SPSS to examine how often teachers used each form of collaboration in their everyday work and whether differences between gender, age or work experience and school types existed. Second, structural equation modeling (SEM) was conducted with Mplus to investigate effects on activities of instructional development and school conditions of the three different forms of teacher collaboration. The superiority of using SEM instead of simple regression analysis is that SEM enables estimation of relationships between more than one independent and dependent variable, simultaneously, allows assessing and correcting for measurement error, and provides indices of fit between the theoretical model and the empirical data (Geiser, 2013). To evaluate the model fit, different fit indexes were taken into account, like comparative fit index (CFI) and Tucker-Lewis index (TLI) as well as root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR). As cut-off criteria for CFI and TLI values above 0.90 represent an appropriate fit (Hu and Bentler, 1999), while for RMSEA and SRMR values below 0.10 are indicative for a reasonable fit (Browne and Cudeck, 1993). Considering the hierarchical structure of the data (i.e. teachers nested in schools) maximum likelihood parameter estimates were used with corrected standard errors and a chi-square test statistic that are robust to non-normality and non-independence of data (Muthén and Muthén, 2015).

6. Results

6.1 Descriptive statistics

Table II presents means, standard deviations, internal consistencies, and correlations of all the variables included in the analyses. The means show the expected succession in the levels of the collaboration forms: Teachers practiced more demanding forms of collaboration less often, whereas they practiced less demanding forms of collaboration more often. However, the standard deviations reveal that some variance in the collaboration forms existed, e.g. some teachers reported collaborating in terms of division of work once a week, while others claimed to do so only one to two times per school year.

With regard to activities of instructional development, teachers collected teaching and learning materials and developed interdisciplinary curricula with a comparable intensity, varying from less frequently to often, while they developed concepts for individual support and differentiation less frequently. Considering individual, cultural and structural conditions for collaborative work in teaching staff, nearly all included features, especially the perceived individual and cultural characteristics, were located above the theoretical mean \( M_{t} = 2.50 \), with the exception of perceived principal leadership style and planned times and rooms for collaboration. Although some of the structural conditions for teacher collaboration turned out to be below average, almost one-third of the teachers reported
| Variables                                                                 | M    | SD   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
|--------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. Exchange                                                              | 3.53 | 0.80 | 0.60 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2. Division of work                                                      | 2.26 | 0.88 | 0.60 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 3. Coconstruction                                                        | 2.09 | 0.75 | 0.57 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4. Collection of teaching and learning materials                         | 2.44 | 0.79 | 0.53 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 5. Interdisciplinary curricula                                          | 2.49 | 0.64 | 0.22 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 6. Concepts for individual support and differentiation                  | 2.19 | 0.68 | 0.23 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 7. Individual self-efficacy                                             | 3.00 | 0.48 | 0.65 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 8. Affective commitment                                                 | 3.08 | 0.71 | 0.13 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 9. Collective self-efficacy                                             | 2.73 | 0.48 | 0.16 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10. Working climate                                                     | 3.12 | 0.44 | 0.21 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 11. Collaborative leadership with focus on instruction                  | 2.31 | 0.63 | 0.11 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 12. Goal consensus                                                      | 2.64 | 0.69 | 0.11 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 13. Planned times and rooms                                             | 1.83 | 0.66 | 0.04 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 14. Institutionalized teams                                             | 0.65 | 0.34 | 0.21 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15. Gender (women)                                                      | 0.90 | 0.49 | 0.14 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 16. Age                                                                 | 2.36 | 1.24 | -0.16 |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 17. Work experience                                                     | 17.39| 12.27| -0.14 |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 18. School type (Gymnasium)                                             | 0.33 | 0.47 | -0.11 |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Notes: N=1,105. Cronbach’s α on the diagonal. *p<0.05; **p<0.01; ***p<0.001
participating regularly in at least one institutionalized team, such as disciplinary, within- or cross-grade teams.

The findings show the expected correlation pattern: All correlations between teacher collaboration and instructional development, on the one hand, and all correlations between individual characteristics of teachers, principal leadership, perceived cultural and structural working conditions in schools and teacher collaboration, on the other hand, were positive, even though most of them were weak or moderate rather than strong. In other words, more intensive teacher collaboration (regardless of its form) was linked with more intensive activities to develop and improve the instructional practices. It was also connected with more favorable individual characteristics, working conditions, and principal leadership. As expected, higher positive correlations occurred among the three different forms of teacher collaboration and the three different activities of instructional development. Although the strengths of the correlations indicated that the constructs overlapped, they were still distinguishable from each other. Negative relationships only existed, as anticipated, between school type (Gymnasium), age and work experience, whereas gender (women) was positively associated with teacher collaboration.

6.2 (M)ANOVA

Results of the ANOVA concerning the first research question, how often do teachers use each form of collaboration in their everyday work, show, as hypothesized, that teachers practiced those forms of collaboration significantly less often whose realization required higher individual and organizational demands in schools, e.g. coconstruction, while teachers practiced those forms of collaboration significantly more often whose realization required lower individual and organizational demands, e.g. exchange ($F_{1,050} = 2168.12$, $p < 0.001$, partial $\eta^2 = 0.67$). Here, the occurrence of the division of work took the mid-position.

The findings of the MANOVA reveal that only the main effects of gender, age or work experience, and school type on all forms of teacher collaboration occurred, whereas no interaction effects existed between the tested covariates on collaborative work. The results are set out in Table III.

Taken together, the results, in general, support the hypotheses that teachers performed less demanding collaboration forms more frequently than demanding ones ($H_{1a}$), female teachers ($H_{1b}$), younger or less experienced teachers ($H_{1c}$) and teachers outside Gymnasien ($H_{1d}$) collaborated more often than other teacher groups. But some exceptions exist: $H_{1b}$ and $H_{1c}$ can be seen as partially confirmed because no significant gender difference in coconstruction and no differences between other groups of age or work experience were evident. In addition to this, the only large effect size was found for the succession in the levels of the collaboration forms, while only small effect sizes for all other significant sociodemographic differences were identified.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Characteristics</th>
<th>Gender</th>
<th>Age</th>
<th>Work experience</th>
<th>School type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>⩽30 years</td>
<td>⩽5 years</td>
<td>Gymnasium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.39</td>
<td>3.80</td>
<td>3.72</td>
<td>3.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.83</td>
<td>0.63</td>
<td>0.74</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.16</td>
<td>2.49</td>
<td>2.48</td>
<td>2.34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.88</td>
<td>0.86</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.10</td>
<td>2.37</td>
<td>2.33</td>
<td>2.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.78</td>
<td>0.83</td>
<td>0.82</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9.10</td>
<td>5.08</td>
<td>4.90</td>
<td>16.53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>974</td>
<td>2653.98</td>
<td>2577.25</td>
<td>974</td>
</tr>
<tr>
<td></td>
<td>Wilk’s $\Lambda$</td>
<td>&lt; 0.001</td>
<td>&lt; 0.001</td>
<td>&lt; 0.001</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td></td>
<td>partial $\eta^2$</td>
<td>0.97</td>
<td>0.94</td>
<td>0.94</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.03</td>
<td>0.02</td>
<td>0.02</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Table III. Differences in teacher collaboration
6.3 SEM

Two SEM were carried out to test the second research question about differentiated effects on activities of instructional development and the third research question about specific school conditions of the three different forms of teacher collaboration. Models were estimated for all the three different forms of collaboration simultaneously. Tables IV and V illustrate the results of the analyses in terms of standardized path coefficients and standard errors. For reasons of clarity and comprehensibility, measurement models and intercorrelations between the dependent and independent variables are not depicted.

As can be seen from Table IV, the model had a satisfactory fit to the data. Findings of differentiated effects of teacher collaboration on activities of instructional development reveal that, contrary to expectations, division of work had a higher positive impact on the collection of teaching and learning materials than exchange, while, as expected, division of work was the strongest significant predictor for development of interdisciplinary curricula as well as coconstruction for development of concepts for individual support and differentiation. All effects had almost medium sizes. The amount of explained variance ranged from 10.0 to 21.0 percent.

Overall, the results support only H2b and H2c concerning the effects on the development of interdisciplinary curricula and development of concepts for individual support and differentiation. H2a has to be rejected because division of work had a higher positive effect on the collection of teaching and learning materials than exchange.

<table>
<thead>
<tr>
<th>Table IV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects of the three different forms of teacher collaboration on the three different activities of instructional development</td>
</tr>
<tr>
<td>Dependent variables</td>
</tr>
<tr>
<td>Independent variables</td>
</tr>
<tr>
<td>Exchange</td>
</tr>
<tr>
<td>Division of work</td>
</tr>
<tr>
<td>Coconstruction</td>
</tr>
<tr>
<td>R²</td>
</tr>
</tbody>
</table>

Notes: χ²/df = 652.04***/174, CFI = 0.93, TLI = 0.92, RMSEA = 0.05, SRMR = 0.04, N = 1,078. *p < 0.05; **p < 0.01; ***p < 0.001

<table>
<thead>
<tr>
<th>Table V.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal, cultural, and structural conditions of the three different forms of teacher collaboration</td>
</tr>
<tr>
<td>Dependent variables</td>
</tr>
<tr>
<td>Independent variables</td>
</tr>
<tr>
<td>Individual self-efficacy</td>
</tr>
<tr>
<td>Affective commitment</td>
</tr>
<tr>
<td>Collective self-efficacy</td>
</tr>
<tr>
<td>Working climate</td>
</tr>
<tr>
<td>Collaborative leadership with focus on instruction</td>
</tr>
<tr>
<td>Goal consensus</td>
</tr>
<tr>
<td>Planned times and rooms</td>
</tr>
<tr>
<td>Institutionalized teams</td>
</tr>
<tr>
<td>Gender (women)</td>
</tr>
<tr>
<td>Work experience</td>
</tr>
<tr>
<td>School type (Gymnasium)</td>
</tr>
<tr>
<td>R²</td>
</tr>
</tbody>
</table>

Notes: χ²/df = 3254.25***/1,315, CFI = 0.90, TLI = 0.89, RMSEA = 0.04, SRMR = 0.05, N = 1,042. *p < 0.05; **p < 0.01; ***p < 0.001
As shown in Table V, the model barely fit the data sufficiently. Results of specific school conditions of teacher collaboration show that under control of school type, gender and work experience, working climate and institutionalized teams had a positive effect on exchange. Moreover, individual self-efficacy also affected the division of work positively. Furthermore, collaborative leadership with a focus on instruction and planned times and rooms influenced coconstruction positively. However, all effects were small in size. Therefore, the amount of explained variance only reached at most 21.0 percent.

In summary, the findings merely partially support H3 that the schools’ culture and climate have a stronger positive influence on less demanding forms of collaboration, whereas schools’ structure, principal leadership, individual and collective self-efficacy have a stronger positive influence on more demanding forms of collaboration. The reason for that is that institutionalized teams as part of the schools’ structure had a constant positive impact on all forms of teacher collaboration. In contrast, no effects were observed for emotional attachment toward school (belonging to individual characteristics), collective self-efficacy beliefs (related to schools’ culture and climate) and goal consensus (linked to schools’ structure).

7. Discussion
7.1 Discussion of key findings
As a central feature of school quality, teacher collaboration has a positive impact on students’ learning processes and academic achievement, on teachers’ their professional development and improvement of their instructional practice as well as on school innovations (Kyriakides et al., 2010; Vangrieken et al., 2015).

Although the evidence concerning the significance of teacher collaboration is manifold, a consistent definition and precise distinction of the term, as well as a criteria-oriented and differentiated point of view on the phenomenon, are still required in educational research (Fussangel and Gräsel, 2011; Kelchtermans, 2006; Steinert et al., 2006). That does not mean that all definitions are undertheorized. On the contrary, some elaborate definitions exist that are well embedded into or derived from specific theoretical frameworks (Vangrieken et al., 2015).

To fulfill the outlined demand, in the present study we investigated the occurrence and sociodemographic differences, effects on activities of instructional development, and school conditions of each form of teacher collaboration based on the distinction of the three different forms of teacher collaboration developed by Gräsel et al. (2006) referring to the organizational psychological definition of collaboration by Spieß (2004).

The analyses provided demonstrate that teachers used less demanding and less resource-intensive forms of collaboration more often, whereas they practiced more demanding and more resource-intensive forms of collaboration less frequently. In general, female, younger or less experienced teachers outside Gymnasien worked more intensively together with their colleagues than other teacher groups. These results are in line with previous studies, which found similar differences in collaborative work between teacher groups and school types (Harazd and Drossel, 2011; Richter and Pant, 2016). The observed occurrence of the three different forms of teacher collaboration could be attributed to their level of resource intensity and difficulty in implementation in the schools’ context, even though teachers are generally described as open-minded toward collaboration and are willing to collaborate (Richter and Pant, 2016). With regard to age differences in collaborative activities, it is problematic in at least three ways. Older and more experienced teachers in particular collaborated less frequently than their younger and less experienced colleagues, leading to problems related to integration of new colleagues into the teaching staff, mutual support, transfer and connection of knowledge, and reflections of routine-blinded instructional practices.
A second major finding was that the three different forms of teacher collaboration, on the one hand, had differentiated effects on different activities of instructional development and depended on specific school conditions, on the other hand. Regarding the effects, division of work influenced the development of interdisciplinary curricula positively, as expected, and coconstruction positively affected the development of concepts for individual support and differentiation. These results are in accord with recent studies indicating that certain forms of collaboration involved particular activities of instructional development (Richter and Pant, 2016). Here, collaborative work of teachers served especially the development and improvement of teachers’ instructional practices, and target-orientated, consistent and coherent practices in the classroom, as well as the whole school organization (Holtappels, 2013).

One interesting result of this study was that division of work had a higher positive impact on the collection of teaching and learning materials than exchange. A possible explanation for this result may be that the instructional development in terms of collecting teaching and learning materials involves collaborative activities to a higher degree in ways of the division of work instead of exchange, where every teacher adds some information and materials to a shared pool after a common agreement.

Considering the school conditions, as anticipated, only the working climate influenced less demanding and less resource-intensive forms of collaboration positively, while self-efficacy and principal leadership affected forms of teacher collaboration positively, which required more individual resources and organizational requirements. These findings are consistent with previous studies showing that collaborative work of teachers depends on the principal leadership style (Harazd and Drossel, 2011).

Another surprising finding of this study was that institutionalized teams affected all forms of teacher collaboration positively, while common goals and planned times and spaces did not have any notable effects. It seems possible that this result may be explained by the fact that institutionalized teams are already grounded on common goals and planned times and spaces so that team structures support regular and scheduled collaborative activities of teachers. Interestingly, compared with the other forms of collaboration, no gender difference was found for coconstruction. It seems that gender-specific preferences lose their impact on higher-demanding forms of collaboration, while other individual resources and organizational requirements become more important.

Contrary to expectations, this study did not find any mentionable effects of affective commitment toward school and collective self-efficacy on teacher collaboration. The lack of connections may be due to reverse relationships because other research demonstrates that emotional attachment and collective self-efficacy beliefs are consequences of higher collaboration and participation in decision making rather than their predictors (Dee et al., 2006; Devos et al., 2014; Knoblauch and Woolfolk Hoy, 2008).

However, the identified relations in this study have only small or medium sizes and the explained variance just reached at most one-fifth. The high amount of unexplained variance can be explained in part by a lack of wide-ranging individual teacher characteristics in the analyses, outside of sociodemographic features, self-efficacy, and affective commitment. Other evidence revealed that especially motivational orientations and emotional states of teachers are associated with collaborative work (Drossel, 2015; Hargreaves, 2001).

7.2 Practical implications
The evidence of the study undertaken here partially supports a rather new direction in educational research that analyzes the attitudes, beliefs, and behaviors of teachers. Instead of focusing on sociodemographic characteristics of teachers, which cannot be changed, the perspective shifts to working conditions in schools, attitudes and beliefs of teachers that have a higher explanatory power for (collaborative) behavior and are changeable over time.
in the schools’ context (van Dick, 2006). Nevertheless, considering sociodemographic features of teachers is necessary because they may serve as control variables in the analyses and help to identify potential target groups for interventions. The findings from this study also suggest that it could be important to create interventions for special target groups, such as promoting collaborative activities for older and more experienced teachers.

Based on the findings of this study, the principal takes a central role because he or she can strengthen the collaborative activities of teachers directly, e.g. as a role model and through appreciation and respect, and indirectly, e.g. through implementation of planned times and locations for collaboration, and the development of a collaborative work atmosphere (Hallinger and Heck, 2010; Wunderer, 2011). Principals should be aware of their central role in supporting (especially more demanding forms of) collaboration of teachers and promoting collaborative structures and cultures in schools. Through special qualifications, principals could be made familiar with their special leadership role concerning teacher collaboration and opportunities to build collaborative structures and cultures in schools.

The findings from this study also underline the importance of considering structural and cultural features of interventions to change schools’ practices (e.g. Marks et al., 2000; Holtappels, 2013) such as institutionalized teams and a positive working climate to promote the collaborative work of teachers (in particular, more demanding forms of teacher collaboration, e.g. coconstruction). One issue that emerges from these findings is that participation in institutionalized teams, as well as fixed collaboration times in schedules, could help to implement and sustain (especially more demanding forms of) teacher collaboration in schools. One possibility could be to establish disciplinary or interdisciplinary, within- or cross-grade team structures, to which every teacher belongs and participates. Another possibility could be to create additional, regular, and scheduled timeframes for teacher collaboration in schools and to integrate the collaboration time as a fixed time contingent within the teachers’ working day. Increasing the hours during which teachers are present at school through the school day could also support teacher collaboration because instead of working at home alone, teachers could stay at school to prepare and evaluate their lessons with their colleagues.

Another issue emerging from these results relates to the creation of a positive working climate in schools to promote different forms of teacher collaboration, ranging from less to more demanding forms of teacher collaboration. Such a positive working climate should be shaped by supportive social relationships and a constructive error climate, where help-seeking, giving and receiving aid and assistance, as well as making mistakes are not seen as an expression of individual incompetence and weakness but rather as a chance for professional development and improvement for oneself and others. An agreement of common goals and (opportunities for) participation in decision making could also help to raise a sense of emotional attachment and a sense of common accountability, which in turn could increase joint problem solving.

Besides this study, other results, which show that teacher collaboration depends on interest and perceived utility (Drossel, 2015), suggest that it could be important to raise awareness of the benefits of different forms of collaboration and awake interest in collaborative activities within teaching staff – especially in view of findings that teacher collaboration in terms of coconstruction is also beneficial for teachers’ health (Fussangel et al., 2010). However, it is important to bear in mind that in the school’s practice structural and cultural conditions have to interact to enhance teacher collaboration in general, otherwise, either autonomy, willingness, and voluntariness or institutionalization and continuity as necessities for successful collaboration would be lacking. Besides interventions located in the schools’ context, training for trainee teachers in teacher education should expand the focus on promoting team players instead of lone wolfs, through strategies such as teacher mentoring programs (Rothland, 2013).
7.3 Limitations of the study and suggestions for future research

Finally, a number of limitations need to be considered. First, the sample of secondary school teachers was not representative. Other studies could analyze other teacher samples, e.g. primary schools, to generalize the results. Second, the study was based on self-report questionnaires rated by teachers. Multiperspective studies should use other ratings to replicate the findings, e.g. questionnaires assessed by principals. Third, only cross-sectional data were available. Longitudinal studies should test for causal relationships, e.g. between collective self-efficacy and collaboration. Fourth, collaboration was referred to some teachers within the entire teaching staff. This is mainly because the distinction of three different forms of teacher collaboration developed by Gräsel et al. (2006) does not divide and allocate collaborative activities to workgroups within teaching staff. Future definitions and analyses of teacher collaboration should take into account differences in collaborative activities between teams such as cross-grade, interdisciplinary, or multiprofessional workgroups of teachers and other pedagogical staff. In addition, this study has surfaced some questions in need of further research: Mediator analysis might examine direct and indirect effects, such as the influence of principal leadership on instructional development mediated by teacher collaboration. Moderator analysis might investigate interaction effects between high- and low-performing schools in challenging circumstances.

7.4 Conclusions

Notwithstanding the outlined limitations, the current study contributed to the understanding of differentiated effects and specific conditions of different forms of teacher collaboration. Global constructs and measurement instruments of teacher collaboration did not meet the complex phenomenon. Taken together, the distinction of different forms of teacher collaboration in the present study is enlightening in at least two ways. First, it shows that teacher collaboration is not a panacea: goals determine which form of collaboration is adequate or whether collaboration is necessary at all. Second, it reveals that teacher collaboration is not a sure-fire success: collaboration in general and each form of collaboration itself requires certain individual resources and organizational demands. Especially in terms of improving ineffective schools in challenging circumstances, teacher collaboration is an important issue. Here, a dilemma exists that, on the one hand, these particular schools are struggling with both external and internal problems that hinder teacher collaboration instead of facilitating it; on the other hand, teacher collaboration is necessary for school turnaround and the development of school quality in these schools.

References


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