School Middle Leaders' Sense-Making of a Generally-Outlined Education Reform

Haim Shaked – Hemdat Hadarom College of Education
Chen Schechter – Bar Ilan University

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Abstract
This study explores the experiences of high school middle leaders implementing of a generally-outlined reform, which required educators to exercise judgment regarding the way in which to meet the reform's goals. Exploring 65 middle leaders' perceptions regarding the implementation of the Meaningful Learning Reform in Israel revealed that they experienced two main challenges: the need for self-reliance – meaning that they had to follow their own discretion; and coping with ambiguity – meaning that they were required to operate under conditions of uncertainty. Through a sense-making lens, this study broadens the currently-limited knowledge regarding middle leaders' experiences with reform programs.

Keywords: school middle leaders; education reform; sense-making
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School middle leaders are the teachers who constitute the 'middle layer' in the school's organizational structure between senior leadership, i.e. the principal and deputy principal, and classroom teachers. While the senior leadership shapes the school's ethos, sets policies and establishes guidelines, the middle leaders – among them year heads, heads of departments, evaluation coordinators, and instruction coordinators – work to apply and realize them (Crane, 2014; Gurr & Drysdale, 2013). School middle leaders have a management responsibility either for staff or for a certain aspect of the school's work, often concerned with curriculum content and with the way their team implements it in the classrooms (Brooks & Cavanagh, 2009). Some of their specific responsibilities include supervising teachers and cohorts of students as well as implementing programs and projects and organizing events (Fleming & Amesbury, 2012).

In today's educational systems, which are characterized by frequent reforms (Robinson & Aronica, 2015), school middle leaders have a particularly important role. When large-scale changes get under way, school middle leaders are increasingly the motivators and organizers of teachers while also serving as professional developers and mentors, working towards improving education outcomes (Dinham, 2007). They play a critical role in leading teams of teachers to ensure that appropriate curricula are developed, delivered and assessed, programs are evaluated, and teachers are appraised in line with external reform demands (Thorpe & Bennett-Powell, 2014).

Despite the importance of middle leaders to a school’s successful functioning (Turner & Sykes, 2007), most of the literature about school leadership focuses on school principals, while that on school middle leaders is meager; in particular, their educational work while implementing an education reform has hardly been investigated (Fitzgerald & Gunter, 2006; Leask & Terrell, 2013). This study examines the experiences of school middle leaders within the context of implementing an education reform. Specifically, this study explored the perceived challenges of high-school middle leaders who were implementing a generally-outlined education reform during which they were expected to exercise considerable discretion about how to actually meet the broad policy goals.
This study investigates school middle leaders' perceived challenges while implementing a generally-outlined education reform through the framework of sense-making, which is the ongoing process through which people work to understand issues or events that create ambiguities in their routine (Maitlis & Christianson, 2014). Sense-making is a useful theoretical construct as it facilitates an understanding of why and how people arrive at specific outcomes (Sleegers et al., 2009; Weick, 2009). In school leadership, sense-making is about imparting meaning to unclear or ambiguous experiences. This idea suggests an understanding of both school leaders' increasingly complex world and the complexity of the sense-making process itself (Liu & Maitlis, 2014). Thus, the theoretical background below will review some of the literature about reform implementation, implementing generally-outlined education reforms, school middle leaders' role in reform implementation, and sense-making.

Theoretical Background

Reform Implementation

Reforms have become one of the main characteristics of current education systems (Robinson & Aronica, 2015). The growing availability of international comparative data regarding student achievements has increased the global level of awareness and competitiveness in this realm (Kalenze, 2014). The aim to ensure that all children have access to high quality education, together with the belief that the strength of societies and economies is inextricably linked to the strength of their national school systems, motivate many countries worldwide to carry out reforms in their education systems (Addonizio & Kearney, 2012). Thus, policymakers are constantly in pursuit of a successful reform blueprint (Gawlik, 2015).

Implementing an education reform is a complex continuous endeavor (McDonnell & Weatherford, 2016; Young & Lewis, 2015). A large body of literature has shown that a central determinant for the effectiveness of school reform is the way in which the reform is implemented (Ramberg, 2014). Implementation research demonstrates that policies are rarely implemented neither as written nor necessarily as intended by their initiators (Porter, Fusarelli, & Fusarelli, 2015). Managing the implementation of a new policy, school leaders are encumbered by the complexity of how to negotiate between internal school goals and external
reform demands (Werts & Brewer, 2015). In other words, implementing education reforms involves tensions arising between the central government and the school self-government. These tensions may lead to a superficial implementation which replaces what should be a deep change in pedagogy (Hopfenbeck, Flórez-Petour, & Tolo, 2015). Central management (Ministry of Education) provides schools with a foundation for the early phases of the implementation process, but often finds it difficult to transfer responsibility to schools as the reform expands. This difficulty may arise when school staff members do not identify with what the policy proposes (Spillane & Anderson, 2014; Spillane et al., 2002).

Policy implementation, then, is an extended process, in which school leaders mobilize the school staff towards the reform (Flessa, 2012; Spillane & Hunt, 2010; Werts & Brewer, 2015). Hence, effective results of an education reform whose aim is transforming schools into more beneficial institutions depend not only on its conceptual foundations or its proper design, but also on its successful realization by school leaders who lead the reform in their schools (Gawlik, 2015; McDonald, 2014; Young & Lewis, 2015). School leaders may be the linchpin of effective implementation of any school-level reform (New Leaders, 2013). Therefore, without school leaders who effectively lead reform implementation, there is little chance for sustained reforms in schools (Bryk et al., 2010).

Implementing Generally-Outlined Education Reforms

Some reforms do not include specific improvement programs; instead, a broad policy framework is provided, allowing school leaders to exercise discretion as to how they intend to meet its goals (Peurach, 2011; Youngs, Holdgreve-Resendez, & Qian, 2011). The US Comprehensive School Reform (CSR), for example, stated Adequate Yearly Progress (AYP) targets, against which schools would be evaluated and funded. It was up to school leaders to shape their own educational programs, integrating their own school’s values and priorities with meeting the challenging state academic achievement standards (Patterson et al., 2013). Similarly, the British government recently initiated a curriculum innovation named ‘the school-improving, school-led system’ (Greany, 2014, 2015), maximizing school autonomy while raising the accountability bar for schools, increasing diversity and choice for parents and
reducing the role of central and local government where possible. This reform initiative has been affecting almost every aspect of school life, depending on the capacity and confidence of school leaders to shape a school-led innovative curriculum in the face of England’s sharp accountability system (Lupton & Thomson, 2015).

These generally-outlined education reforms, also known as inside-out or bottom-up reforms (Birkland, 2010; Elmore, 2004; Seashore Louis & Robinson, 2012), were designed to address the problem of policy incoherence, where there is a gap between the reform policy and school preferences, or where multiple reform initiatives are competing with one another. Policy incoherence often affects school improvement in a negative way, increasing cynicism and generating stress. Moreover, it waters down school leaders' and teachers' efforts, influencing educators' interpretation of the reform policy, which in turn may have implications for how they enact it (Russell & Bray, 2013). In this regard, policy makers around the world are widely advised that school autonomy balanced by accountability will lead to improved outcomes (Organisation for Economic Co-operation and Development, 2015). Indeed, the tensions between autonomy and accountability have been described as "part of the human condition and the political and economic environments of public education" (Bogotch, 2014, p. 319).

The literature about reform implementation reveals that generally-outlined education reforms may endow teachers with a sense of connectedness and ownership of the reform, but they may also fail to create a commitment to its goals (Birkland, 2010). When school leaders cannot create an "organizational self" that is minimally coherent, integrated, and self-consistent (Kraatz, 2009), a broad-policy reform will not, in itself, help them establish a clear internal agenda. Even those school leaders who have the ability to create an "organizational self" are not necessarily able to integrate it with the external policy purpose (Datnow, 2002). Generally-outlined education reforms may also fail when district leaders do not make the shift from a top-down authority relationship to a more collegial one, in which school leaders and policymakers work together to interweave internal and external agendas (Coburn, 2003).

Generally-outlined education reforms may falter in implementation if there is no shift in policy makers' roles that might enable school change. Over time, policy makers tend to favor
avenues consistent with traditional top-down, rather than bottom-up, policy making. Instead, policy makers should use implementers' decisions rather than their own preferences. In this conceptualization, policy makers work with implementers to clarify implementers' goals, strategies, and experiences, collaboratively determining which resources, policies, and other supports might enable implementation (Honig, 2004).

A generally-outlined education reform can be challenging for school leaders in general and for school middle leaders in particular, as the latter need to find a way to realize the reform's principles, exercising discretion about how to meet the program's goals (Seashore Louis & Robinson, 2012). Thus, it is important to explore middle leaders' role in implementing a generally-outlined education reform.

**School Middle Leaders' Role in Reform Implementation**

School middle leaders are middle-level managers, such as year coordinators or subject coordinators. They work at non-principal roles, have additional responsibilities in addition to those of schoolroom teachers, and implement the policies determined by the school's senior management (Bennett et al., 2003; Wise, 2001). In many cases these middle leaders are the driving force behind improving the quality of teaching and learning. They play a critical role in leading teams of teachers to ensure that curricula are developed, delivered and assessed, programs are evaluated, and teachers are appraised (Brown, Rutherford, & Boyle, 2000; Fleming & Amesbury, 2012). In light of the emerging worldwide trend of decentralization as a means of encouraging school-based development and innovation, school middle leaders are required to be effective change agents, even in fundamentally conservative educational systems (Heng & Marsh, 2009).

How can school middle leaders support instructional reform efforts? Lipsky (2010) argued that policy implementation ultimately comes down to the 'street-level bureaucrats' who actually implement it. Thus, the work of school middle leaders in implementing education reforms is particularly significant (Briggs, 2007; Fletcher-Campbell, 2003). During such times, school middle leaders are the school's engine, so to speak, since they are situated at the heart of the school's change process, helping teachers accomplish their work effectively and bring about
measurable improvements in student achievements (Fleming & Amesbury, 2012). Put differently, school middle leaders are required to assist staff in making the instructional changes necessary to support school amelioration efforts in line with reform guidelines (Hammersley-Fletcher & Strain, 2011; Taylor & Hallgarten, 2014).

School middle leaders' contribution to instructional reform implementation may be understood through the prism of teacher leadership. In recent decades, teachers are assuming more leadership functions. Therefore, the concept of teacher leadership has become increasingly embedded in both the language and practice of educational improvement (Mangin & Stoelinga, 2008). This concept suggests that teachers in general, and school middle leaders in particular, hold a key position in school operation and in the core functions of teaching and learning (York-Barr & Duke, 2004). Curtis (2013) claimed that teacher leadership involves "specific roles and responsibilities that recognize the talents of the most effective teachers and deploy them in service of student learning, adult learning and collaboration, and school and system improvement" (p. iii). For Katzenmeyer and Moller (2009), teacher leaders are individuals who "lead within and beyond the classroom; identify with and contribute to a community of teacher learners and leaders; influence others toward improved educational practice; and accept responsibility for achieving the outcomes of their leadership" (p. 6). In a recent review, Wenner and Campbell (2017) noted that teacher leadership supports peers' professional learning, influences policy and decision making, and ultimately targets student learning. Principals, school structures, and norms are important factors in empowering or alternatively marginalizing teacher leaders.

The role of school middle leaders during the implementation of instructional reforms is largely dependent on how these roles are constructed, as well as on their abilities and attitudes. Some school middle leaders are expected to be instructional leaders, and are assisted and supported to do so. Yet, in many cases they have very few opportunities to exercise leadership, and are scarcely expected to do so. Whilst many school middle leaders have the capacity to be instructional leaders, the ability of others in this realm is impaired as they do not feel confident enough about their abilities (Gurr & Drysdale, 2013; Kirkham, 2005; Saito & Sato,
As Hammersley-Fletcher and Strain (2011) noted, "the extent of the middle leadership remit is delimited by the range and extent of tasks on offer and this is controlled by the head teacher" (p. 5). The key factors that enable school middle leaders to perform their duties are an official leadership position, access to expertise, support from senior management, and interpersonal synergies among themselves and the higher-level leaders. While senior managers usually exercise transformational leadership, school middle leaders generally exercise instructional leadership (Ng & Chan, 2014; Seong & Ho, 2012). Put differently, teachers' leadership may be located in their ability to influence instructional practice, or in their participation in decision-making or curriculum development (Scribner & Bradley-Levine, 2010; Stoelinga, 2008). According to Little (2003), roles assigned to teacher leadership have become heavily weighted toward institutional agendas, over which teachers have limited direct control. Much formally-defined teacher leadership accomplishes a division of labor without the need for much initiative on matters of purpose and practice. However, in both decentralized and centralized reforms, some instances of teacher leadership constitute genuine initiative in teaching and learning. These cases suggest that teacher leaders assuming school middle leadership roles might mobilize resources for teacher learning and educational reform.

Despite the importance of the middle leaders' role, especially during periods of education reform, the literature on school leadership often overlooks their crucial contribution (Fitzgerald, 2004; Fitzgerald & Gunter, 2006; Ribbins, 2007). Leask and Terrell (2013, p. 1) noted that "much of the literature on educational management, school improvement and school effectiveness has described the importance of head teachers ... there has, however, been a relative neglect of the importance of the role of the middle manager." Hence, it is necessary to expand the existing knowledge regarding the educational work of middle leaders in general, and particularly during periods of reform implementation. While there is some literature on what school middle leaders do in terms of their roles and responsibilities, what remains unclear is how and why they enact their roles in particular ways, especially within the context of education reforms (Jubilee, 2013). During the implementation of a generally-outlined education reform, new middle leadership roles are created 'overnight', changing the middle leaders' professional
values ('What I profess'), professional location ('The profession to which I belong') and professional role ('My role within the institution') (Briggs, 2007). School middle leaders find themselves in an ambiguous situation in terms of policy, being required to learn anew what to do, mixing old practices and skills with new ones. Therefore, it is important to explore middle leaders' efforts to make sense of a generally-outlined education reform.

**Sense-Making as a Conceptual Framework**

School middle leaders' educational work while implementing a generally-outlined education reform may be understood through the concept of sense-making, which is used to denote an ongoing process whereby people invest efforts in understanding issues or events that are novel, ambiguous, confusing, or in some other way violate their expectations (Maitlis & Christianson, 2014). The way people and organizations act is determined, in part, by the way they interpret and make sense of ambiguous events and environments. As Weick, Sutcliffe and Obstfeld (2005) explain, "sense-making involves turning circumstances into a situation that is comprehended explicitly in words and that serves as a springboard into action" (p. 409). A sense-making framework is, thus, particularly important for understanding how ambitious and comprehensive external policies may affect leaders within organizations (Seashore Louis & Robinson, 2012), providing insights into how individuals give different meanings to these events (Cornelissen, 2012; Monin et al., 2013). In today's reality, sense-making offers a useful theoretical construct to school educators, because it goes beyond interpretation as individuals play an active role in constructing the events they attempt to comprehend (Smerek, 2011).

Sense-making aims to create a holistic picture of the given ambiguous event through three interrelated processes: creation, interpretation, and enactment (Weick, 2009). First, individuals explore the broader system by collecting various data sources in order to map the unfamiliar situation. In this regard, sense-making provides the mapping technique as a useful tool for people who are faced with confusion. Maps explain, illustrate, and invite people to discuss and contribute ideas in order to achieve better understanding of the situation, so that their actions will become more effective (Ancona, 2012). And yet, there is no single "accurate" map, as sense-making is about creating a holistic picture rather than being about finding the
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"correct" answer. The creation process suggests bracketing, noticing, and extracting cues from the actual experience of the ambiguous event. Second, through multiple interpretations of the ambiguous event, individuals develop the initial sense which they have created into a more organized perception. Then comes the third and final enactment process, which invites individuals to translate their knowledge into actions. Hence, this third process consists of incorporating new information and eventually taking action based on the interpretation created beforehand.

Sense-making is a process that applies to both individuals and groups who are faced with new information that is inconsistent with their prior beliefs. More specifically, it is an active process of constructing meaning emerging from present stimuli, mediated by prior knowledge and embedded in the social context, which allows individuals to navigate through profound disruption (Gawlik, 2013; Weick, 2009). Since a generally-outlined education reform inherently involves comprehensive changes, uncertainty, a lack of information, alteration of previous working habits and new arrangements, sense-making can provide insights into how individuals attribute varying meanings to an event characterized by ambiguity, confusion and misunderstandings (Allen & Penuel, 2015; Matsumura & Wang, 2014).

As Weick (1979) noted, leaders engage in the sense-making process to "construct, rearrange, single out, and demolish many objective features of their surroundings" (p. 164). Moreover, sense-making perspectives are valuable for understanding leadership practices, because "problems do not present themselves to the practitioner as givens. They must be constructed from the materials of problematic situations which are puzzling, troubling, and uncertain" (Weick, 1996, p. 9). Using a sense-making approach in the educational leadership context suggests that school leaders create and enact their own interpretation of reform demands based on preexisting understandings and overlapping social contexts inside and outside the school (e.g., policy makers, district, local council, teachers, parents, and students). This internal process, whereby leaders respond to a reform, involves interplay between personal values and school culture. In other words, school leaders' sense-making process is influenced not only by their own set of values but also by their colleagues' values, school norms and traditions (Ball,
Maguire, & Braun, 2012; Koyama, 2014). Thus, the theoretical framework of sense-making may facilitate the understanding of school middle leaders' perceived challenges during the implementation of a generally-outlined education reform, which requires them to exercise their discretion regarding the ways in which they might meet its goals.

**Research Context**

The national school system in Israel serves about 1.6 million students, with approximately 73 percent in the Hebrew-speaking sector and 27 percent in the Arabic-speaking sector (Israeli Central Bureau of Statistics, 2013). According to the Gini coefficient for measuring a nation's distributive inequality, Israel is among the countries with the broadest gap between rich and poor, alongside the United States and Mexico (Organisation for Economic Co-operation and Development, 2011, 2016). Mindful of the great diversity among school populations, recent education policy in Israel has been directed toward achieving high levels of equality in education outcomes across the board, thus aiming to narrow the achievement gap upward through growing performance pressure. In practice, however, the Israeli student achievement distribution is characterized by a low level of achievement combined with a growing achievement gap, as evidenced in various international comparative examination studies (BenDavid-Hadar, 2016). This evolving educational context provides a unique opportunity to explore school middle leaders' sense-making of a generally-outlined education reform.

This study focuses on the Meaningful Learning Reform, which was launched in the Israeli school system toward the 2014-2015 academic year, and is currently being implemented. According to the Israeli Ministry of Education (2014a, p. 2):

*Meaningful learning is a personal process of knowledge construction whereby the learners arouses questions, locate sources of information, process information and create new information that is relevant to them. Meaningful learning touches learners' innermost self by facilitating a multitude of mental, emotional, social, physical, artistic and creative experiences. Such learning leads to the realization of students' potential, promoting excellence, personal growth and development, while assisting them in delving
into subjects that interest them and meet their needs. Students’ and teachers’ meaningful learning occurs through their interaction with their surroundings, and takes place in varied spaces. In meaningful learning processes the pedagogical and psychological aspects of learning complement and reinforce each other.

The Israeli Ministry of Education expects schools to implement the Meaningful Learning Reform. However, it did not instruct them as to specific ways in which this is to be done. Instead, it presented the pedagogical framework in order to stimulate professional discussion among various stakeholders, and to serve as a basis for various staff levels’ work programs, providing some examples of meaningful learning as well as a number of tools. The primary structural change was in high schools, where the curriculum in most disciplines was divided into two components: (1) Knowledge base and skills: This part was mandatory, and it accounted for about 70% of the curriculum. It is measured by the customary external evaluation method (matriculation exams). (2) Broadening and deepening: This part was designed by teachers according to their interpretations of the Meaningful Learning Reform. This sort of learning accounts for 30% of the curriculum and is to be measured by varied internal school evaluation methods (Israeli Ministry of Education, 2014b). Beyond this general division, there were no specific guidelines.

In Israel, as in many other countries, large-scale education reforms focused on reorganizing the entire school system have become one of the main characteristics of this system. The Meaningful Learning Reform was not a single reform; it was part of a succession of reforms launched in the Israeli school system. However, most of these reforms were based on a top-down authoritarian relationship, with schools being required to follow detailed instructions. There was no room for tailored implementation or creative interpretation. The Meaningful Learning Reform was unusual in this regard, as it allowed school leaders to exercise considerable discretion about how to meet the broad policy goals.

Research Design

This study is qualitative in nature, in order to provide rich textual descriptions of the complexities involved in the way school middle leaders experience the implementation of a
generally-outlined education reform. Thus, we explored the meanings that middle leaders attach to issues and situations stemming from the implementation of such a reform (Taylor, Bogdan, & DeVault, 2016).

**Participants**

Participants in this study were high-school middle leaders who implemented the Meaningful Learning Reform. Seeking to maximize the depth and richness of the data, we used maximal differentiation sampling (Creswell, 2014), also known as heterogeneous sampling. It is a purposive sampling technique used to capture a wide range of perspectives, gaining greater insights into a phenomenon by looking at it from various angles. The maximal differentiation sampling was implemented in this study regarding middle leaders' gender, years of teaching experience, seniority in position, education, sector of school and geographical districts. We did not begin the study with a rigid number of participants. In fact, we defined the study sample on an ongoing basis as the study progressed (Taylor et al., 2016). In practice, we approached 81 school middle leaders, until we obtained 65 middle leaders who could represent diverse sampling. Thus, the 65 participants (53 women, 12 men) were from all of Israel's school districts. On average, participants had 18 years of teaching experience (range = 4-40), and 7 years of experience as school middle leaders (range = 1-22). Twenty-five participants had a bachelor's degree, 37 had a master's degree, and 3 had a PhD.

**Data Collection**

Data were collected during the second semester of the 2014-2015 academic year. First, three exploratory interviews were conducted in order to formulate a protocol for a semi-structured interviews designed to explore participants' personal perspectives (Rossman & Rallis, 2012). The proposed protocol was reviewed by two experts in the realm of educational leadership, and was revised in line with their recommendations. During the semi-structured interviews, school middle leaders were asked to reflect on their role throughout the implementation of the Meaningful Learning Reform, through questions such as: "What characterizes your educational work during the reform implementation?"; "What are your
difficulties in implementing the reform?; How do you deal with them?"; "Which factors significantly influence your decisions throughout the reform implementation process?"

Individual interviews with school middle leaders generally lasted one hour. They were conducted in places chosen by interviewees: their schools, cafes, and other locations. All interviews were audiotaped and transcribed verbatim. Transcriptions were translated from Hebrew to English by a specialist in both languages. All participants were fully informed on the purpose of the study and were promised complete confidentiality as well as full retreat options. Pseudonyms were assigned to all interviewees.

Data Analysis

Data collection and analysis were conducted simultaneously in an ongoing process throughout the research, with a three-stage analysis process – condensing, coding and categorizing. Once data were collected, we found that not all of them could serve the purpose of the study, so that they required sorting out (Miles, Huberman, & Saldaña, 2014). Thus, in the first stage of analysis (condensing) we sought the portions of data that related to the school middle leaders’ educational work during the reform, as this was the topic of the study. In the second stage (coding), each segment of relevant data (utterance) was coded according to the aspect of school middle leader's educational work which it represented (Tracy, 2013). This stage was conducted twice. First, a data-driven coding was conducted, where we did not use a-priori codes but rather inductive ones, developed by direct examination of the perspectives articulated by participants. Second, a theory-driven coding was conducted, where we used analytical concepts derived from the sense-making literature (Rossman & Rallis, 2012). After having captured the essence of utterances in the second stage, we turned to the third stage (categorizing) in which we grouped similar utterances together in order to generalize their meanings and derive category definitions. We then proceeded to rework these definitions so as to reconcile disconfirming data with the emerging analysis (Richards & Morse, 2013). Thus, category dimensions were explored, testing them against the full range of data and identifying relationships between them.
Several measures were taken at different stages of the study to ensure trustworthiness. First, the diversity of study participants was maintained in terms of gender, education, years of teaching experience, seniority in post, sector of school, and geographical school districts. Second, the analytical process described above was conducted by the researchers, with each analyzing the data independently, then meeting to discuss and reflect on the emerging themes, and to seek data that would either confirm or disconfirm these themes. Third, to properly evaluate the soundness of the data we also conducted a member check (Koelsch, 2013) with all participants' transcripts sent back to them along with a request that they evaluate their responses and make any necessary additions or modifications. Using this strategy allowed for an examination of the descriptive data versus participants’ reactions, thus endorsing and solidifying school middle leaders' descriptions of their considerations while implementing the education reform. Twelve (out of 65) of the interviewees changed their answers at this point, clarifying their former remarks and adding things they had forgotten to say previously.

In a qualitative exploration, researchers should pay attention to how their backgrounds and personal experiences inform the theoretical and methodological perceptions concerning the inquiry. As the researchers of this study, we come from different backgrounds: one of us was a school principal for 17 years and is currently an educational leadership researcher, and the second gained extensive experience in educational leadership research. Our joint work, which includes ongoing mutual reflection, allowed us to become more aware of the conceptual and methodological issues pertaining to the current research. Specifically, as reflective journals have been recognized as an important aspect of qualitative research (Etherington, 2004; Ortlipp, 2008), we wrote and shared our reflective journals throughout the study to ensure critical thinking.

Findings

Findings emerging from data analysis indicated that high-school middle leaders identified two main challenges involved in implementing a generally-outlined education reform: the need for self-reliance and coping with ambiguity. Although these challenges are distinct, they are also closely interrelated in the context of implementing a generally-outlined education
reform. The interview data regarding these challenges are presented below, supported by excerpts from participants' interviews.

**The Need for Self-Reliance**

According to the findings based on a qualitative analysis of the data, the first challenge that school middle leaders felt was that of self-reliance. They found it difficult to rely on teachers' judgment without specific guidelines. Inviting educators to be self-reliant and follow their own discretion may seem desirable and empowering. However, participants in the current study perceived the need to implement the reform ideas creatively as excessively challenging. This perceived challenge was mentioned by 32 study participants. For example, Mary, a mathematics coordinator with 9 years of teaching experience, claimed that teachers need actual tools to implement the reform:

*The education Ministry waves slogans and is not always aware of the actual school reality. It offers this Meaningful Learning Reform, and it seems we are on the brink of it. It's no big achievement to blurt out slogans; teachers must be given tools for implementing the reform. Meaningful learning is a process that necessitates practical help to implement. As of now I don't see a change. The reform did not bring about any change.*

Contrary to the belief that teachers can implement a generally-outlined reform without detailed guidelines, Mary believed that teachers needed help in implementing the new Meaningful Learning approach. She did not utilize her prior knowledge and experience to interpret the reform concepts; instead, she claimed that Ministry of Education's not providing practical tools for teachers to do so reflects its detachment from actual school reality: the Ministry sets impressive goals, but is out of touch with the educational ground. Moreover, because of the limited help teachers received, the reform did not really change teachers' practices; at best, it did so only at the outset. For Mary, implementing meaningful learning at school meant a long process rather than a quick fix; thus, she did not recognize any real change in her school.
Patricia, a history coordinator with 9 years of teaching experience, also expected more help from the Ministry of Education, not only for teachers but for herself as a school middle leader too:

*As a subject coordinator under the reform I felt as though I was thrown into the water or initiated by walking into a fire. The Education Ministry has outlined a program – this is all well and good but there is nobody in the administration or in the superintendence that can guide you optimally as in the past. What is it exactly that I am to do? How am I supposed to work with the teachers so that they go on to create meaningful learning?*

The images of water and fire Patricia used imply that dealing with the reform implementation was a difficult and unpleasant experience for her. Importantly, Patricia compared the new situation to the former one, noting that nobody could guide her in a professional manner "as in the past". She did not rely on her prior professional experiences as a guide, but rather wished there were more professional help, not only for teachers who need to apply this meaningful learning in their classrooms, but also for herself as a middle leader.

Also Kimberly, a social involvement coordinator with 13 years of teaching experience, felt helpless when the superintendent could not clarify to her certain points she was wondering about. She said she had tried to fulfill reform requirements but felt a need for help from her superiors:

*Professionally, I am trying to fulfill the program's demands, but when I encounter something I don’t understand I turn to the district superintendent only to find out that she cannot help me. This makes me feel helpless! If the district superintendent can't help me, who can?*

The utterances of Mary, Patricia and Kimberley illustrate how the need for self-reliance achieved the opposite goal. Instead of relying on their own knowledge and experience, they sought external guidance. Moreover, their utterances reflect both teachers’ difficulty to act without clear guidelines, which is the subject of the current section, and their hardship in acting within an atmosphere of ambiguity, which is the subject of the next section. The leeway given to the teachers required them to be creative and independent, and at the same time to perform in an
uncertain situation. In fact, a vicious circle resulted, where two elements intensify and aggravate each other: the policy of granting autonomy to teachers, which required self-reliance, caused ambiguity; this ambiguity, in turn, made the need for self-reliance even greater. This sequence of reciprocal causes and effects inevitably led to a worsening of the situation.

Many school middle leaders believed that the authorities should have trained the teachers if successful implementation of the Meaningful Learning Reform was desired. For example, George, a literacy coordinator with 8 years of teaching experience, explained that teachers' training was necessary since they had been working according to another method for many years. Dramatic change all at once is almost impossible; only professional training would make it happen. According to George, professional training would improve the quality of teaching and facilitate truly meaningful learning:

*All is well and good but teachers just have to be trained. A teacher working according to a certain method for 13 years can't just switch instantly to a new way of teaching. This is very difficult and demands a process of study and change. I'm sure that if everyone is trained to work according to the new system, the quality of instruction will rise and the result will indeed be meaningful learning.*

Shirley, a science coordinator with 13 years of teaching experience, joined those asserting that the reform should have been launched only after the teachers had been prepared through participating in professional development courses. In addition to professional preparation, she also advocated gradual implementation of the reform:

*The reform is quite good, but most teachers don't really enact it, because they are not ready to do so in the practical sense. I think it should have been implemented gradually and after extensive preparation courses for the teachers. This is a totally different way of looking at teaching, which means that the change has to be gradual.*

The need for self-reliance, as well as the lack of teacher training and gradual implementation, which study participants considered to be potentially helpful measures, made it difficult for school middle leaders to implement the reform. To cope with this difficulty, they utilized their prior experience and educational beliefs. Linda, an activity coordinator with 10
years of teaching experience, pointed to rich experience as a significant anchor for teachers who were asked to renew their teaching methods on their own:

*The reform required us to reinvent our teaching, without any help. But we all have many years of experience behind us, and for me experience is almost always the best source of knowledge. It is the most effective professional development I have ever undergone.*

Prior experience may be significant in making sense of new demands. Linda ascribed much importance to teacher experience, describing it as useful for teachers who were expected to create new teaching methods. Experience may lead teachers to continue employing the existing methods, rather than changing them; however, it also provides an answer to teachers’ need to rely on their own judgment without specific guidelines.

Robert, a year coordinator with 18 years of teaching experience, exemplifies how school middle leaders relied on their own educational beliefs to make sense of a generally-outlined reform:

*As an experienced teacher, I have a deeply ingrained educational belief which places the student in the center. This belief is the lens through which I examine new policies, regulations and instructions. When we were asked to thoroughly change our teaching practices on our own, this belief was my guide.*

Teachers’ educational beliefs and attitudes may assist them when making sense of new situations. Robert's strong educational belief enabled him to deal with the generally-outlined reform which required teachers to follow their own discretion.

In sum, the autonomy granted to schools required teachers to be creative, work independently and exercise discretion. The school middle leaders interviewed for this study considered this autonomy to be a problematic factor. Seeking professional development and guidance, they considered external support to be vital for teachers' ability to gradually change their teaching habits. Without such support, they perceived their experience and educational beliefs as a resource allowing them to cope with the need for self-reliance.
Coping with Ambiguity

The second challenge that school middle leaders perceived as involved in implementing a generally-outlined education reform was ambiguity. The reform was characterized by an uncertainty of meaning with several interpretations seeming plausible. For school middle leaders, this ambiguity proved to be complex and bewildering. This perceived challenge was mentioned by 28 study participants. For example, Alice, a science coordinator with 22 years of teaching experience, believed that no one fully understood the reform's ideas:

*I think what is characteristic of this reform is that no one truly understands the messages that are supposed to reach the ground, as they are very confusing. Every day we hear about new guidelines, and the Education Ministry workers themselves don't know how to explain them. The teachers don't know what to do and it's one great big chaos, reaching levels that bring me to doubt if all this is worth it. Some of the reform elements are good and the general idea is positive, but I'm not sure it's worth enduring the current confusion.*

Alice felt there was an inherent confusion both in the Ministry of Education and among teachers, calling into question the usefulness and benefit of the reform. When she identified the confusion as a "characteristic of this reform", she probably implied that "this reform" is different from its predecessors: the previous reforms were not characterized by ambiguity while this generally-outlined reform was. To make sense of the new reform, Alice compared the present reform with reforms she had encountered. Therefore, she found the generally-outlined reform to be particularly confusing.

Jessica, a year coordinator with 21 years of teaching experience, also saw the fuzziness down the line, from the Education Ministry to the classroom teachers. No one could answer the teachers' questions, because even the Minister of Education and his team found it difficult to explain what the reform actually meant:

*When you ask the Education Minister specific questions like 'how do I actually do this' – he and his staff find it difficult to answer. This feeling that there are no answers is the big obstacle. The moment this is not clear, it is like the food chain, and this is what I*
have encountered. This vagueness goes on from level to level; superintendents, principals, coordinators and teachers. The teachers have justly complained that they don’t know what they are supposed to do, and have no address to turn to.

Apparently, Jessica did not really ask the Minister of Education how to implement the reform; however, she believed that even he himself had no answers. Her description of the chain of "superintendents, principals, coordinators and teachers," reflected her experience with the hierarchical system. Seeking to make sense of the new reform, Jessica did not use the new concepts of collaborative discourse; instead, she examined the ambiguity through the lens of her prior experience.

Gary, a schedule coordinator with 23 years of teaching experience, also claimed that before starting out, the reform should be well understood by all levels:

*The Education Ministry’s guidelines have to be clear. The Ministry itself does not know, one says this and the other says otherwise. It is advisable that before launching a reform it be understood to everyone along the line and not only to the Education Minister, because "Meaningful Learning" was very clear to the Education Minister, but it is unclear to everyone else.*

According to Gary, the misunderstanding prevailing even within the Ministry of Education caused disappointment among teachers who realized that the meaningful learning notion was incomprehensible even to their superiors. Contrary to Jessica, Gary believed that the Education Minister himself understands what meaningful learning is. However, Gary agreed that no one else understands this concept.

Nancy, an English coordinator with 9 years of teaching experience, likened the Meaningful Learning Reform to an appliance without a manual; it holds great promise but cannot be used. She believed that the change could be beneficial and worthwhile, but the operating instructions were missing:

*At this point the school is like a factory that has gotten some new technology that the workers are finding it hard to activate since the instruction sheet is missing. The school has undergone a significant change and maybe it's even a change for the better, but the
instructions are absent. This means that the whole program is incoherent and the students are in a situation of uncertainty, as are the teachers, the administration and even the superintendents.

According to Nancy, the uncertainty made life difficult for everyone – students, teachers, management teams and even superintendents. Interestingly, Nancy was the only interviewee to remind students' difficulties. Other interviewees focused on the work of the school staff. However, Nancy used the machine perspective – likening a school implementing the reform to a factory acquiring new technology. The machine perspective reflects the reductionist paradigm, where complex phenomena are understood by their reduction to their simpler basic parts. This paradigm was not completely suitable for the new reform, which was based on a more holistic perspective. However, to make sense of the new reform, Nancy utilized her existing perspective.

Study participants made it clear that the ambiguity involved in a generally-outlined reform was challenging. Within this ambiguity, they were required to act at their own discretion—an expectation that they perceived as an additional difficulty, as presented in the previous section. School middle leaders mentioned several results of this ambiguity. Seeing the reform as a mess to be dealt with, Anna, a special education coordinator with 19 years of teaching experience, claimed that since the reform designers did not go into details, the implementation was slow and inconsistent. Thinking out all the details would have taken them a lot of time, but once all the details and phases are thought out and known, the implementation is much more effective.

I see this reform as a mess to be contended with. The program looks good at first sight but the infrastructure is lacking; the planners didn’t get down to the nitty gritty. To think about all the details would have taken them a lot of time, but once all the details and phases are thought out and known, the implementation is much more effective.

Michael, an ICT coordinator with 8 years of teaching experience, said that since teachers did not understand what to do, there was an increased sense of pressure in the school. Like other interviewees, Michael recognized the benefits of the reform; however, the ambiguity created pressure:
There are many nice elements in the Meaningful Learning program, but between us, most of the teachers don't understand what it's all about and what they're supposed to do, and this only intensifies the pressure they feel within the system. Even though the idea sounds good, when there's no clear path, we are all confused and uncertain.

Amanda, a civics coordinator with 26 years of teaching experience, described a teacher who needed her help in checking students' papers as he feared not having understood how this was to be done in accordance with the new reform guidelines:

There was a teacher who got really apprehensive and said he just could not grade his students' exams, not for lack of time but because he's not sure he's checking correctly and grading as he should. So he didn't grade the civics papers. I checked them instead, not because he was lazy but since he wasn't sure what's required of him and did not understand the criteria for grading. Actually, the criteria were really unclear. I sat with him and together we graded 25 papers.

According to Amanda, the criteria which were incomprehensible to her colleague were indeed unclear, so she and he checked the students' papers together. Her colleague's independence as a teacher was damaged, as he needed help with a task normally done by teachers on their own.

One more result of the reform program's ambiguity was mentioned by Helen, a physical education coordinator with 21 years of teaching experience. She opined that since expectations from teachers were unclear, everyone did what they saw fit. This broad leeway each teacher had resulted in everyone working according to their personal understanding and individual preferences:

The Education Ministry's expectations of teachers are not clearly defined, there's no learning process designed for them, so every teacher does what he or she pleases. There's a bombastic label over all of this, and then each person does what he or she pleases. There are general instructions, and each teacher suits his teaching to them according to his abilities and comprehension.

Albert, an instruction coordinator with 15 years of teaching experience, asserted that due to the reform program's ambiguity, no change has occurred in his school. Teachers continue to
use the traditional methods, albeit with some insubstantial decorations. The reform's looseness enabled teachers to choose the easier option of continuing to work without any real change:

*Since nobody understands what this meaningful learning is actually about, it doesn’t really happen. You can say meaningful learning about anything you want, so the easiest way out is to do what you're used to doing and then present it as meaningful learning. The fuzziness of the term is precisely the reason that meaningful learning doesn't happen.*

Teachers used the methods they knew well not only because that was the easiest way, but also due to their need to make sense of the unfamiliar situation of the new reform. In the ambiguous situation that had come about, teachers clung to the familiar and known – i.e., what they had already done before.

Rachel, an evaluation coordinator with 15 years of teaching experience, not only blamed the authorities for causing ambiguity, but also described herself as passing on this ambiguity to the teachers. To her mind this resulted from the fact that she gave teachers instructions without having received any guidance herself. She spoke of bitterness as the sentiment accompanying this lack of essential understanding of the meaningful learning concept:

*I'm demanding outcomes from the teachers without having been clearly instructed myself. I go around telling teachers that they have to teach in a meaningful way without understanding what this is all about and without clear instructions. This situation creates a sort of fogginess and bitterness among the teachers. No suitable infrastructure has been put down for understanding and containing the idea of meaningful learning.*

In short, school middle leaders perceived the generally-outlined reform as involving uncertainty of meaning and intention, which made it difficult to achieve the reform goals. The ambiguity that characterized the reform was perceived by school middle leaders as a negative factor influencing their educational work, exacerbating the need for self-reliance, as presented in the previous section.
Discussion

Data analysis indicated that high-school middle leaders identified two main challenges involved in implementing a generally-outlined education reform: the need for self-reliance – meaning that educators had to follow their own judgment and discretion; and coping with ambiguity – meaning that educators were required to operate under conditions of uncertainty. These two challenges affected each other: the need for self-reliance was one of the sources of the ambiguity, because the lack of external guidelines created a situation of uncertainty. At the same time, the ambiguity which was deliberately created in order to allow greater leeway made it difficult for teachers who were required to act without clear guidelines. Thus, the two challenges are closely interrelated in the context of implementing a generally-outlined education reform, influencing each other negatively: one challenge gives rise to another, which subsequently affects the first. From the perspective of school middle leaders, these challenges not only made the teachers' work more difficult and required additional effort, but also adversely affected the implementation of the reform. The uncertainty as to the meaning of this generally-outlined education reform did not lead teachers towards creativity and renewal; instead, it made them confused and even angry, while the reform remained unfulfilled, at least in part. Teachers' sense of self-efficacy had declined, their sense of pressure increased, and the application of the reform was slow and incomplete.

These findings emphasize the complexity of generally-outlined education reforms. As explained above, generally-outlined education reforms, also termed inside-out or bottom-up reforms (Birkland, 2010; Elmore, 2004; Seashore Louis & Robinson, 2012), are intended to deal with the problem of policy incoherence, where the reform policy differs from school priorities, or where several reform initiatives are being carried out simultaneously (Russell & Bray, 2013). However, the findings of this study illustrate how challenging such generally-outlined education reforms may be. While they may mitigate the problem of policy incoherence, they require the teaching staff to be independent and creative, and to operate under conditions of obscurity. School middle leaders interviewed for this study saw these characteristics of generally-outlined
education reforms as complicating educational work while at the same time reducing its effectiveness.

From school middle leaders' perspective, in order to perform well during an education reform, teachers need detailed instructions. This need may be seen as inconsistent with the characteristics of the desired 21st century teacher. In the present fast-changing world, where students use rapidly evolving and changing technologies and participate actively in an increasingly diverse, globalized, and media-saturated society, teachers cannot merely provide "more of the same" education (Key, 2010). Instead, they must provide students with the adaptability required for occupational success in the communities and workplaces of the coming decades (Lemley, Schumacher, & Vesey, 2014). A prerequisite for this is that teachers themselves are able to work within a changing environment and adapt to a dynamic teaching experience, being lifelong learners who acquires new professional knowledge on an ongoing basis (Pellegrino & Hilton, 2012; Stevens, 2012). Teachers who find it difficult to function without clear instructions may also find it difficult to address 21st-century students' academic and social needs.

Teachers in general, and school middle leaders in particular, rightly and importantly hold a central position in the ways schools operate (Stoelinga, 2008; York-Barr & Duke, 2004), supporting the professional development of peers, influencing decision making, and ultimately targeting student learning (Mangin & Stoelinga, 2008; Scribner & Bradley-Levine, 2010; Wenner & Campbell, 2017). Playing these important roles, one might think that school middle leaders would prefer greater autonomy in implementing an education reform. It would seem that infringing on their freedom would undermine their professional status and expertise. Since they are in the best position to make informed decisions about the reform implementation, one would imagine that they should be granted as much autonomy as possible (Parker, 2015). This study, however, shows that school middle leaders are not always interested in such autonomy. In their view, clear instructions, training and even supervision would make their educational work simpler and more effective.
Teachers and school middle leaders' need for clear instructions may be understood through the conceptual lens of sense-making, which is the activity enabling us to turn the ongoing complexity of the world into a "situation that is comprehended explicitly in words and that serves as a springboard into action" (Weick et al., 2005, p. 409). Sense-making is most often needed when our understanding of the world becomes blurred in some way. Such a situation creates uncertainty as to the right mode of action. People feel "that something is not quite right, but [they] can't put [their] finger[s] on it" (Weick & Sutcliffe, 2007, p. 31). This could occur when our environment changes rapidly, presenting us with surprises for which we are unprepared, or confronting us with adaptive rather than technical problems to solve (Heifetz, Grashow, & Linsky, 2009). School middle leaders, who had to deal with a generally-outlined education reform that involved a need for self-reliance and coping with ambiguity, were required to make sense of what they are doing, why, to what ends and in whose interests, and how (Thomson & Hall, 2011). As Weick and Sutcliffe (2007) noted, if the resources for sense-making are maintained or even strengthened during the processes of change, people will be able to cope with what they face. By contrast, if the resources for sense-making are undermined or weakened during the change, people will lose sight of what they are trying to do and why.

Teachers and school middle leaders who were thrown into an unclear reform program without the support required for their sense-making process, could not reduce the ambiguity in their work without precise and unequivocal instructions.

Moreover, some school middle leaders encountered difficulties in implementing the reform as their sense-making was anchored in prior reform initiatives. This generally-outlined pedagogical reform was launched after a succession of top-down authoritarian reforms in the Israeli school system, which required the following of detailed instructions without much creative interpretation (Berkovich, 2011). The current reform was unusual in this regard, as it allowed school leaders to exercise considerable discretion as to the ways in which they might fulfill the broad policy goals (Israeli Ministry of Education, 2014a). Therefore, school middle leaders made sense based on their prior experiences, looking for clearer and more explicit demands from top authorities concerning the reform implementation. Encountering a lack of
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clarity and help from top authorities, some middle leaders relied on their own past professional experiences and educational beliefs as a guide for daily implementation of this generally-outlined reform (Cornelissen, 2012; Maitlis & Christianson, 2014). In other words, to understand the current reform, middle leaders relied on their previously constructed cognitive frames, which were largely grounded in past experiences with reforms (Spillane et al., 2002).

Specifically, school middle leaders may be seen as somewhat different from school principals, who often serve as mid-level policymakers, leaving their 'fingerprints' on reform policies received from the authorities (Flessa, 2012). Finding themselves at the crossroads of differing interests and agendas of various actors in and around the school, principals oftentimes implement a large-scale reform incompletely, determining which parts of it they might introduce into the school and which they prefer to filter out (Diamond, 2012; Seashore Louis & Robinson, 2012). While school principals strive to serve as local policymakers who exercise their discretion about the implementation of education reforms (Author 1 & Author 2, 2016), school middle leaders seek more precisely-prescribed guidelines regarding this Meaningful Learning Reform. In other words, as a ‘middle layer’ in the school’s organizational structure, between senior leadership and classroom teachers (Crane, 2014), school middle leaders made sense of the generally-outlined reform through their professional identity as classroom teachers more than through their professional identity as school leaders. School middle leaders are seldom expected to exercise leadership (Gurr & Drysdale, 2013), thus while making sense of the Meaningful Learning Reform, most school middle leaders’ attention focused on its implications for teaching, while abandoning, to some extent, the leadership and organizational aspects. Apparently, broader support for middle leaders’ sense-making could lead them to ponder whether and how they need to collaboratively create an "organizational self" (Kraatz, 2009) that would increase coherence in teachers’ practices in light of the broad and generally-outlined reform initiative.

Implications and Limitations

Middle leaders' sense-making within a generally-outlined reform policy is related to their ability to question the school’s traditional practices. Facilitating inquiry into tacit assumptions of schoolwork, without past experience in accommodating different and even conflicting school...
practices, "resembles asking a first grade pupil to write the entire alphabet at the end of the first week of school" (Author 2, 2006, p. 2530). In other words, freedom of action can overwhelm practitioners and raise their suspicion when it does not have its prior practical seeds in schoolwork. Freedom of action within a generally-outlined reform framework is based on and nurtured by the gradually evolving practical experiences of middle leaders in encountering uncertainty, ambiguity, and autonomy (Author 2 & colleagues, 2004).

Explaining this study's findings through the lens of sense-making, it is advisable to combine a broad policy which allows educators to exercise discretion about how to meet its goals, with scaffolding, i.e. with guiding educators and explaining to them how to deal with ambiguity and uncertainty. Integrating autonomy with support may nurture educators' needs in times of broad policy initiatives. In addition, the reform context is also important. The Meaningful Learning Reform differed from previous reforms in that it was virtually the first time when middle leaders were not given precise directions, but only general guidelines. Therefore, expanding school middle leaders' freedom of action should be accompanied not only by providing them support but also by taking into account that their processes of adaptation must be gradual, as they inherently involve obstacles and difficulties.

As aforementioned, while implementing generally-outlined reforms, school middle leaders make sense of external policies, which in turn affect the extent to which they alter their practices. Therefore, the district and principals should actively engage middle leaders in sense-making activities when generally-outlined reforms are introduced. They should invest time up front working with school middle leaders so as to help them make sense of the new generally-outlined reform policies (Matsumura, Garnier, & Spybrook, 2012). Moreover, the district, principals and middle leaders should facilitate both the top-down and the bottom-up policy response, building and sustaining bridges of communication, support, and knowledge between their respective worlds as they enact education reforms (Daly & Finnigan, 2011; Honig, 2012). Effectively responding to generally-outlined reform policies requires a learning partnership among and between the district, school senior management teams and school middle leaders. Thus, the way in which school middle leaders make sense of reform demands and adapt them to
their school environment invites further exploration into the interface between various
stakeholders' agendas and school middle leaders' sense-making practices (Gawlik, 2015).

Compared with previous studies, this study provides new data on school middle leaders' perceived challenges while implementing a generally-outlined education reform in their particular school contexts. However, this study is subject to several limitations that should be pointed out, suggesting future avenues of research. Further research is required since the findings were collected in a particular context, so that their cross-cultural validity was not proven. Replicating this study elsewhere in various socio-cultural contexts will possibly enable generalization of the findings to broader populations. In other words, it is important to understand how middle leaders' sense-making takes place in different school contexts, as it is not a one-size-fits-all doctrine that provides a yes or no answer for a wide range of scenarios (McDonnell & Weatherford, 2013). Additional longitudinal studies, including repeated interviews with the same school middle leaders in order to explore how their sense-making has evolved and unfolded throughout reform implementation, will also be useful. Thus, the interviews with middle leaders were held during the second academic semester of the 2014-2015 school year (toward the end of the first year of reform implementation). Longitudinal research is needed to examine whether and how middle leaders' sense-making evolves from the point at which they enter a generally-outlined reform throughout its implementation, since sense-making is a continuous and ongoing process (Coburn, 2006; Maitlis & Christianson, 2014).

We used maximal differentiation sampling (Creswell, 2014) to capture a wide range of perspectives and gain greater insight into the perceived challenges of school middle leaders during the implementation of a generally-outlined education reform; however, in this study we could not differentiate between each middle leader's considerations and the school context from which they emanated. Therefore, it is important to explore the interactions between these perceived challenges and factors, such as gender, seniority, school size, and school district. In addition, further study could explore whether and to what extent this generally-outlined education reform's intended outcomes have been affected by middle leaders' perceived challenges. Finally, the sense-making process in this study was limited to school middle leaders'
perceptions only. This structure does not explain sense-making as a network-focused framework (Weick & Sutcliffe, 2007). As sense-making is a co-developmental process, we need to explore the perceptions of policy makers, superintendents, principals, parents, and students as well.
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