

Perceptions of Israeli school principals regarding the knowledge needed for instructional leadership

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Abstract

Instructional leadership concerns the ongoing deep involvement of school principals in direct efforts to improve learning and achievement for all students. The goal of this study was to explore principals' perceptions regarding the knowledge required for instructional leadership. Study participants were 38 Israeli school principals, representing the population of Israeli principals in terms of sex, age, seniority, academic degree and school level. Data were collected through semi-structured interviews. Data analysis classified the statements of the study participants according to Shulman's seven categories of knowledge needed for effective teaching. The findings suggested that *General Pedagogical Knowledge* plays a key role in instructional leadership, while somewhat reducing the importance of *Leadership Content Knowledge*. Implications and further research of this study are discussed.

Keywords

Instructional leadership, leadership content knowledge, principals, Israeli school system

Introduction

Instructional leadership anchors school principals' work in curriculum and instruction, expecting them to be deeply and constantly involved in a wide array of activities aimed at promoting the learning and success of all students (Day et al., 2010; Neumerski et al., 2018). Three decades of research have emphasized the contribution of instructional leadership to school effectiveness and school improvement (Bush and Glover 2014; Hallinger and Wang, 2015). The correlation between instructional leadership and increased student achievement has been well documented in the research literature (Glickman et al., 2017; MacBeath and Cheng, 2008). From a social justice perspective, instructional leadership allows the future assignment of individuals to positions that match their abilities and motivations, regardless of their race, socioeconomic background and other potentially marginalizing characteristics (DeMatthews, 2018).

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Several capabilities may be viewed as ones that enable application of instructional leadership. For example, the capability to build healthy relationships with teachers. The influence of principals on student outcomes is mostly indirect (Murphy et al., 2016). Principals practice instructional leadership by improving teachers' teaching methods and by building teachers' motivation, commitment and other features that, in turn, influence student results (Leithwood et al., 2020). Therefore, principals who have trouble establishing positive relationships with teachers may find it difficult to become instructional leaders (Le Fevre and Robinson, 2015). Another example is time management. Whereas instructional leadership tasks demand uninterrupted blocks of time for planning, writing, holding discussions and observing, the typical workday of principals is often characterized by fragmentation of activities and brevity of attention to issues, and considerable time is spent on unplanned and crisis-oriented issues (Prytula et al., 2013). Effective time management skills may help principals meet instructional leadership expectations (Goldring et al., 2019).

Relevant knowledge is also required for instructional leadership (Lochmiller and Acker-Hocevar, 2016; Robinson, 2010). Many of a principal's activities aimed at promoting improved teaching methods and student achievement, such as setting instructional goals, having a dialogue with teachers about the quality of teaching, and monitoring what is being taught, when and how, are virtually impossible without knowledge of how to create and facilitate effective teaching and learning environments for all students (Quebec Fuentes and Jimerson, 2020). While it is widely agreed that relevant knowledge is needed to enact instructional leadership (Goldring et al., 2019; Murphy et al., 2016), it is not clear what precisely this knowledge includes and what its components are. Therefore, this study addresses the question of what principals see as the knowledge required for instructional leadership. Finding an answer to this question may expand the possibility of implementing instructional leadership, which, as stated above, is correlated with increased student outcomes (Glickman et al., 2017).

This study's possible contribution to the application of instructional leadership is important because principals do not demonstrate instructional leadership adequately (Goldring et al., 2008, 2015; May et al., 2012). For this reason, it is particularly important in Israel, where this study was conducted, because Israeli principals are still involved in instructional leadership only to a limited extent (Glanz et al., 2017). The following section discusses the research literature pertinent to this study, and the section that follows presents the Israeli context.

Theoretical background

Conceptualization of instructional leadership

Principals as instructional leaders prioritize engagement in ensuring high-quality teaching and learning for all students over administrative tasks (Bush, 2014; Hallinger et al., 2020). The instructional leadership framework is based on the strong impact of teaching quality on student learning and academic success (Murphy et al., 2016). The research findings are unmistakable: the quality of teaching is the most important school-related factor that influences student performance (Hattie, 2009). High-quality instruction, which is a necessary condition for student outcomes, requires constant nurturing, supervision and guidance by the school's instructional leader (Glickman et al., 2017; MacBeath and Cheng, 2008). Therefore, researchers and practitioners alike have called upon school principals to embrace instructional leadership (Neumerski et al., 2018).

The most prevalent framework of instructional leadership was presented by Hallinger and Murphy (1985; Hallinger and Wang, 2015). This framework consists of three dimensions. First, *Defining the School Mission* relates to the role of the principal in setting clear, assessable school instructional goals and ensuring dedication to these goals throughout the school community. Second, *Managing the Instructional Program* relates to the responsibility of the principal to coordinate and supervise the teaching and curriculum throughout the school. Third, *Developing a Positive School Learning Climate* relates to the responsibility of the principal to develop a culture of continuous improvement and high standards and expectations for students and teachers (Hallinger and Wang, 2015).

Leithwood and Louis (2011: 6) argued that the framework of instructional leadership must include a 'set of responsibilities for principals that goes well beyond observing and intervening in classrooms – responsibilities touching on vision, organizational culture and the like'. Particularly, they suggested four key leadership practices: (a) setting directions – defining organizational goals; (b) developing people – expanding the ability of organizational members to pursue these directions; (c) redesigning the organization – changing the organization to support members' work; and (d) managing the instructional program – improving teaching and learning systematically. Leadership for learning may be seen as the conceptual evolution of decades of broad instructional leadership research (Bowers, 2020; Boyce and Bowers, 2018). Leadership for learning necessitates a focus on learning as an activity in which everyone learns. The potential for leadership stems from significant learning experiences, while opportunities to practice leadership promote learning (MacBeath, 2019).

Research has indicated a noticeable gap between the expectation from school principals to demonstrate instructional leadership and their actual practice (Aas and Brandmo, 2016; Prytula et al., 2013). While some principals do see the improvement of teaching and learning as the core of their role, other principals see it as a secondary element (Goldring et al., 2015). Several studies indicated that only a tiny portion of principals' time, approximately 6–8%, was devoted to instructional leadership activities (e.g. Horng et al., 2010; May and Supovitz, 2011). Other studies showed slightly higher rates of 13% (Grissom et al., 2013) up to 19% (Camburn et al., 2010; May et al., 2012). When principals did not engage in instructional leadership, they allocated time to realms of responsibility such as building operations, budgets, community and parent relations, and student affairs (Goldring et al., 2008). Although studies on principals' use of time have inherent limitations (Lee and Hallinger, 2012), these studies illustrate the marginal place that instructional leadership occupies in principals' work (Camburn et al., 2010).

Several inhibitors of instructional leadership are discussed in the available literature. First, principals do not have enough time to engage directly in improving teaching and learning (Prytula et al., 2013). It is difficult to make time for acts of instructional leadership (Goldring et al., 2015). Second, deep-rooted organizational norms, which define principals as not in the teaching business and consider instruction as a teacher-only field, challenge the work of instructional leaders (Murphy et al., 2016). Third, perceptual inhibitors of instructional leadership, which reflect principals' deep disagreements with the instructional leadership approach, also push principals away from instructional leadership (Shaked, 2019).

Another inhibitor of instructional leadership is insufficient knowledge about teaching and learning (Goldring et al., 2019; Murphy et al., 2016). However, the literature does not clearly identify the knowledge needed to properly fulfill the role of instructional leader. The next section reviews the existing research on this topic.

Knowledge required for instructional leadership

Our starting point for research on the knowledge needed for instructional leaders is Shulman's (1987) typology, which identified the knowledge base needed for effective teaching. This widely utilized typology includes seven categories: (a) *Content Knowledge*, which refers to the knowledge teachers have about the subject they are teaching; (b) *General Pedagogical Knowledge*, relating to the principles and strategies of classroom management and organization; (c) *Curriculum Knowledge*, referring to a broad understanding of school subjects and learning processes; (d) *Pedagogical Content Knowledge*, which combines the content knowledge of a particular subject and the pedagogical knowledge for teaching that particular subject; (e) *Knowledge of Learners and Their Characteristics*, including understanding how these may affect their learning; (f) *Knowledge of Educational Contexts*, ranging from the workings of the group, the governance and financing of the school district, to the character of the community; and (g) *Knowledge of Educational Ends*, referring to normative and theoretical knowledge of goals and values of education.

The fourth category, *Pedagogical Content Knowledge*, may be seen as Shulman's most notable innovation (Berry et al., 2015; Segall, 2004). According to Shulman (1986: 9), *Pedagogical Content Knowledge* 'goes beyond knowledge of subject matter per se to the dimension of subject matter knowledge for teaching' and includes 'the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations – in a word, the ways of representing and formulating the subject that make it comprehensible to others' as well as 'an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning'.

Claiming that the enactment of instructional leadership requires extensive knowledge in teaching and learning, Spillane and Louis (2002: 97) saw Shulman's categories as applicable not only to teachers, but also to instructional leaders:

Without an understanding of the knowledge necessary for teachers to teach well – content knowledge, general pedagogical knowledge, content specific pedagogical knowledge, curricular knowledge and knowledge of learners – school leaders will be unable to perform essential school improvement functions such as monitoring instruction and supporting teacher development.

Spillane and Louis did not explain why they only mentioned the first five categories of Shulman. They may be claiming that proficiency in the last two categories, in which principals are usually versed, is not sufficient, and the first five categories are also needed.

Stein and Nelson (2003) followed Shulman to coin the term *Leadership Content Knowledge*. For them, *Leadership Content Knowledge* for school leaders is analogous to *Pedagogical Content Knowledge* for teachers. They defined *Leadership Content Knowledge* as 'that knowledge of subjects and how students learn them that is used by administrators when they function as instructional leaders' (Stein and Nelson, 2003: 445). According to them,

(a)ll administrators have solid mastery of at least one subject (and the learning and teaching of it) and . . . they develop expertise in other subjects by postholing, that is, conducting in-depth explorations of an important but bounded slice of the subject, how it is learned, and how it is taught. (423)

Leadership Content Knowledge expresses an expectation from principals to become proficient in the various disciplinary domains that make up the school curriculum. It could be argued that the image of a principal who has in-depth knowledge of content and pedagogy in all areas taught at the campus is unrealistic and ignores the distributed nature of school leadership. However, proponents of *Leadership Content Knowledge* believe that focusing on the impossibility of this task allows principals to shirk responsibility for building any degree of knowledge, leaving them underprepared to meet the needs of the variety of teachers in their schools (Brazer and Bauer, 2013). Principals who build *Leadership Content Knowledge* over time gain access to a more complete set of supervisory roles and therefore can better support teaching improvement (Quebec Fuentes and Jimerson, 2019, 2020).

The concept of *Leadership Content Knowledge* was discussed to some extent in the existing literature (Robinson, 2010), mainly regarding principals' understanding of mathematics and science teaching (Lochmiller and Acker-Hocevar, 2016; Steele et al., 2015). To date, however, a broader examination of instructional leaders' perceptions regarding all of Shulman's categories has not been conducted. Narrowing this gap in the available knowledge was the motivation for this study, which sought to find out which categories were perceived by principals as required for instructional leadership. As this study was conducted among Israeli principals, the next section presents the Israeli context.

Research context

The data for this study were collected in the Israeli national school system, which serves about 1.8 million students attending about 5000 schools (Israeli Ministry of Education, 2021) and consists of 3 tiers: elementary school (grades 1–6, approximately ages 6–12), middle school (grades 7–9, approximately ages 12–15) and high school (grades 10–12, approximately ages 15–18). Compulsory education takes place from kindergarten through 12th grade. The student population in Israel has grown by about 44% in the last two decades (an increase of about 2% per year), which is unusual compared to other developed countries (Blass, 2018).

About a dozen years ago, Capstones, the Israeli institute responsible for principal preparation and mentoring, redefined the role of school principals in Israel. According to the current perception, principals should serve as instructional leaders in order to improve the education and learning of all students. Four areas of management support this role: developing a vision and leading change; fostering the teaching staff's professional development; focusing on the individual; and nurturing the relationship between the school and the community (Capstones, 2008).

The national school system in Israel is similar in many ways to that of the USA (BenDavid-Hadar, 2016; Bowers, 2020). However, whereas in the USA the instructional leadership approach has been a central part of the educational leadership discourse for over half a century (Bridges, 1967), it has only been discussed in Israel for a dozen years. Therefore, for the Israeli school system, instructional leadership may be seen as a borrowed policy. This refers to a deliberate effort to improve an educational system through the introduction of a policy taken from another system (Ng et al., 2015; Pan et al., 2017). Policy borrowing reduces the need to 'reinvent the wheel' when faced with similar challenges, reduces application-related uncertainty and offers a justification that may tone down resistance to change (Nir et al., 2018). Nevertheless, it can also lead to unexpected problems resulting from differences in values, characteristics and frameworks between the originating and receiving contexts (Qian et al., 2017; Steiner-Khamsi, 2016).

Adoption of the instructional leadership policy has profoundly affected the preparation programs for Israeli school principals, which have been redesigned with the aim of training future principals as instructional leaders (Israeli Ministry of Education, 2018). However, Israeli principals continue to demonstrate only limited involvement in instructional leadership (Glanz et al., 2017). They do not see themselves as fully committed to the established instructional leadership policy. Instead, they continue to interpret their leadership role in more diverse ways (Shaked, 2018). The current study examines the perceptions of Israeli school principals regarding the ingredients of the knowledge needed for instructional leadership.

Method

The qualitative approach was appropriate for this study because its overall aim was to describe a phenomenon, and the existing knowledge on the phenomenon was restricted (Merriam and Tisdell, 2016). The following sections describe this study's sample, how information was gathered and analytical strategies.

Study participants

The sampling for this study was purposive (Merriam and Tisdell, 2016), aiming to create a sample that is similar to the population of Israeli principals in terms of age, sex, seniority, academic degree and school level (elementary, middle, high). The average age of Israeli principals is 50. Two-thirds of Israeli principals are women and one-third are men. They have an average of 11 years of principalship experience. Regarding their education, 8% of Israeli principals do not hold an academic degree, 35% hold a bachelor's degree and 65% hold a master's degree or higher. As for the school level, 61% of Israeli principals work in elementary schools, while 39% work in middle and high schools (Capstones, 2012).

Principals were recommended to be study participants by colleagues and students of the author, as well as by other study participants. However, they were included in the study only if their participation matched the characteristics of the overall body of Israeli principals. Therefore, the present study included 38 principals, 26 females and 12 males. They were between 36 and 61 years old ($M = 49.18$, $SD = 6.80$) and had 1 to 31 years of school leadership experience ($M = 10.74$, $SD = 6.38$). Two principals had no academic degree, 12 principals held a bachelor's degree, 22 principals held a master's degree and 2 principals held a doctorate. They worked in elementary schools ($n = 21$), middle schools ($n = 5$) and high schools ($n = 12$), scattered throughout all 6 Israeli school districts. Table 1 presents the information of the study participants.

Data collection

The data were collected by the author through semi-structured interviews. This allowed the interviewer 'to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic' (Merriam and Tisdell, 2016: 111). The interview questions were pre-planned, but the interviews were also conversational, with questions arising from previous answers whenever possible. Interviews, which generally lasted one hour, were audio-recorded and transcribed verbatim. Follow-up interviews were also conducted, as appropriate, to clarify questions that arose during a review of interview transcripts.

Table 1. Study participants' information.

	Pseudonyms	Gender	Age	Leadership seniority	School level	Academic degree	District
1	Alice	Female	49	19	Elementary	Bachelor's	South
2	Anne	Female	48	11	Elementary	Master's	South
3	Barbara	Female	52	16	Elementary	Bachelor's	North
4	Bob	Male	55	16	High	Doctorate	Jerusalem
5	Carol	Female	52	11	Middle	Master's	Jerusalem
6	Charles	Male	42	5	High	Master's	North
7	Christopher	Male	55	18	Elementary	Bachelor's	Center
8	Daniel	Male	59	31	Elementary	Master's	Tel Aviv
9	David	Male	39	3	Elementary	N/A	Haifa
10	Deborah	Female	41	6	Elementary	Bachelor's	North
11	Dorothy	Female	43	4	Elementary	Master's	Center
12	Elaine	Female	43	7	Middle	Master's	Tel Aviv
13	Elizabeth	Female	40	2	High	Master's	Haifa
14	Esther	Female	51	15	Elementary	Bachelor's	South
15	George	Male	61	16	Middle	Master's	Jerusalem
16	Gloria	Female	53	15	High	Master's	South
17	Jacob	Male	55	11	High	Bachelor's	Jerusalem
18	James	Male	46	8	Elementary	Master's	Tel Aviv
19	Jennifer	Female	47	12	Elementary	N/A	South
20	John	Male	56	16	Elementary	Master's	Haifa
21	Karen	Female	36	2	High	Bachelor's	South
22	Kate	Female	46	8	Elementary	Master's	North
23	Kimberly	Female	39	2	Elementary	Bachelor's	North
24	Laura	Female	43	5	Middle	Master's	Tel Aviv
25	Linda	Female	55	13	High	Master's	South
26	Lisa	Female	50	12	High	Master's	Tel Aviv
27	Margaret	Female	43	2	High	Master's	North
28	Martha	Female	55	12	High	Bachelor's	Haifa
29	Mary	Female	37	1	Elementary	Master's	Center
30	Michael	Male	46	7	Elementary	Master's	Jerusalem
31	Michelle	Female	55	14	High	Master's	South
32	Monica	Female	59	19	High	Doctorate	Tel Aviv
33	Patricia	Female	56	14	Middle	Master's	Center
34	Philip	Male	56	14	Elementary	Master's	Jerusalem
35	Richard	Male	57	15	Elementary	Bachelor's	Center
36	Ruth	Female	53	14	Elementary	Master's	Haifa
37	Sandra	Female	47	4	Elementary	Bachelor's	Center
38	Sharon	Female	49	8	Elementary	Bachelor's	Haifa

To develop interview items, questions that align with the research goal were sought. Open-ended questions, which were clear and easy to understand, were used. Although the interviews were intended to explore the knowledge required for instructional leadership, the term 'instructional leadership' was intentionally absent from the interview in order not to make the participants respond in this framework. Therefore, questions were asked such as: 'What enables you to improve the quality of teaching in the school?'; 'What are your difficulties when supervising the work of teachers?'; and 'To what extent do you have the ability to be involved in the work of teachers?'

Why?’ Interviews with principals usually lasted an hour and were audiotaped for later transcription. The interview protocol was reviewed by two researchers, who were experts in educational leadership, and two school principals to ensure that it was clear and understandable, and consistent with the study’s purpose.

For ethical reasons, all participants were informed at the beginning of the interview that they could leave the study at any point (no one chose to leave). They were promised confidentiality (pseudonyms were assigned) and were asked to provide written consent based on an understanding of the study’s purpose.

Data analysis

Data analysis, which was conducted by the author, began with the necessary sorting (Miles et al., 2014), seeking out the statements related to the research topic. Then, each statement was coded according to its meaning (Tracy, 2013). This coding was theory-driven (Rossman and Rallis, 2012), as it was based on Shulman’s (1987) seven categories of the knowledge base required for effective teaching. Thereafter, the member check method (Koelsch, 2013) was used, in which all interviewees were asked to review the data analysis to ensure both accuracy and interpretation.

As in any qualitative data analysis, attention was paid to how the researcher’s background and personal experience might affect his interpretation of data. Since the importance of reflective journals in qualitative research has been recognized (Ortlipp, 2008), the author wrote a personal reflective research log throughout the study to ensure critical thinking.

Findings

Qualitative data analysis classified the statements of study participants according to the seven categories of knowledge needed for effective teaching (Shulman, 1987). The following sections present the perceptions of Israeli principals regarding the significance of each of these categories for their role as instructional leaders. Participant’s excerpts are presented to support the perceptions.

Content knowledge

Study participants considered content knowledge as most necessary for teachers, but not for themselves as instructional leaders. This notion was mentioned by 22 participants. While they expected teachers to know more than the content they have to teach, they did not attach importance to their own mastery of the material being taught in their school. For example, Deborah, an elementary school principal with six years of experience, claimed that a principal ‘(c)an’t be as familiar with all the subjects taught in the school as the teachers are, and I do not see that as a problem’. Jacob, a high school principal with 11 years of experience, asserted: ‘As a principal who strives to improve the quality of teaching, I do not see any difference between areas in which I have solid mastery and those in which I do not.’

Principals felt that limited content knowledge did not impair their ability to observe classes, give meaningful feedback and evaluate teaching. Michael, an elementary school principal with seven years of experience, explained: ‘Even if I am not versed in the subject that the teacher teaches, I have no problem recognizing whether they understand the subject matter properly or not.’ Martha, a high school principal with 12 years of experience, said: ‘I observed an Arabic

lesson given in Arabic, and did not understand a word of what was said in the lesson. I had no problem giving the teacher feedback, which contributed greatly to improving the quality of her teaching.'

General pedagogical knowledge

Research participants perceived their general pedagogical knowledge as a key resource in their work with teachers on improving the quality of teaching. This notion was mentioned by 26 participants. Laura, a middle school principal with five years of experience noted: 'There is an array of educational principles that go beyond the specific subject matter. I am well acquainted with many such principles, and that's basically what matters.'

Principals mentioned their knowledge of how to obtain and maintain student collaboration in learning activities. Karen, a high school principal with two years of experience, explained to struggling teachers how to 'present work in an interesting and motivating way'. Esther, an elementary school principal with 15 years of experience, explained during a teachers' meeting how to 'encourage students to raise expectations of themselves'. Alice, an elementary school principal with 19 years of experience, made clear how to 'provide conditions so students understand the work'.

Principals also mentioned their proficiency in teaching methods. Viewing many teaching methods as cross-disciplinary, appropriate for a wide range of knowledge areas, Christopher, an elementary school principal with 18 years of experience, gave teachers an explanation of how to 'introduce the lesson topic'. Sandra, an elementary school principal with four years of experience, explained to beginning teachers how to 'conduct question and answer sessions'. In addition, principals shared with teachers their experience in addressing classroom discipline problems, including 'creating a relaxed and fun atmosphere in the classroom' (Monica, a high school principal with 19 years of experience) and 'maintaining classroom control' (Elizabeth, a high school principal with two years of experience).

Curriculum knowledge

Study participants stressed the significance of curriculum management, but did not attach much importance to in-depth familiarity with the curricula in the various fields of knowledge. This notion was mentioned by 18 participants. Barbara, an elementary school principal with 16 years of experience, said: 'When teachers have a dilemma about the curriculum they turn to the head of the department, and if necessary also an external consultant. I don't know how to give them an answer on this matter, beyond common sense.' Daniel, an elementary school principal with 31 years of experience, said: 'I often participate in discussions about the curricula, so I get to know them. However, those who really need to get to know them are the department heads.'

The school headed by Patricia, a middle school principal with 14 years of experience, was divided into 3 units, with each 2 grade levels comprising a separate unit. She aspired to create a continuous curriculum applicable to all age levels. For this purpose, she did not look for an in-depth understanding of the curriculum. Instead, she said: 'What's important to me is that I can get the teachers together. They need to talk to each other and adjust their curricula to each other.' Similarly, Richard, an elementary principal with 15 years of experience, focused on coordinating the school curriculum, teachers' mode of instruction in class, and assessment of student learning. He argued 'To coordinate curriculum, instruction, and assessment, I do not

need a deep understanding of the curriculum. I need to know how to conduct a discussion, lead a process and make decisions.'

Pedagogical content knowledge

When study participants identified a need to expand pedagogical content knowledge, they turned to internal or external agents. This notion was mentioned by 17 participants. Bob, a high school principal with 16 years of experience, saw the head of the department as primarily responsible for pedagogical content knowledge: 'She knows her field very well and knows the particular way a teacher can teach a particular subject to a particular group of students.' Margaret, a high school principal with two years of experience, encouraged teachers to help each other: 'I focus on creating conditions within schools that enable teachers to work together and help those who do not know how to teach the subject.' Philip, an elementary school principal with 14 years of experience, described himself as 'pooling resources and bringing in an external consultant who helps the teachers improve their teaching'.

For themselves, study participants saw no need to delve into pedagogical content knowledge, as said Elaine, a middle school principal with seven years of experience: 'A principal has to be an intelligent person, who shows interest in many areas, however she should primarily lead instructional processes and not necessarily know how to teach each of the areas of knowledge.' Moreover, familiarity with the pedagogical content knowledge of all the areas studied at school seemed to the study participants to be an unreasonable expectation. James, an elementary school principal with eight years of experience, asserted that 'school leaders cannot know everything about teaching in the content areas'. Similarly, Gloria, a high school principal with 15 years of experience, claimed that 'the principal is not omnipotent and is unable to get acquainted with the teaching methods of all the disciplines'.

Knowledge of learners and their characteristics

Study participants described themselves relying on their familiarity with students' characteristics to help teachers understand challenging students. This notion was mentioned by 26 participants. George, a middle school principal with 16 years of experience, helped one of his teachers understand a student who 'drove her crazy' by 'arguing simply to argue'. He explained to her that this teenager was 'trying to establish his identity by resisting those to whom he is supposed to be subject'. Carol, a middle school principal with 11 years of experience, gave a teacher practical advice about a student who 'always needs the highest rank in the class hierarchy'. She recommended her not to 'be dragged into a power struggle with this "alpha" student' but rather to 'give him a clear choice of whether or not to do the work and deal with the consequences'.

Principals helped teachers understand the characteristics not only of the individual student, but also of the whole class: 'In a meeting we held about this class, I explained that in such an energetic class, slow-paced teaching is impossible. You must propel the class forward' (Kate, an elementary school principal with eight years of experience). They also made sure teachers had a knowledge of student diversity 'in terms of their abilities, interests, and responses to various situations' (Kimberly, an elementary school principal with two years of experience). From a social justice perspective, Charles, a high school principal with five years of experience, said: 'Some teachers have stereotypical beliefs about poor and minority students. I believe that getting to know the students' background and its implications helps them develop a multicultural mindset.'

Knowledge of educational contexts

Study participants utilized their knowledge of the external context to improve teaching and learning. This notion was mentioned by 13 participants. Principals felt they understood the superintendent's expectations better than teachers did: 'We attend conferences and principals' meetings and understand exactly what the district's current emphases are. Our job is to bring the latest information to the school and explain to teachers what today's expectations are' (Anne, an elementary school principal with 11 years of experience). The information principals brought to their schools was about a wide range of instructional topics, such as preparations for national tests, policies for students with special needs, and new curricula and standards.

Principals have heard in principal meetings about the educational endeavor at other schools in the city, and have imported ideas for their schools. Based on relationships with the local community, principals identified opportunities for instructional collaborations with museums, galleries, parks, sports centers, archaeological sites, tourist attractions, libraries, experts from various fields and more. Principals also helped teachers understand what parents want. David, an elementary school principal with three years of experience, argued that because of his extensive relationship with parents, he better understands their priorities: 'I instructed the teachers to reduce the amount of homework because I realized that from the parents' point of view we are exaggerating.' Similarly Dorothy, an elementary school principal with four years of experience, urged teachers to distribute academic updates regularly, because 'even if it doesn't seem very important to teachers, I know how much the parents appreciate it'.

Knowledge of educational ends

Study participants considered their understanding of educational goals to be very relevant to their role as instructional leaders. This notion was mentioned by 14 participants.

Principals believed that setting instructional goals required seeing the big picture of the school, and they, as principals, were better equipped than the teachers for this: 'I know better than teachers what exactly is the state of our school in the national exams, so I help them define the goal we strive to achieve', said Michelle, a high school principal with 14 years of experience. Principals also mentioned their up-to-date knowledge in education: 'I know better than most teachers what the latest trends in education are. Accordingly I set the teaching objectives of the school', said Ruth, an elementary school principal with 14 years of experience. In addition, principals claimed that setting clear and measurable goals is 'a matter of training'. 'I deal with it all the time, so I am much more skilled at it than the teachers', said Sharon, an elementary school principal with eight years of experience.

To guide teachers in setting instructional goals, principals relied not only on data or information, but also on their values. Linda, a high school principal with 13 years of experience, was a social justice leader: 'I'm not sure all my teachers see importance in creating a learning climate that provides all students equal opportunity regardless of race, class, gender, and other characteristics.' However, 'as long as I'm the principal here, it's binding on everyone'. Like other principals, Linda believed that her own priorities obligated all teachers in her school.

Discussion

The current study explored principals' perceptions of the knowledge required for instructional leadership. For this purpose, this study utilized Shulman's (1987) typology of the knowledge base

needed for effective teaching. Findings suggest that principals ascribed much importance to *General Pedagogical Knowledge* and *Knowledge of Learners and Their Characteristics*, perceiving these two areas of cross-curricular knowledge as enabling them to guide, supervise and evaluate teachers. Particularly, the *General Pedagogical Knowledge*, which answers the question of how, in general, to teach and manage a classroom effectively, allowed principals to observe classes and provide meaningful feedback, and the *Knowledge of Learners and Their Characteristics* allowed them to help teachers deal with challenging students. In addition, principals saw themselves as making a unique contribution, due to their *Knowledge of Educational Contexts* and *Knowledge of Educational Ends*. Viewing themselves as standing between the intra- and extra-school worlds (where the extra-school world includes various stakeholders such as the school board as the immediate formal authority and employer of both principal and school staff; the parents, either as individuals or in the form of a parents' committee as an organized actor; policy-makers at the national and regional levels; and the local community), they utilized their *Knowledge of Educational Contexts* to bring innovative instructional knowledge from the school's local environment into the school and establish collaborations. Also, they saw themselves as being more familiar with issues of educational objectives than teachers were, and thus used their *Knowledge of Educational Ends* to set the school's instructional goals. The subject-specific areas of knowledge, including *Content Knowledge*, *Pedagogical Content Knowledge* and *Curriculum Knowledge*, were considered by principals as less necessary for their instructional leadership role. From principals' perspective, they cannot, nor should they, have an in-depth knowledge of all the different content areas. For them, this is the responsibility of the heads of departments, with the help of external consultants.

These findings suggest that *General Pedagogical Knowledge* plays a key role in instructional leadership. It should be noted that Shulman (1987: 8) defined *General Pedagogical Knowledge* as 'broad principles and strategies of classroom management and organization that appear to transcend subject matter'. It could be claimed that *General Pedagogical Knowledge* is limited to knowledge about classroom management and organization. However, researchers claim that this includes further cross-curricular areas, such as knowledge about teaching-learning processes or ways of assessing student's learning and outcomes (Ulferts, 2019). According to Guerriero (2017: 80), *General Pedagogical Knowledge* is 'the specialized knowledge of teachers for creating effective teaching and learning environments for all students, independent of subject matter'. This definition may seem broad enough to capture the *General Pedagogical Knowledge* needed for instructional leadership, which is based on pedagogical professionalism across disciplines and educational levels. Moreover, principals saw *General Pedagogical Knowledge* and *Knowledge of Learners and Their Characteristics* as complementing each other. While *General Pedagogical Knowledge* focuses on cross-curricular teaching, *Knowledge of Learners and Their Characteristics* focuses on cross-curricular learning, enabling principals to understand both teachers and students.

The findings of this study somewhat reduce the importance of *Leadership Content Knowledge*. As mentioned above, *Leadership Content Knowledge* for principals is like *Pedagogical Content Knowledge* for teachers (Stein and Nelson, 2003). Just as *Pedagogical Content Knowledge* concerns how teachers need to understand the subject matter so that they can help others learn it (Shulman, 1987), so *Leadership Content Knowledge* concerns how principals need to understand the subject matter so they can help others teach it (Lochmiller and Acker-Hocevar, 2016). The findings of this study show that principals regarded subject-related pedagogical knowledge as less beneficial for them as instructional leaders than interdisciplinary pedagogical knowledge. It can be assumed that the greater the principals' *Leadership Content Knowledge*, the more aspects of

instruction they take care of, moving beyond surface features of instruction to underlying pedagogy and assessment (Quebec Fuentes and Jimerson, 2019, 2020). Nevertheless, this study's participants improved instruction mainly through cross-curricular pedagogical knowledge, while contenting themselves with only general knowledge of specific content areas.

The significance attached to knowledge of teaching and learning suggests how study participants perceive the role of an instructional leader. For them, the principal as an instructional leader does not have to give guidance and direction as to each of the disciplines taught in the school. Instead, they need to know how to manage the instructional program (Bush and Glover 2014; Hallinger and Murphy, 1985) by leading instructional processes and making instructional decisions in various content areas, based on their cross-curricular knowledge of teaching and learning. Moreover, study participants viewed department heads, not themselves, as being required to have broad content knowledge. They believed that 'nobody can do it all', considering the expectation from the principal to have a comprehensive and thorough understanding of all areas of knowledge as unreasonable. This echoes the claim of Hallinger and Murphy (2013: 9–10) that in the current era of rapid change, principals are no longer able to know everything necessary to lead teaching and learning: 'Successful instructional supervision and curriculum leadership require skill sets that typically go beyond those possessed by any one individual in the school.' Furthermore, from the study participants' perspective, not only are principals unable to get to know all the areas taught in the school up close, they also do not need to, because instructional leadership is not one person's job. This perspective may be seen as reflecting distributed instructional leadership (Halverson and Clifford, 2013), considering instructional leadership as an organizational function that extends beyond the sole position of the principal. Distributing instructional leadership does not mean the principal delegates the responsibility to others and remains aloof from what is happening in classes. However, instead of superhero leaders, who have in-depth knowledge of content and pedagogy across all areas taught at a campus, the study participants perceived their instructional leadership as mobilizing the knowledge of teacher leaders (Crowther et al., 2009).

The understanding that *General Pedagogical Knowledge* is most necessary for instructional leadership holds practical implications. Whereas we consider *General Pedagogical Knowledge* as an enabler of instructional leadership, developing it during preparation programs may allow prospective principals to acquire an enhanced instructional leadership capacity. In fact, the development of *General Pedagogical Knowledge* may be valuable not only during the preparation of prospective principals, but also during the professional development of acting principals, novice and experienced alike. Beyond principals' educators and those who are responsible for their professional development, the principals themselves should also try to prioritize the acquisition of *General Pedagogical Knowledge* in order to be able to become effective instructional leaders.

Limitations and further research

While the qualitative methods utilized in this study offer insights on the knowledge needed to serve as an instructional leader, this study has several limitations, calling for further research. First, since school principals were recommended to be study participants by colleagues and students of the author and by other study participants, it was a convenience sample, which may lead to sampling bias and limit the generalization and inference-making about the entire population. Particularly, inasmuch as the study participants all worked within a specific context, which is the Israeli education system, it is necessary to replicate this study in various sociocultural contexts in order to examine the generalizability of its findings. Further research can look for differences between

the ‘country of origin’ of instructional leadership, the USA, and countries like Israel, where instructional leadership is a borrowed policy (Nir et al., 2018). Moreover, as we know that national values and characteristics shape instructional leadership’s implementation (Hallinger, 2018; Shaked et al., 2020), further research would do well to explore differences among countries around the world. Second, data collection has enabled this study to provide detailed textual descriptions of the perceptions of principals. However, further research using techniques such as direct observation could complement principals’ self-reporting with more objective data on the knowledge utilized for instructional leadership. Interviewing school middle leaders and teachers about the knowledge principals need for instructional leadership may also complement principals’ self-reporting. Third, interactions between principals’ perceptions regarding the knowledge required for instructional leadership and variables such as gender, experience, education and school-level were not found to be significant. However, such interactions may be found in a future study using a larger number of participants.

Conclusion

One of the key capabilities that enable school principals to apply instructional leadership is relevant knowledge (Lochmiller and Acker-Hocevar, 2016; Robinson, 2010). This study sought an answer to the question of what Israeli principals saw as the knowledge necessary for instructional leadership, a topic that has not yet been adequately researched. Using Shulman’s (1987) typology, qualitative data analysis revealed that principals highlighted the importance of *General Pedagogical Knowledge* and *Knowledge of Learners and Their Characteristics*. They perceived these two areas as complementary, with the first concentrating on teacher teaching and the second on student learning. Also, they saw themselves as making a significant contribution thanks to their *Knowledge of Educational Contexts* and *Knowledge of Educational Ends*. Interestingly, these findings slightly reduce the importance of *Leadership Content Knowledge*, which has received much attention in the existing literature (Brazer and Bauer, 2013; Quebec Fuentes and Jimerson, 2019, 2020). According to this study, instructional leadership should not be based on close acquaintance with all the subjects taught in the school but rather on a cross-curricular knowledge of teaching and learning. The need for *Leadership Content Knowledge* is replaced by distributed instructional leadership, where principals actively facilitate and support the instructional leadership of others in the school (Crowther et al., 2009; Halverson and Clifford, 2013).


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