Journal of Organizational Behavior, J. Organiz. Behav. **33**, 366–388 (2012)
Published online 18 January 2012 in Wiley Online Library (wileyonlinelibrary.com) **DOI**: 10.1002/job.1773

Implementation teams: A new lever for organizational change

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Summary This paper introduces a team form called an "implementation team"—a team charged with designing and leading the implementation of an organization-wide change strategy—and investigates this team type in a context ripe for change, U.S. public school systems. Unlike prior teams research that has focused on teams as diagnostic collectives or strategic decision-making bodies, this study forwards the notion that teams can be used to implement organizational change. In this study, we examined how positional and tenure diversity and work context relate to team member learning, a critical factor in sustaining organizational change. Results from 25 school district instructional improvement strategy teams over two years challenge some basic assumptions regarding what constitutes a "real team." We find that some taken-for-granted aspects of teams, such as team member stability, may not be central or even appropriate when considering "real teams" in this change context; rather than stability of team membership, the stability of members' roles may matter most. We conclude by suggesting that scholars further investigate this team form and reframe, reconsider, and renew their conceptualizations of "real teams," especially for teams engaged in implementing organizational change. Copyright © 2012 John Wiley & Sons, Ltd.

Keywords: teams; implementation; organizational change; leadership; strategy

Although teams research has grown in recent years and reflects the expanding role of teams for organizational decision-making, consultation, and information gathering (Wageman, Nunes, Burruss, & Hackman, 2008), less is known about how organizations can and do use teams as tools for change (Hackman & Edmondson, 2008). We argue that within a number of organizational contexts, there exists this more active team form—that which we call an "implementation team." We define an implementation team as a team charged with designing and leading the implementation of an organization-wide change strategy, and we examine these teams and their composition in a context ripe for change—U.S. public school systems.

As implementation teams are unlike other conceptions of teams in that members both develop and implement a strategic vision, it is likely that implementation teams are also different from more traditionally studied teams in how they function. For example, because large-scale reform often requires changes at all organizational levels, an implementation team would be responsible to ensure that individuals across and down the organization with competing interests implement a team's strategic plan. Therefore, to ensure buy-in and increase the chance for fidelity of implementation, the plan would likely need to reflect these multiple constituencies' views (Bunker & Alban, 2002). As such, more and different types of attention may need to be paid to the composition of an implementation team. Specifically, it might be even more important in an implementation team that team members represent different perspectives of the organization. Alternatively, a failure to consider the need for organizational representation from all levels or focusing on other forms of diversity (e.g., demographics) while neglecting to include the needs

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Received 25 January 2010
Revised 1 December 2011, Accepted 4 December 2011

and motivations of specific constituency groups on the team might only attenuate the team's effectiveness in its specific domain—organization-wide implementation.

Coinciding with these differences in how team leaders may think about the composition of an implementation team is the changing nature of peoples' careers and particularly job mobility. Recent reports on career longevity show increasing levels of job mobility with the average tenure at a job being 4.1 years (U.S. Bureau of Labor Statistics, 2010) and individuals changing jobs much more frequently during their career (Baruch, 2006). Some popular conceptualizations of teams suggest that, to be effective in this turbulent context, teams need to make every effort to sustain individual membership over time (Akgun & Lynn, 2002). Thus, higher levels of turnover on implementation teams may be considered especially deleterious in a context of change. However, as we explore in this research, it may be the case that the study of implementation teams requires a new way of thinking about long-term improvement that relates more to the way the team taps into different constituency groups than it does to the specific personalities or people on the team. In today's context, paying attention to the latter may simply not be productive—not for implementation teams and perhaps, not for other kinds of teams also experiencing change and turnover.

If so, and specifically, if implementation teams find ways to compensate for the high turnover and differing demands of their workforce, it may also suggest a need to alter how team members are socialized into the team and brought to full capacity to sustain its work. For example, instead of focusing the socialization process on a particular individual's fit or talent base, it might be better to focus more on the kind of role or position being filled. In this way, the socialization process becomes more role specific, instead of more generalized and person specific, the outcome of which could be faster, more efficient on-boarding. A role-focused socialization process could potentially minimize the negative impact of high turnover rates and supports the use of role diverse teams. The effect of implementation team diversity on individual member learning as a means to ensure engagement and long-term commitment on implementation teams is the focus of this research and an untapped area in prior research on more traditional team forms.

The need for team member learning and commitment despite the constant turnover of team membership is particularly salient in our study, which focuses on implementation teams operating in the U.S. public school system. Today, U.S. school systems face a powerful external and internal sense of urgency for change, making the work of implementation teams critical. Indeed, ample research suggests that reforming public education in the U.S.A. is an enormous and pressing challenge (Elmore, 2007). Recent research shows that only 70 per cent of children graduate from high school in the U.S.A. and, in the 50 largest cities alone, the average graduation rate is only 52 per cent (Swanson, 2009). Achievement gaps along racial and ethnic lines also remain vast and persistent. Globally, the picture is also bleak, with U.S. students falling precipitously behind other industrialized countries in math and literacy, when decades earlier, U.S. students displayed superlative performance (see Mckinsey, 2009, for a review).

In our study, we focus on the heart of where much of this system-wide change is taking place in education—the school district. Here, we note that the "leader" is the district CEO or superintendent, the "organization" is the school district (a system of schools in a geographic area), and the "implementation teams" are those district leadership teams charged with designing and implementing an instructional improvement strategy. As leadership research in education shows, the work of teachers, principals, and district administrators has become increasingly interdependent and suggests the need for more collaborative forms of leadership (see Fullan, 1993, 2006; Johnson, 1996). Still, and despite this recognition, there is very little research on leadership teams in education or on how leadership teams might work to implement change.

Our study is based upon analyses of Team Diagnostic Survey (TDS) data (Wageman, Hackman, & Lehman, 2005) that were collected at two points in time from 25 district implementation teams composed of, on average, 10 individuals. We surveyed team members charged with implementing their district's instructional improvement strategy. This approach to defining team membership departs from traditional top teams research in which the researcher names the team members or selects individuals (e.g., because they hold a C-level position); here, the district's superintendent selected individuals on the basis of the team's function, which is in line with recent calls for teams research (Cannella & Holcomb, 2005; Joshi & Roh, 2009).

DOI: 10.1002/job

Beyond exploring a new team type, our approach also differs from prior research because we focus on how team composition (specifically, team diversity) impacts an individual-level outcome—team member learning. This is particularly salient in implementation teams where, we argue, more common views about team composition may need to be reconsidered. As such, and as discussed in the succeeding discussions, we see the need to focus on team member learning in the context of organizational change where high turnover and diverse representation make engagement and buy-in even more salient. Additionally, we consider how the team context may affect members' experiences. In so doing, we treat teams as a multi-level phenomenon and employ multi-level modeling in our analysis, a method in line with calls for team research (Klein, Dansereau,, & Hall, 1994; Morgeson & Hoffman, 1999). [1]

We focus on individual team member learning as our primary outcome variable of interest for several reasons. First, as mentioned above, in the arena of organizational change, one of the most difficult and pernicious aspects of any change initiative is sustainability (Sonenshein, 2010). In education, the emphasis on new programs, new initiatives, and new ideas is rampant; however, a district's ability to sustain change efforts often remains elusive (Elmore & City, 2007) and partially due to high levels of turnover across the industry (Ingersoll, 2001; Stoelinga, 2010). At the same time, implementation teams, more so than other teams, may call upon individuals who come from different tiers of the organization and who may have different or conflicting loyalties (e.g., a principal may wish to ensure his school receives adequate funding while at the same time working to limit district spending). When we combine these potential elements of high turnover and the need to have members deeply invested in the work of the team despite their local affiliations, team member learning becomes particularly critical to sustaining the work. When people feel they are learning, they are likely to be more engaged in the work and to express their perspectives more fully and to contribute to the work, to others, and to their own growth and learning (Kahn, 1990; Kahn, 1992), all of which are critical to sustaining implementation efforts.

In addition, because members of implementation teams are both representatives of different constituency groups in the organization and members of the implementation team, they hold these dual identities as well (Mortensen, Woolley, & O'Leary, 2007). In this context, it becomes critical that team members feel they are learning and growing and hence are motivated by the implementation team's work; otherwise, their attention is likely to wane and the team may become a team in name only, undermining actual implementation. Thus, we examine individual-level learning and individuals' perceptions of the teams in which they work. Finally, from a theoretical perspective, we focus on this outcome variable of team member learning because it is one of the core facets of "team effectiveness" espoused by Hackman (2002) and yet has remained largely unexplored in teams research. This is due, perhaps, to the fact that doing so requires multi-level analyses, which, while commonplace in education research, is a relatively novel methodology for teams research in organizational behavior.

In opening up this new line of inquiry, our research offers several contributions. First, the idea of teams as intervention vehicles is novel and underexplored in organizational research. The vast majority of teams research tends to focus on decision-making teams or diagnostic teams, rather than on those charged with implementing decisions. Second, this underexplored team form offers possibilities for scholars to reconsider some of the basic assumptions about teams such as "membership stability," which is often considered a prerequisite for any "real team." In our study, because we focus so squarely on team composition, we are able to examine many kinds of diversity and roles that team members take on over time and in so doing challenge some basic notions of what constitutes a "real team." In the Discussion section, we explore the fluidity of team and role membership and so, examine assumptions in traditional teams research about the significance, in particular, of team membership stability. Our research findings also provide opportunities to think about some practical implications of implementation teams and how to support their work. Finally, by focusing on team member learning, we offer a theoretical and empirical contribution by highlighting the multi-level phenomenon that teamwork truly is (cf., Morgeson & Hoffman, 1999).

[1]Morgeson and Hoffman (1999) provide basis for this approach. Using their structural approach to team level constructs, we argue that team members' interactions create the team construct—in this case as a change agent. This conceptualization of the team then influences how individuals within the team understand their role and work, thus making the team both the outcome and the producer of individual team member's behavior and attitudes. This reflexive relationship highlights the need for multi-level modeling to accurately capture team member's experiences in the team.

DOI: 10.1002/job

Theory and Hypotheses

Although teams scholars Hackman and Edmondson (2008) recently called for research on teams as active agents in leading organizational change, to our knowledge, there has been no empirical organizational behavior research on these kinds of leadership teams. Rather, organizational research has focused on ways interventions can improve team processes to effect change—for example, when consultants intervene to improve teams' functioning so that organizations are better poised to change (see, for example, Schein, 1987, on process consultation). Alternatively, research has considered teams as specific solutions to change problems when, for example, certain kinds of teams are created to "solve" product-related issues (e.g., Wheelwright & Clarke, 1992). These instances do not address the role that leadership teams can play to actively lead change organization-wide—that is, teams as "intervention tools [to facilitate] organizational change processes" (Hackman & Edmondson 2008, p. 172).

In other research on leadership teams, "top management teams" (TMTs) research, the focus has similarly been on how teams diagnose and make decisions that lead to organizational change, rather than on teams as agents of change. TMTs research has a long tradition in strategic decision-making that is grounded in the idea that coalitions at the top are necessary for organizations to respond to environmental uncertainty and to resolve multiple and often conflicting goals that face organizations (Cyert & March, 1963; see Finkelstein, Hambrick, & Cannella, 2009 for a review). Today, TMT scholars argue that ample evidence demonstrates the value of studying TMTs over individual CEOs when trying to explain organizational outcomes (Finkelstein et al., 2009). However, and despite these scholars' acknowledgement of the TMTs' role in implementation, their work has remained almost exclusively focused on team composition and the impact of heterogeneity on strategic decision-making and does not explore leadership teams as active agents of change.

When teams are viewed as tools for change, even basic considerations such as team composition require a new lens. As change scholars Bunker and Alban, who lament the dearth of research on system-wide change, suggest, ". . .the implementation issue is how decisions get fully carried out, how changes in behaviors, values, and structures become embedded in the organization" (Bunker & Alban, 2002, reprinted in Burke, Lake, & Paine, 2009, p. 680). From this vantage point, it may be informative to consider not only team members' perceptions about team conditions such as task design that may enable team member learning but also the composition of an implementation team. Specifically, it may be important to explore the experience of the diagonal slice of individuals affected by an organization-wide change effort who also hold roles as team members.

Unlike other teams where members' identification with the team may supersede their local identity (e.g., a TMT member who is also a division head), here, individuals serve both as team members (e.g., on the district team) and as stakeholders, representing groups most affected by the team's reform efforts (e.g., a group of principals). They thus enter the work of the implementation team with multiple identities in tow. This concept of operating simultaneously in multiple teams with multiple identities (e.g., as a principal on the district team and as a team leader at a school) by virtue of holding a role or position in a group other than the focal team is emerging in organizational research and worthy of consideration (O'Leary, Woolley, & Mortensen, 2011). Therefore, we consider here the impact of traditional factors, such members' perceptions of the sociostructural conditions in which teams work, as well as underexplored factors, such as the diversity of roles represented on the team.

The role of context: setting the conditions for success

Researchers have long demonstrated the powerful effects of sociostructural conditions on team effectiveness. Hackman (2002) identified five factors associated with team effectiveness across contexts ranging from airline cockpit crews to symphony orchestras and suggested that these conditions should enhance team effectiveness irrespective of context. These "enabling conditions" include the following: first, that the team is a "real team," defined as one that has clear boundaries about who is on the team, work that requires interdependency among team members, and

DOI: 10.1002/job

membership that is relatively stable over time. Second, the team has a compelling direction with a purpose that is challenging, clear, and consequential. Third, the team has an enabling structure with a well-designed task, clear norms of conduct, and good team composition in terms of team size and mix of skills. Fourth, the team's organizational context is supportive with a reward system that recognizes and rewards superior team performance, an information system that provides valuable feedback, an educational system that enables the team to fill gaps with training or technical consultation, and satisfactory material resources to execute the work. And, fifth, the team has access to valuable coaching from both the team leader and team members (for a review, see Hackman, 2002).

Although implementation teams in education may be no different than other kinds of teams examined in organizational research in that setting up the team with sufficient resources, direction, and support enable individuals to fully engage in their work and therefore, learn, we also believe there may be some notable differences. While research on senior leadership teams in education is in its infancy, work on superintendent network teams shows that a clear focus on a specific problem of practice coupled with effective coaching yields significant learning at the individual and collective levels (City, Elmore, Fiarman, & Teitel, 2009). Other research on education leadership teams shows that focusing on sociostructural design factors related to the team's task as opposed to interpersonal relationships is closely related to team member learning (Higgins, Young, Weiner, & Wlodarczyk, 2010). These findings confirm and support the value of Hackman's (2002) enabling conditions associated with having a clear direction and appropriate structures and support.

However, considering the context studied here, we do not expect to find a relationship between team member learning and the aforementioned definition of a "real team." Here, we study a team comprised of individuals chosen to collaborate for a specific purpose—to facilitate organization-wide change. In our view, the interdependence of the team's work in striving to accomplish this task clearly undergirds the team's efforts. However, we expect that this collective enterprise and the interdependence of the team's work may hold *irrespective of boundaries that are tied to particular persons or individual team members*, as traditional definitions of "real teams" suggest (see Ancona, 1987, for other definitions of teams). Specifically, given the importance of roles and constituency representation on implementation teams, we are less certain that team "stability" or "boundedness" with respect to individual membership is critical here. As this implementation team is functionally defined for a specific and collective purpose of the organization (Katzenbach, J. & Smith D., 2003), it is possible that individuals may come and go on the team whereas the roles they represent may remain "stable"—all of which suggests a new kind of team stability, not previously examined in teams research.

Reflecting these ideas, our first hypothesis posits a positive association between team member learning and several key enabling conditions put forth by Hackman (2002). However, we leave for further exploration whether certain traditional conceptualizations of a "real team" hold with respect to implementation teams working in the context of organizational change.

H1: The better the implementation team's direction, structure, support, and expert coaching, the greater will be team member learning.

The role of team composition: spotlighting team diversity

In addition to the context in which the team works, we consider the composition of the implementation team. As discussed, we expect that team members' multiple memberships—in the implementation team and other groups (e.g., special education)—may be critical to consider in the context of implementation teams here. This is different from the context in which traditionally studied teams work because in implementation teams, members' groups are or could be stakeholders in the change process such that the diversity of the team in terms of these multiple memberships may affect how engaged individuals are and how much they learn.

DOI: 10.1002/job

In the teams literature, the topic of team composition and in particular, team diversity, has been of serious interest among scholars for decades (for a review, see Swann, Polzer, Seyle, & Ko, 2004). However, the ways in which diversity in team members' roles or positions as it relates to team member learning has not been examined in organizational research. Further, team or organizational performance has been the chief outcomes of interest. Teams scholars have found, for example, that diversity in team expertise affects team performance, particularly when the climate feels "psychologically safe" (Edmondson, 1999) for individuals to share their backgrounds (Van der Vegt, & Bunderson, 2005). In that study, as in much of the top teams research, they used team member backgrounds as proxies for knowledge and expertise and employed to measure "diversity" (Van der Vegt & Bunderson, 2005, p. 538). In the TMTs research, team diversity is associated with organizational performance indicators ranging from endorsements from critical third parties (Higgins & Gulati, 2003) to innovation (Bantel & Jackson, 1989). For implementation teams, diversity related to constituencies represented by individuals' roles may be even more critical than demographics or background factors, as previously studied.

In the present context and to build upon the organizational change literature that has emphasized the importance of system-wide stakeholders in change efforts (e.g., Lewis, Passmore, & Cantor, 2008), we expect that two forms of team diversity may be especially relevant—diversity in the positions that individuals currently hold (which we call "positional diversity") and diversity in the tenure or time in the organization that team members have accumulated (which we call "tenure diversity"). Both positional and tenure diversity concern the scope and depth of stakeholders who facilitate the change effort. Both represent different kinds of constituency groups who may be critical to execute an organization-wide implementation plan and so, we expect, will impact team member learning. We address each in turn.

Positional diversity

Although there is no organizational research, to our knowledge, linking team diversity to team *member* learning, there is research on team diversity and team-level learning. With respect to outcomes associated with team learning, the balance of the organizational literature has adopted a value-in diversity approach, suggesting that more diverse teams have greater cognitive flexibility and access to information and resources that can enhance the team's growth, especially when the group's tasks require the coordination of information and ideas (Ely & Thomas, 2001; Jehn, Northcraft, & Neale, 1993). Further, research has examined conditions such as clarity of collective identity, under which such diverse perspectives are most likely to be heard (Bunderson, 2003).

Findings from research on social networks and innovation lend additional insights with respect to learning-related outcomes. Research shows that the greater the structural diversity of an individual's network of relationships, the greater his or her opportunities for personal and professional growth and learning (e.g., Higgins, 2001; Ibarra, 1992). And, in TMTs research, studies have found that teams with more heterogeneous functional experience are more likely to make innovative strategic decisions (Hambrick, Cho, & Chen, 1996). As these and other scholars suggest, the greater the diversity of experience on the team, the greater the breadth of alternatives team members consider, thereby enhancing their information-processing capabilities (Finkelstein & Hambrick, 1996; Westphal & Zajac, 1995; Wiersema & Bantel, 1992). Similarly, we expect that sociostructurally diverse implementation teams may benefit team member learning.

In the present context, we consider "positional diversity," which is similar but not equivalent to "functional diversity," as examined in prior teams research (e.g., Tushman & Anderson, 1997). Whereas functional diversity is indicated by the kind of work an individual does or did, positional diversity is indicated by the person's current position in the organization. This is consistent with the notion that different constituencies need to be represented for this particular kind of teamwork, which focuses on a change process. For example, whereas a Chief Financial Officer and an accountant may have the same functional category of "finance," they hold different organizational positions. In the education context, a Chief Academic Officer and a principal might both focus on the function of instructional improvement, but their positions are very different, with one person working in the district office and the other leading a school. Teams with high levels of positional diversity are composed of individuals who represent a greater variety of positions across the organization (e.g., from the district to the school level).

DOI: 10.1002/job

For implementation teams, we expect that positional diversity will be quite valuable to team member learning: not only will individuals have greater access to a variety of information and resources, as both the teams literature and social networks literature suggest is important (Brass, 1995), but team members will also have the opportunity to better understand the implications of their change work across the organization. Indeed, for implementation teams, we expect that a failure to represent constituencies on the team may result in poor strategy and execution. As change scholars have suggested for decades, having system-wide understanding is critical to the engagement of key stakeholders (Lewis et al., 2008). Likewise, when one has a greater sense of how one's work fits into the larger whole, it increases task significance and an individual's intrinsic motivation at work (Hackman & Oldham, 1980) and so, the likelihood of engagement in the task and learning. Thus, we expect the following:

H2: The greater the positional diversity of the implementation team, the greater the team member learning.

Tenure diversity

We also expect tenure diversity to be associated with team member learning in this context. In order to implement an organization-wide change initiative, teams may encounter resistance from the status quo or people who have been at the organization for a long time in addition to the younger guard, who may have very bold, brash, or just different ideas about the organization's course. As organizational change scholars describe, "no part of institutional change is an 'island unto itself'" (Dimock & Sorenson, 1955, as cited in Watson, 1967, reprinted by Burke et al., p. 365). Organization-wide change initiatives are likely to face resistance to change from many parts of the organization for a host of reasons, some structural, some psychological, some personal, and some historical (see Tobin, 1999 on resistance to change). And, as the kinds of change these implementation teams facilitate are organization wide, it is likely that their efforts will affect relationships, people, and processes that harbor varying degrees of resistance (Hackman & Edmondson, 2008).

One way to ameliorate this tension is to form teams that have wide representation—from individuals who may hold different positions to individuals who possess different amounts of organizational experience. The different positions and experience that different team members possess may grant them legitimacy in the eyes of the individuals affected by the change (Hackman & Edmondson, 2008). And, the reverse may also hold: legitimacy may be granted within the team by virtue of the constituencies individuals represent—whether a constituency is represented by a team member's position in the district or by their tenure. Both could influence the amount of engagement and learning that team members experience.

In the present context, we expect that tenure may be an especially relevant dimension of diversity to consider. Implementation teams are likely to face tremendous resistance to change in the context of public school systems where systems and people are often entrenched in prior practices, history, and tradition, making change difficult (Johnson, 1996). Even as their leaders come and go at an alarming rate (every two to three years, on average, for superintendents in the U.S.A.), systems and structures tend to be sticky, given local governments and policies, which can make the mix of perspectives between those with high and low levels of seniority striking. Further, school systems tend to be quite hierarchical (e.g., Donaldson et al., 2008; Little, 1990), making differences in tenure quite salient. In this context, individuals with different tenures may bring different insights about various barriers to implementation and knowledge regarding key stakeholders whose support is needed to implement a strategy. Thus, the greater an implementation team's tenure diversity, the greater the array of historical perspectives on the prospects and avenues to follow, thereby increasing the potential for team member learning during the change process. Therefore, we expect the following,

H3: The greater the tenure diversity of the implementation team, the greater the team member learning.

Composition and context: role representation on implementation teams

In addition to examining the direct effects of the context and composition of an implementation team on team member learning, we also investigate how these two factors interact to influence team member learning. One of the

DOI: 10.1002/job

unique aspects of this new team form is the team's charge to carry out their work beyond the boundaries of the team itself—in this case, to build buy-in and action across a school system. As Lortie's (2002) research shows, egalitarianism, seniority, and autonomy are values that persist across the professional culture of schools and make education reform efforts complex and difficult and speaking up especially challenging (Donaldson et al., 2008). Given this, being chosen for this task by district leaders may signal not only that one's personal abilities and talents are valued but also that one is expected to represent the identity of other groups across the district—that is, as a principal, one is "representing the principals' perspective," or as a school teacher, one is "representing the teachers' perspective."

Prior organizational research on role theory suggests that individuals' positions on senior leadership teams can signal specific competencies to external parties that impact those party's impressions of the firm (Higgins & Gulati, 2003). Here, we propose that positions held on a team become especially salient on an implementation team and impact *team member*s' perceptions of their own identity, especially when there is a clear diversity of positions present and particularly because individuals on the team see a need to represent their external role. For example, being the only teacher on a senior leadership team is likely to raise the salience of that role identity for the team member and, in particular, her sense of responsibility to exercise voice on behalf of that constituency (see, e.g., Berger, Cohen, & Zelditch, 1972; Bunderson, 2003 on status cue salience). Thus, we suggest that greater positional diversity among implementation teams highlights individuals' expertise for themselves and for others and yields greater propensity to exercise voice on behalf of a particular constituency group in team discussions.

We expect that these dynamics will be especially salient when enabling conditions are unfavorable in implementation teams. That is, in an implementation team with a high level of positional diversity, team members are particularly likely to exercise voice on behalf of their constituents when they perceive there are insufficient resources to implement the team's plans. In these situations, individuals may speak up on behalf of one's constituency group, particularly if they feel they are representing a key stakeholder in the change process. Indeed, research on identity negotiation in groups suggests that individuals are especially likely to disclose information about themselves early in group formation and/or during times of change in the group (London, Polzer, & Omoregie, 2005). Building on this, and consistent with negotiation research (e.g., Susskind, 2006), we suggest that in this context of change, greater engagement and greater learning is likely to take place when individuals feel as though their primary work group—here, indexed by their position—is threatened in some way by the lack of a supportive context. Thus, we propose the following.

H4: The effect of the team's enabling conditions on team member learning will vary by the team's positional diversity such that when enabling conditions are low, positional diversity will enhance team member learning.

Methods

Sample and procedure

Study participants were members of school district senior leadership teams in Connecticut. Superintendents, who are members of the Connecticut Superintendents Network Center for School Change, led each of the teams in our sample ($n = 25$). Data collection occurred in early 2008. To identify study participants, we asked each superintendent to determine whom they regarded as their "senior administrative team for the purposes of developing and implementing their instructional improvement strategy." This team member identification strategy allowed team leader rather than the researchers to identify team members and aligns with recent calls in team research (Joshi & Roh, 2009; Cannella & Holcomb, 2005). We told superintendents that this was a functional definition of a team and to name the people in the district who have a "central responsibility for developing and implementing the instructional improvement strategy in the district, regardless of where they are in the organization chart." There were no restrictions on team size; teams ranged in size from 5 to 14. The superintendents selected members for each district's "instructional strategy improvement team," and these team members comprised our sample. We gave all identified team members an electronic version of the TDS.

DOI: 10.1002/job

Created by Hackman and Wageman (2001), the TDS assesses team members' perceptions of the team's socio-structural features, such as team composition and work design, and team process indicators, and the extent to which the team's strategy, effort, skills, and knowledge are used effectively. The TDS also includes items regarding the amount of growth and learning team members' experience—thereby making it an ideal tool for this research. The TDS has been used in numerous studies and was shown to be a reliable and valid instrument to measure these sociocultural features (Wageman et al., 2005; Wageman et al., 2008). The survey response rate was 95 per cent,[2] and the researchers collected a total of 226 team members' responses.[3]

The TDS was the primary data source used to test our hypotheses. In addition, in 2009, teams participating in the Connecticut Superintendent Network completed the TDS a second time. As several of the districts joined or left the network and team membership changed within returning districts, we could not employ these data longitudinally in the traditional sense. Still, we report our findings from this second round of data collection as a follow-up to our initial analyses in the Results section.

We also conducted two forms of ancillary analyses to more fully explore our findings. The first of these was an analysis of team member turnover, and whether team composition, in terms of the positions or roles represented on the team, remained stable despite changes in the individuals occupying those roles. Second, we were afforded the opportunity to visit and observe senior leadership team meetings of teams in our sample. Two researchers, blind to team characteristics, videotaped and then coded the transcriptions of eight hours of two teams' meetings. We report the findings from the analysis of both team member turnover and team meeting transcripts in the Ancillary Analyses section.

Team member learning

In Hackman's (2002) original work on leading teams, he wrote extensively about the third dimension of team "effectiveness" as "individual members' learning," which he described as a function of the extent to which individuals feel a sense of satisfaction with their work and relationships on the team, their motivation to produce excellent performance, and individual opportunities for personal learning and growth. Reflecting this conceptualization, the 10 items in the TDS ask about all of these aspects of "members' learning." Sample items include "I learn a great deal from my work on this team" and "working on this team stretches my personal knowledge and skills" (on a scale of 1 = strongly disagree to 5 = strongly agree). We used principal components analysis[4] to build a composite measure of team member learning (median[5] = 0.17, $SD = 1.94$), with higher scores indicating higher levels of perceived learning. The internal consistency reliability of the scale was 0.89.[6]

Enabling conditions

A substantial portion of the TDS is devoted to gathering team members' perspectives about the sociocultural context in which the team operates. Building from Hackman's (2002) work on effective team functioning, the TDS focuses on five specific conditions that he argues need to be in place for the team to be successful: that the team be a real team, that it has

[2]Although 95 per cent of participants responded to the survey, there were instances when individuals did not respond to individual item(s). Because of the study's small size, we preserved as many responses as possible and refrained from using pair-wise or list-wise deletion. After trying a number of imputation models, we imputed the team average score when an individual's response was missing. We found this to be effective as the range of responses was fairly stable within teams and the overall range of responses was also fairly constricted.

[3]Although a relatively small study, we found there to be enough variance between team member responses to allow for multi-level analysis. Moreover, because of the limited power associated with this study, our ability to find statistically significant findings perhaps suggests that these relationships are quite robust.

[4]As part of this process, each item comprising the construct is centered to allow for appropriate weighting of a given variable in the overall composite. A mean of zero is needed to find a basis that minimizes the mean square error of the approximation of the data. As such, the final weighted composite then also has a mean of zero.

[5]As all composites have a mean of 0.0, we have opted to include the median to help the reader gain a sense of the distribution.

[6]Together, these items were more robust as a construct than any of the smaller groupings of items (i.e., the alpha was largest when these items were put together). Additional analysis was also conducted using only the items focused on growth satisfaction, and we found similar results with same parameters significant at the same levels.

DOI: 10.1002/job

a compelling direction, that the team receives necessary structure and supports, and that the team receives expert coaching. Within the TDS, each of these "enabling conditions" is represented by a number of items (see Wageman et al., 2008 for a review). For each item, participants responded using a Likert scale (1 = strongly disagree, 5 = strongly agree). By focusing our analysis on individual team member's perceptions, we are able to better understand how these perceptions impact member learning and hence the likelihood that he or she will remain engaged in its organizational change efforts. To streamline the analytical process and capture an internally consistent measure of each condition, we created composites by using principal components analysis to represent each enabling condition.[7]

Team diversity

We collected team member data to determine two different forms of team diversity, tenure diversity and positional diversity. We calculated tenure on the basis of participants' responses to the question, "How long have you been a member of this organization?" We gave participants categories to choose from (less than six months, six to 12 months, one to two years, three to four years, five to eight years, nine to 16 years, 17–24 years, 25 years or more) to preserve anonymity. Thus, although we cannot determine the precise average tenure for these teams, the mode was five to eight years.

For positional diversity, we coded participants' self-identified positions in the district into six different categories—superintendent, assistant superintendent, district staff, school principal, school staff, and classroom teacher. Then, consistent with prior research on functional diversity (e.g., Hambrick et al., 1996), we used a variation of the Herfindal–Hirschman index to calculate our measures of both positional and tenure diversity.

$$H = 1 - \sum_{i=1}^{n} pi^2$$

H is the measure of heterogeneity or range, and p is the percentage of individuals who held positions/worked in the organization in each of the time/positional ("n") categories. Teams ranged in tenure diversity from .29 to .93 ($SD = 0.14$) and in positional diversity from .37 to .72 ($SD = 0.09$).

Controls

Consistent with prior education research on factors associated with district effectiveness as measured by student achievement (Orfield & Lee, 2006), we controlled for three team-level[8] factors in our analysis: district enrollment, ranging from 21 235 to 1907 ($M = 5173$, SD = 4707); the percent of students receiving free and reduced price lunch ranging from 2 to 94 per cent ($M = 0.25$, $SD = 0.23$); and the percent of non-White students in the district ranging from 5 to 95 per cent ($M = 0.32$, $SD = 0.3$). We gathered all information through public records on the Connecticut's Department of Education website. Additionally, consistent with prior research (e.g., Hambrick et al., 1996), we also used team size as a control, which ranged from 5 to 14 ($M = 10$, $SD = 2$).

Statistical analysis

We fit a taxonomy of multi-level models (Singer & Willett, 2003) to address our questions about how enabling conditions and team diversity might impact team member learning in these implementation teams.[9] Multi-level models

[7]Throughout the principal components analysis, we worked hard to maintain the integrity of Hackman (2002) theory on team functioning while simultaneously enhancing the internal validity of the construct. This sometimes required the bundling of items within a construct or the elimination of certain items to ensure the greatest internal validity of the measures.

[8]Because there is only one team per district, variance across the districts is *de facto* variance across the teams. Therefore, by controlling for variance across teams, we are able to better capture individual team members' learning.

[9]We fit multilevel models with random intercepts and slopes. Hand general linear hypothesis testing was conducted to verify the predictors' impact on the model fit. When predictors did not positively contribute to fit, they were removed and a better representation of the relationship between the remaining predictors and the outcome is revealed.

DOI: 10.1002/job

are typically used to examine data on individuals nested within groups (e.g., employees within companies, students within schools) but have yet to become widespread in teams research, despite calls to do so (Morgeson & Hoffman, 1999). In our analyses, the lower level of measurement ("level-1") is the individual team member; ("level-2") is the district level team. Our goal was to investigate how individuals experience implementation team membership and specifically the degree to which they felt they were learning on the team while accounting for their perceptions of the context as well as team composition, and so, multi-level modeling provided the most appropriate tool for our analysis. By using a number of team-level controls, we were able to control for all the variation across teams and successfully capture differences in individual team member learning. Moreover, we were able to conduct cross-level analysis to examine the intersection between individuals' perceptions of the team and team diversity on individual learning. Doing so allows for a more realistic interpretation of team member experiences.

Models

We estimated nine multi-level models on our outcome variable (per Singer & Willett, 2003) (see Table 2): an unconditional means model, a baseline model with no predictor variables (Table 2, Model 1). The fitted equation for this model is

$$Member\ \ Learning_{ij} = \beta_0 + \varepsilon_{ij} + \mu_i$$

Member Learning is the predicted value of a team member's learning within a given team, and β_0 is the estimated average of team member learning across all teams. These models include both "level-1" and "level-2" predictors, and, as will be discussed in greater detail in the Results section, we were able to control for all variation across the teams. The general model we used to address our first hypothesis regarding the impact of enabling conditions was

$$Member\ \ Learning_{ij} = \beta_0 + D_{ij} + E_i + \varepsilon_{ij} + \mu_i$$

Here, D_{ij} represents coefficients for the team-level control variables including district enrollment, the percent of students receiving free and reduced price lunch, percent of non-White students in the district, and team size. E_i represents the coefficients for each team member's perceptions of his or her team's sociocultural context and specifically its enabling conditions as conceptualized by Hackman (2002). Model 5 (Table 2) provides the final model for H1.[10]

Hypothesis 3, regarding the impact of tenure diversity, is explored in Model 6 (Table 2). Models 7–9 address our hypotheses on positional diversity (i.e., H3 and H4). Model 9 is our final model for H4 and includes interactions between positional diversity and both compelling direction and supportive context. The final model is

$$\begin{aligned} Member\ \ Learning_{ij} = {} & \beta_0 + \beta_1 Compel_i + \beta_2 Structure_i + \beta_3 PSND_{ij} + \beta_4 Context_i \\ & + \beta_5 (Compel * PSND)_{ij} + \beta_6 (Support * PSND)_{ij} + \varepsilon_{ij} + \mu_i \end{aligned}$$

β_3 represents the coefficient for positional diversity; β_5 represents the interaction between compelling direction and positional diversity; and β_6 represents the interaction between supportive context and positional diversity. Again, enabling conditions are attributed as individual-level predictors. This is appropriate as each survey respondent provided his or her own ranking of the team's functioning on each condition. Alternatively, each team received only one positional and one tenure diversity measure that function as a team-level predictors.

Results

Estimated means, standard deviations, and correlations for all measures are shown in Table 1. The mode of the team member learning measure is 2.36, and 50 per cent of participants had scores of .2 or higher, which indicates that

[10]We chose to pull predictors out of the model that did not have a statistically significant relationship to the outcome in order to preserve degrees of freedom and obtain the most robust parameter estimates possible. As a check on our process, we created intermediary models and conducted general linear hypothesis testing.

DOI: 10.1002/job

participants reported they experienced a relatively high level of learning. In the unconditional model (Model 1, Table 1), we find that most of the variation in team member learning is at the individual versus the team level.[11]

All of the team-level controls show a relationship to the outcome except team size.[12] Importantly, these few team-level controls explain more than half of the total variance at the team level (pseudo-$R^2 = .52$). This large decrease foreshadows later models where predictors explain all team-level variation. Moreover, this was true even when the team-level controls were no longer included in the model.

Enabling conditions, team diversity, and team member learning

Hypothesis 1 predicted that the better the implementation team's direction, structure, support, and expert coaching, the greater would be team member learning. Our results supported most of these sociostructural conditions set forth in our prediction (Model 5, Table 2): compelling direction ($\beta = .27$, $p < .00001$), enabling structure ($\beta = .42$, $p < .00001$), and supportive context ($\beta = .22$, $p < .00001$) each had a positive relationship to team member learning. None of the "real team" measures had a significant relationship with team member learning and suggests that further exploration may be warranted, which we begin in the ancillary analyses. We also see that the residual associated with team-level variance is no longer significant. Therefore, this model controls for all differences across the teams, despite the fact that district enrollment is the only team-level control that remains in the model. Importantly, the relatively small amount of initial variance in this model suggests that our findings are relatively robust—a fact that is reinforced with our follow-up analysis discussed in more detail later.

Hypothesis 2 predicted that positional diversity would be positively related to team member learning. Hypothesis 3 predicted that greater tenure diversity would yield greater team member learning. Our analysis did not support either prediction (Models 6 and 7, Table 1).

Hypothesis 4 predicted an interaction between positional diversity and enabling conditions such that high levels of diversity would mitigate the effects of differences in enabling conditions on learning. Our results supported this prediction (Model 9, Table 2). We find that two interactions exist, one between positional diversity and compelling direction ($\beta = -2.02$, $p < .01$) and a second between positional diversity and supportive context ($\beta = -1.21$, $p = .02$). As expected, the findings reveal that when individuals rate their teams poorly on these enabling conditions, greater positional diversity mitigates the negative effect on team member learning.

These interactions also suggest that for teams that are already feeling supported, positional diversity is unhelpful, which was not expected. Taken together, our findings suggest that, with respect to team member learning, enabling conditions such as a clear and compelling direction may be even more important than team composition.

Second-year analyses

Our findings persist across a subsequent round of data analysis. Twenty-five teams with 262 individuals participated in the second round of TDS administration to the network the following year, 2009, with an 89 per cent response rate. Both the data analysis techniques and the findings mirrored those of the earlier round of data. First, the same three enabling conditions (i.e., compelling direction, supportive context, and enabling structure) were again shown to have a positive relationship with team member learning while there was again no relationship between real team indicators and learning. Neither tenure diversity nor positional diversity had an independent, significant relationship with team member learning. And, again, there were two, significant, negative interactions between positional diversity and the enabling conditions, although in this case they were only at the $p < .10$ level. Considering the small sample size and, hence, limited statistical power associated with our models across these two years of data, consistency in these findings may be considered particularly robust.

[11]The intraclass correlation is .24 and suggests that team members do share a moderate amount of characteristics within each team (i.e. a "teamness" exists within each team) and validates our decision to use a multi-level model.

[12]In later models, only district enrollment was related to learning, and this effect disappeared when the interactions between positional diversity and enabling conditions were added to the model (Model 9, Table 1).

DOI: 10.1002/job

Table 1. Estimated means, standard deviations, and correlations

	X	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. District enrollment	5173	4707														
2. % Free and reduced lunch	0.25	0.23	0.64***													
3. % Non-White	0.32	0.30	0.54***	0.83***												
4. Team size	9.77	2.18	−0.17**	−0.10	−0.11˜											
5. Compelling direction	0.00	1.41	0.01	−0.02	−0.13*	0.11˜										
6. Supportive context	0.00	2.13	−0.45***	−0.29***	−0.27***	0.18**	0.21**									
7. Enabling structure	0.00	2.00	−0.12˜	−0.07	−0.18**	−0.05	0.19**	0.48***								
8. Real team—bounded	4.49	1.17	−0.01	0.01	0.02	0.02	0.20**	0.00	0.01							
9. Real team—interdependent	0.00	1.30	0.06	0.02	−0.09	0.06	0.52***	0.23**	0.30***	00.07						
10. Real team—stable	0.00	1.24	−0.09	0.01	0.00	−0.13˜	−0.14*	0.07	0.16*	00.04	−0.09					
11. Expert coaching	0.00	1.27	−0.29***	−0.12˜	−0.11˜	0.01	0.21**	0.56***	0.23**	−0.02	0.21**	0.02				
12. Team leader coaching	4.5	1.76	−0.16*	−0.04	−0.09	0.02	0.30***	0.41***	0.30***	0.03	−0.21***	−0.09	0.25***			
13. Tenure diversity	0.71	0.14	0.11	0.10	0.05	0.48***	0.11	0.09	−0.06	0.07	0.09	−0.00	0.11˜	0.03		
14. Positional diversity	0.53	0.09	−0.11˜	0.30***	0.24**	0.04	−0.05	0.14*	0.01	−0.07	0.04	−0.09˜	0.16*	0.15	0.11	
15. Team member learning	0.000	1.94	−0.29***	−0.17**	−2.7***	0.03	0.33***	0.56***	−0.62***	−0.03	0.34***	0.03	0.33***	−0.36***	−0.03	0.09

Note: ˜$p = .10$; *$p = .05$; **$p \leq .01$; ***$p \leq .0001$.

DOI: 10.1002/job

Table 2. Multi-level models: the effects of enabling conditions and diversity on team member learning

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8		Model 9	
	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error
Fixed effects																		
Intercept	−0.03	0.23	1.14	0.87	−0.58	1.13	0.15	0.77	0.28~	0.15	0.64	0.48	−0.28	0.59	0.08	0.64	−0.00	0.63
Control variables																		
District enrollment			−0.00**	0.00	−0.00*	0.00	−0.00*	0.00	−0.00*	0.00	−0.00*	0.00	−0.00*	0.00	−0.00	0.00		
% Free and reduced lunch			3.19*	1.52	1.97	1.30	1.30	0.79										
% Non-White			−2.72**	1.09	−1.74	0.93	−0.96~	0.56										
Team size			−0.05	0.08	−0.05	0.07	−0.04	0.04										
Enabling conditions																		
Compelling direction					0.22*	0.09	0.18*	0.08	0.27***	0.07	0.27***	0.07	0.27***	0.07	1.27**	0.39	1.37**	0.39
Supportive context							0.23**	0.06	0.22***	0.06	0.23***	0.06	0.22**	0.06	0.74**	0.30	0.93**	0.27
Enabling structure							0.38***	0.05	0.42***	0.05	0.42***	0.05	0.43***	0.05	0.64*	0.28	0.37***	0.05
Real team—bounded					−0.09	0.09	0.13	0.13										
Real team—interdependent					0.28**	0.09	0.12	0.08										
Real team—stable					0.07	0.09												
Expert coaching					0.16~	0.09												
Team leader coaching					0.45**	0.16												
Diversity																		
Tenure diversity											−0.52	0.68						
Positional diversity													1.05	1.06	0.21	1.16	0.05	1.17
Interactions																		
Positional Diversity * compelling Direction															−1.85**	0.71	−2.02**	0.71
Positional Diversity * supportive Context															−0.91~	0.55	−1.21*	0.51
Positional Diversity * enabling Structure															−0.49	0.53		
Random effects																		
σ_u^2	1.01**	0.38	0.49*	0.24	0.32*	0.17	0.00	0.07	0.02	0.08	0.03	0.08	0.02	0.08	0.05	0.08	0.07	0.08
σ_ε^2	2.76***	0.28	2.77***	0.28	2.22**	0.22	1.77***	0.18	1.8***	0.18	1.8***	0.18	1.8***	0.18	1.64***	0.17	1.66***	0.17
Goodness of fit statistics																		
−2LL	907.1		894.9		842.0		770.6		777.6		777.0		776.6		759.9		763.2	
AIC	913.1		908.9		868.0		794.6		791.6		793.0		792.3		781.9		781.2	
BIC	916.7		917.4		883.8		809.2		800.1		802.7		802.4		795.3		792.2	

Note: ~$p < .10$;*$p < .05$;**$p < .01$;***$p < .0001$.

J. Organiz. Behav. 33, 366–388 (2012)
DOI: 10.1002/job

Ancillary analyses

In this paper, we suggest that there is a need to expand current teams research to incorporate a new team type—that of an implementation team. Moreover, we propose that some of the ways teams have traditionally been conceptualized may not apply to implementation teams. Indeed, three of the traditional core components of a "real team"—team boundedness, stability, and interdependence—were not significantly related to team member learning in our final models. As we grapple with these findings and their larger implications for teams research, the question arises as to whether the lack of relationships may have to do with how these core team constructs were conceptualized and operationalized—as being linked to individuals rather than to the roles that individual team members hold. For example, might it be that stability does actually matter, but differently than has been traditionally conceptualized (e.g., as role stability rather than membership stability)? In the following sections, we discuss two sets of ancillary analyses that further explore our findings and, specifically, how we might reconsider the significance of *roles* in the particular context of implementation teams.

Investigating role stability

First, we explored whether the construct of team "stability" might be better linked to team member roles than to individual team members. To do so, we looked at team member turnover and role turnover across the two administrations and identified if and how teams had changed from one year to the next. We then analyzed whether the original team member's role was (i) eliminated, (ii) replaced with a different role, or (iii) remained but was occupied by another person. We found that across the 25 teams, 32 people (approximately 16 per cent of the sample) left their team between the first and second administration of the TDS.

As indicated in Figure 1, only four of the teams totally eliminated the role the exiting person had occupied. However, in 24 cases, we retained the role with a different person simply replacing the person on the team who had left. Finally, we replaced four people who left with a different person in a role at the same level of the organization and with a similar focus (e.g., "director of pupil services" changed over to "director of student services"), and one might even consider such changes analogous to maintaining the same role on the team. From these analyses, it seems clear that stability may indeed be one important dimension of an implementation team, but that team stability may stem more from maintaining role membership than people membership. This finding may also help to explain why we did not find boundedness and interdependence to be related to team member learning on implementation teams.

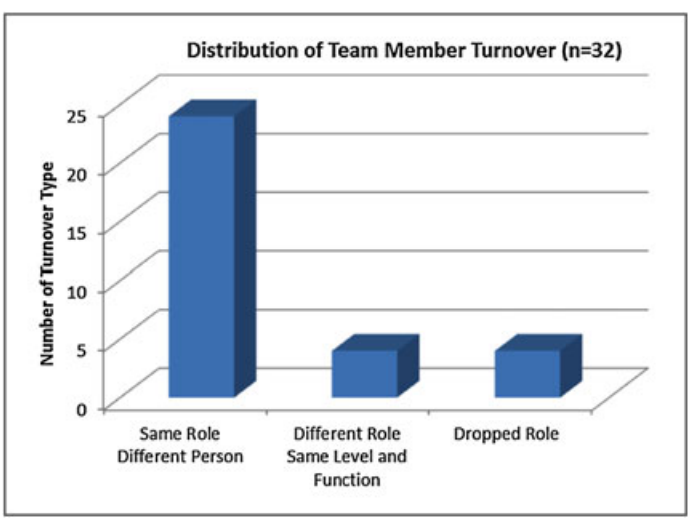

Figure 1. Distribution of team member turnover ($n = 32$)

DOI: 10.1002/job

Examining roles in action

Our second set of ancillary analysis of team meetings explored the ways individuals on teams with high and low levels of positional diversity did or did not employ their roles. To do this, we videotaped the team meetings of a team with the highest level of positional diversity and one with the lowest level of positional diversity. We transcribed and then coded the teams' conversations during these meetings by using a technique called positional analyses (e.g., Davies and Harré, 1990).

Positional analysis. Positioning theorists argue that individuals use language to place or "position" themselves and others within a conversation while allowing for on-going negotiation of new and/or different placements. To engage in positioning, people use the larger cultural discourses in which the speakers live and make sense of the world (Davies & Harré, 1990; Linehan & McCarthy, 2000). By using positioning analyses, we were better able to explore if and how team members employ their roles during the team's discourse to position themselves and the constituencies they represent.

In the summer of 2009, we solicited permission to videotape the school district implementation teams' "implementation status" meetings. For those from whom we gained permission, we traveled to their location and videotaped the team's monthly implementation status meeting. A total of eight hours of team meetings were recorded. The researchers did not interact with the teams once the meetings began. Tapes were transcribed, and researchers, blind to the teams' levels of diversity, coded all meeting comments. To ensure inter-rater reliability, the researchers went through two coding processes. First, the researchers independently coded the data and following, discussed their findings, and came to a consensus about the overall coding scheme. Both researchers then returned to the data, coding it a second time, now using the agreed-upon codes. When this second round was complete, the researchers checked each other's analyses for consistency. Differences in interpretation were resolved through discussion, including conversations with a third researcher.

There are a variety of types of positioning, one of which one is called "deliberate." Deliberate self-positioning occurs when one wants to express his or her personal identity (Harre & Van Langenhove, 1991) and, in the case of these implementation teams, appeared to be determined by individuals' assigned roles. Specifically, team members spoke using two deliberate positions. The first was as a representative of a role outside of the team (i.e., as a member of the group they were representing). An example of such a positioning statement is, "as an administrator, I'm feeling that . . . I'm being stretched. I think some things I get right away and other things I don't, and I think that extends to my faculty." The second form of deliberate positioning was when team members spoke solely as an implementation team member. An example of this kind of statement is, "if we have a deeper, richer understanding of this work it could only make us better team members."

Results. Comparing the quantity and type of team member positioning statements revealed some interesting differences between "Team A," the team that was high on positional diversity, and "Team B," the team that was low on positional diversity. We emphasize again that with such a small sample, these additional findings are exploratory.

First, counting the number and kinds of statements made in an equivalent two-hour meeting period revealed that Team A used about twice as many constituent positioning statements as Team B ($n = 82$ versus $n = 44$). On a percentage basis, this difference was even more striking (41 per cent of total statements for Team A versus 13 per cent for Team B). These findings appear to support our general proposition regarding the salience of individuals' roles on positionally diverse teams—that the greater the positional diversity, the more salient one's role is to oneself and others, as shown here by the greater effort to reference and call attention to one's constituency during team discourse.

Second, we found that both Teams A and B used roughly equal numbers of team positioning statements ($n = 66$ for Team A and $n = 61$ for Team B). On a percentage basis, however, as Team A made far fewer statements than Team B over the same amount of time (Team B was talking faster), a greater percentage of Team A's statements were team oriented (33 per cent) than were Team B's (18 per cent). However, if we compare the relative number of these different kinds of positioning statements within the two teams, we see that Team B made more team (18 per cent) than constituent (13 per cent) positioning statements, whereas for Team A, they made more constituent (41 per cent) than team (33 per cent) positioning statements. These patterns also suggest that Team A was relatively more oriented toward its constituents, whereas Team B was relatively more oriented toward the team.

DOI: 10.1002/job

Comparing the substance of the positioning statements provides further insight as well. Consistent with our coding, our analysis reveals that members of Team A tended to focus more on the potential impact of the team's work in the schools from the viewpoint of stakeholders, such as teachers, and how they might react to the change strategy. In contrast, Team B members tended to focus more internally on the nature of the team's work and its functioning and less on how their work might impact school-based constituencies. Examples of statements made by the two teams, as shown in the Appendix, illustrate these different perspectives.

In these ways, our ancillary findings suggest that a team's positional diversity influences the ways the implementation team members work together to lead and facilitate organizational change. Our positional analyses show how team members' roles may be employed in more or less positionally diverse teams. Here, it appears that more positionally diverse teams may more explicitly discuss how the team's work will impact and be impacted by stakeholders who are critical to the team's implementation work. Examining if and how constituency-based statements linking team members' roles to outcomes that matter for the team's work would extend the present research.

Discussion

The present research investigates a team form that has not been empirically explored in organizational research—that which we have called an "implementation team," a team charged with designing and implementing an organization-wide change strategy. This is a team form that calls for a very different role for teams in organizations than has been studied in the past—one in which teams are used as instruments for change as opposed to strategic decision-making bodies or as targets of change. Although prominent teams scholars have called for research on these kinds of action-oriented teams (Hackman & Edmondson, 2008), to date, there has been no empirical organizational research on this new team form. Employing teams to lead organizational change strategies is an approach we expect will become more prevalent as organizations today face increasing scrutiny and pressure to change. Our main and ancillary findings from the investigation of this new team form open up new areas of inquiry for teams researchers that we hope prompt new research on teams that reconsiders not only the leadership role that teams can play as levers for organizational change but also some of our basic assumptions about what constitutes a "real team."

Findings from our main analyses highlight two new areas for teams researchers, areas which then open doors themselves, as we explored in our ancillary analyses. First, our main findings extend prior teams research by focusing on the sociostructural conditions that Hackman (2002) demonstrated nearly a decade ago are critical to team effectiveness. We hypothesized that these enabling conditions, such as having a compelling direction and supportive context, would be critical to team member learning and is consistent with more traditional organizational team theory. However, we suggested that perhaps, in this context, tying the team's interdependence, boundedness, and stability to *individuals*, which is consistent with traditional ways of operationalizing these dimensions, may be less relevant than tying the same dimensions to team members' *roles*. That is, given the dynamic nature of an implementation team's work, especially in the context of the present study, K-12 districts in education, while individuals may come and go on the team, the team may stay intact, bounded, and interdependent in its work through the positions or roles occupied on the team. Indeed, in our main analyses, we found no effects for the "real team" enabling condition variable in our analyses, whereas other enabling conditions had a significant relationship to team member learning. As such, more traditional conceptualizations of teams may lead researchers to mistakenly categorize implementation teams as not "real teams," despite their potentially important and far-reaching impact on an organization's change efforts.

Second, in our main findings, we focused on team composition, a variable that has been studied for decades by teams scholars. However, we studied it differently here. Rather than consider diversity in terms of members' functional expertise, as TMT scholars have done, or look at members' demographics, such as race or gender, as teams scholars have done, we considered the team's "positional diversity"—that is, the extent to which the positions held by team members represent different *roles* within the organization. Here, in the context of implementation teams and the nature of the team's work and charge, we argued that considering the diversity or diagonal slice of roles held by

DOI: 10.1002/job

people engaged in implementing an organization-wide change strategy should be especially salient. We also examined a more traditional aspect of team composition, tenure diversity.

Although our findings did not reveal any main effects with respect to the relationship between team diversity and team member learning, this is not to say that positional diversity was not a factor in team member learning: we found interaction effects between positional team diversity and team context that supported our proposition that teams with positional diversity mitigate the deleterious effects on learning created by unfavorable team conditions. For example, positional diversity may serve to enhance team member learning when the team's direction is not compelling or clear. Building on prior research on role representation, we suggested that individuals selected to serve on these implementation teams might become more, not less, apt to ameliorate an unfavorable situation because, perhaps, of their felt responsibility for the constituencies they represent. This rationale is consistent with research on the salience of team member characteristics (e.g., Gardner, 2009) and suggests that in teams that possess positional diversity, members may be more likely to exercise voice on behalf of their constituencies, especially when they experience a threat to their constituency or the team's task.

Interestingly, we also note that the interaction effects we found also suggest that positional diversity in implementation teams may not help in certain situations, such as the case in which enabling conditions are favorable. Therefore, it could be that there are limits to the benefits of access to different perspectives provided by teams with positional diversity, such that more perspectives or alternatives may actually frustrate team members who otherwise felt the team was on the right track. Such a situation may resemble "information overload," as studied in social network research, in which greater diversity and access to information and resources can undermine team outcomes (e.g., Hansen & Haas, 2005). These findings may indicate the need for such implementation team leaders to focus on building this element into the team's composition perhaps even more so than in other team forms.

These sets of main findings and our theorizing about this new team form led us to further investigate the salience of team member *roles* and some traditional assumptions about what, more generally, constitutes a "real team." In our ancillary analyses, we found that teams did turn over individuals but more so than they did roles on the team. Although these results were exploratory, they do suggest that the core "real team" dimension of "stability" may need to be reconsidered, at least in this context, that these teams may indeed be very "real," as indexed by the kinds of positions held on the team, while the individual members themselves may change.

This kind of result has also been found in social network research, which has shown that, over time, while specific individuals may change in the periphery of one's network, the kinds of ties that are maintained do not (Cummings & Higgins, 2006). Thus, a network structure—like a team structure—may actually be "constant" or "stable" whereas the actual composition may change, suggesting a whole different way of thinking about what constitutes a "team" over time. Our findings suggest a need for those leading and researching implementation teams to potentially revise how they think about stability. A failure to do so may lead practitioners to mistakenly label teams with individual-level turnover as defunct or to refrain from building support mechanisms to enhance other forms of stability (i.e., role stability) that may be helpful.

Indeed, we hope and expect that many of our findings, particularly with respect to role stability, might actually be more the norm than the exception in other settings. For example, we see this phenomenon of people rotating while roles remain stable in teams such as musical orchestras, military organizations, and professional athletic teams. These kinds of teams have stable positions, but dynamic rosters. Because such teams have stable structures (positions), they are not dependent on stable team membership and yet are considered "real teams" in practice. Dynamic membership runs counter to traditional definitions of "real teams" and yet may be quite prevalent, even beyond the phenomenon of implementation teams studied here.

We were also fortunate enough to have the opportunity to observe and videotape teams as they engaged in their work together. Our ancillary positional analyses from coding these data begin to illustrate that the composition of the team does indeed make a difference in terms of the ways in which team members engage with one another. Our analyses show that teams with more positional diversity seem to access and explicitly employ their roles more readily than those teams with less positional diversity. Further, the more diverse team in our study was more externally oriented; members were more apt to consider the ways in which the team's work might impact and be impacted by key stakeholders in the organization. Although future research is warranted, these exploratory findings suggest that it is possible that an external orientation that employs team members' roles may be particularly helpful in this context, in facilitating the change process (see Ancona & Bresman, 2007).

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Further, these findings highlight that another dimension of a "real team," its boundedness, may be critical for teams researchers to reconsider. Perhaps, the ability of team members to span multiple roles and multiple team memberships—here, membership on an implementation team as well as membership in another group identified by a particular role (e.g., a group of principals)—may prove important not only for team member learning but also for other aspects of team effectiveness and for both teams as well. It could be, for example, that teams that are able to create environments in which individuals can fully express their dual identities are more effective and/or more conducive to team member learning (see also, Mortensen et al., 2007). This topic of multiple team membership is relatively uncharted territory for teams research (for an exception, see O'Leary et al., 2011) and one that we highlight here because the notion of multiple group memberships and roles has emerged as so salient in our work. Thus, we offer this as an area for future teams research, especially for certain kinds of teams, such as implementation teams, that necessarily require individuals to span multiple team memberships in the course of their work.

In addition and more generally, we hope that our research shines a clear spotlight on the significance of context and, in particular, on the nature of the work a team does. In teams research (e.g., for multi-national or cross-functional teams), organizational scholars often explore the composition of a team and its association with certain indicators of "performance," with little regard to the context in which the team works. In this study, we tried to move away from this tendency and to be more phenomenologically driven by asking our contacts (superintendents) to define their teams on the basis of the consideration of a specific task. This approach ensured that these teams were composed of individuals who were all working together for a collective purpose, rather than a collection of arbitrary individuals (e.g., a "C-suite" of individuals, as is often the case in TMTs research). Further, by focusing on a particular kind of task—implementation—we could then ask more specific questions about what kinds of composition might actually matter and why, opening up the door for new ideas, such as the significance of roles, to emerge. We hope that this approach is used in future research and brings social context back to the center of teams research.

Finally, we hope that our work will encourage other teams researchers to engage in multi-level analyses—to consider how team-level factors, such as diversity, impact individual-level outcomes, such as team member learning. Teams are at once collectives and also collections of individuals and so, appropriate for multi-level research questions as well as methods, as we employed here. And, although we only began to tap into these teams' inner workings by examining a subset of these teams' time together, we are hopeful that our exploratory analyses encourage future teams researchers to employ multiple methods as well. Beginning with an observation from quantitative analyses and then following up with qualitative analyses or the reverse can be a powerful way to engage and truly try to understand a phenomenon—particularly one that branches into new territory, as was the case here (c.f. Barley, 2006).

Limitations

Our study is not without limitations. First, because only 25 teams took the TDS, it was not possible to study team-level effectiveness, as might have been interesting. Fortunately, we did have over 200 individual responses, which, combined with the team-level data, enabled us to engage in multi-level modeling. This approach is rare in teams research but quite common in education research where students and teachers are nested in classrooms within schools, districts, and states. Given that these district teams were all from the same state and formed at the same time, differences in state laws or the timing of team formation was avoided, thereby making our study akin to a field experiment, however small.

Second, we recognize that this study was both an exploratory study and, at the same time, one in which we aimed to test certain hypotheses. It was exploratory in that we were examining a relatively new team form for organizational research and yet, given prior research on teams, we did also employ hypotheses to test some specific ideas. This is a fine line to walk and one that perhaps we could have pursued more elegantly by, for example, videotaping the team meetings first and then testing our hypotheses with the TDS afterwards. Future research that essentially backtracks from this study to examine team processes would extend this research and give us a better sense of how these implementation teams function.

A third limitation may be the longitudinal nature of our data. We say "may be" given the nature of these teams, which we have tried to make a case for as "stable" but not in a traditional sense. Given this, although we had two

DOI: 10.1002/job

years' worth of data, the data were from different groups of people who were on the same "team." Consequently, in some ways, the second round of data collection resembled more of an analytical check than a longitudinal study. However, in other respects, if we accept that some of our common assumptions about what constitutes a "real team" need to be challenged, then, perhaps we may even want to reconsider what is actually "longitudinal teams research." Although bold, this may be the appropriate stance especially in this context. We note that in school systems in which a superintendent's tenure is generally only two or three years, studying the dynamics of top teams is likely to continue to be problematic from a research perspective—that is, from a *traditional* research perspective. And yet, from a practical perspective, this kind of turnover at the top makes the call for more collaborative forms of leadership all the more compelling.

Conclusion

In recent years, we have seen changes in both the nature of collaboration and in organizational leadership. Today, and particularly in contexts such as education where the urgency for change is acute, attention has shifted from solo models of leadership to more collaborative forms of leadership. Additionally, pressure has mounted to tackle intransigent problems by moving beyond designing new strategies for change to focusing on how to effectively implement system-wide change (Kanter, 2010). In concert with this, organizations such as the school districts studied here have begun to cultivate a new more action-oriented form of leadership team—that which we call an implementation team. Implementation teams are instruments for change and, as our study shows, can be more or less effective depending on their composition and the kinds of supports put in place to enable their work.

Further, and in line with this special issue call, our work illustrates that this new team form may raise questions about some traditional conceptualizations of what constitutes a "real team"—specifically, that the boundedness, interdependence, and stability of teams such as this may have more to do with the way the team is composed in terms of the roles that members hold than with the team's composition in terms of the actual individuals who hold those roles. That is, although the teams are indeed "real" and are composed of people who are all working interdependently for a common purpose, the people who occupy those role positions may change over time. Thus, as we explored here, although people may change, the team itself remains intact.

We expect that the kind of team we studied, an implementation team, may not only be a team form that becomes more common with time, but that the underlying "real team" dimensions we reconsidered in this study may also be dimensions that warrant reconsideration in other contexts. As change has become the constant for organizations, so too might change become the constant for teams; this does not mean that we teams scholars are not studying real teams; it may just mean that we are studying teams that are real in different ways.

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DOI: 10.1002/job

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Appendix: Comparing the Talk of More/Less Positionally Diverse Implementation Teams

Team A: More Positionally Diverse	Team Team B: Less Positionally Diverse Team
As an administrator, I'm feeling that. I think I'm being stretched. I think some things I get right away and other things I don't, and I think that extends to my faculty. . .(School Principal)	I wonder how much of that increased alignment [between school goals and instructional activities] has to do with the fact that last year we were very deliberate about having central-office staff accompany me [the superintendent] . . .. is that just coincidence, or are we -- because we're going to the next level of the work, it's bubbling up as a more explicit piece of the work? (Superintendent)
It all comes down to what happens in that classroom with the teacher and the students, and what have they learned, and all those other pieces are ways of monitoring what's going on and improving the practice, but it does come down to the best teaching in the classroom, or in the resource room, or those pieces, to me. (Instructional Leader)	I don't know that we were as good at making our work explicit as we could have been. I think that we've been mucking around with data and giving people the tools, but really helping them to focus on a significant problem of student learning. (Superintendent)
So they're [teachers] hearing kind of a carryover and an application of what we talked about, so they don't think that it's something else that's just going to go away. I mean, I have to filter things that I disseminate to staff, because if I'm confused. . .then I can't speak clearly to them when they ask clarifying questions. (Superintendent)	I think that's something that we all have to be careful, is not letting it turn into this ever-shifting blob, but really we start to move it in and keep them focused, because it can get too big too fast, I think. (School Principal)
I went in to talk to teachers, I remember last year, doing a lesson of drawing some things. It started a conversation. . . But I think that's what needs to be going on, because the question is, is it appropriate or not, and if it is, let's be specific about what it is.	I also want to see, how do we replicate that practice? How do we get the other principals to see that connection between the very purposeful, non-administrative, very professional, development-oriented, faculty time and the resulting aligning of practice? And the resulting achievement? (Assistant Superintendent)
Our building administrators, the part I raised earlier, that capacity has to be raised within them, because that's the nitty-gritty, day-to-day, conversational work. . . I said "What is this and how does it change your instruction?" That's the work that we have to get to. That's grain size. (Assistant Superintendent)	We'll [the team] use the rubric for rigorous instructional design to kind of look at the lesson plans, and then we'll use the rubric for rigorous instructional delivery to kind of build our capacity as a team to really dig into instruction. And you know, we all keep saying we know it when we see it, and yet I'm not convinced that we all really have a common, shared idea of what it looks like. (Superintendent)
There are principals in the district who are working on goals with their teachers right now, and we're missing an opportunity to set the stage for those teachers to do the work that we need to have done this year. I think we need to have our conversations with the principals. (Instructional Leader)	And if we have a deeper, richer understanding of this work, it could only make us better team members here at the central office, I would think. (Communications Director)

DOI: 10.1002/job