Alberta Journal of Educational Research, Vol. 61.3, Fall 2015, 329-346

Teacher Supervision Practices and Principals' Characteristics

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A questionnaire was used to determine the individual and collective teacher supervision practices of school principals and vice-principals in Québec (n = 39) who participated in a research-action study on pedagogical supervision. These practices were then analyzed in terms of the principals' sociodemographic and socioprofessional characteristics and certain aspects of their schools. Results show that the principals favoured individual over collective supervision and tended to forego preliminary meetings. Furthermore, principals in "disadvantaged" areas were more inclined to provide the necessary training and supervision to help their teachers make informed decisions. Recommendations for more effective teacher supervision are proposed for principals to ultimately improve student achievement.

Cette étude, menée par questionnaire, a porté sur les pratiques de supervision pédagogique individuelle et collective de directions et de directions adjointes d'établissement scolaire du Québec (n = 39) qui participent à une formation-recherche-action portant sur la supervision pédagogique. Cet article rend compte de leurs pratiques en supervision pédagogique individuelle et collective et établit des liens entre ces pratiques et les caractéristiques (sociodémographiques, socioprofessionnelles et de certaines caractéristiques de leurs établissements) des directions. Les résultats montrent que les directions font plus de supervision pédagogique individuelle que de supervision collective et qu'ils ont tendance à ne pas consacrer du temps aux prérencontres. De plus, les directions des milieux défavorisés tendent à fournir plus de formation et d'encadrement nécessaires pour prendre des décisions avisées. À la lumière de ces résultats nous proposons des recommandations visant un meilleur accompagnement pédagogique de l'équipe-école par les directions, dans l'optique d'amélioration de la réussite des élèves.

Research Issue and Literature Review

Relevance of Teacher Supervision and Legal Context

In Québec, teacher supervision by the principal is a legal obligation established by the 2014 *Public Education Act* (PEA), specifically articles 96(12) and 110(9) Current results-based management (RBM) policies in education also warrant that school principals ensure the pedagogical supervision of their teachers. Research shows that the pedagogical leadership of principals (which includes teacher supervision) not only provides opportunities for innovation and the introduction of new teaching strategies, but also generates the most effective teaching practices based on a) the teachers' needs and those of their school, b) increasing teacher

involvement and accountability, and c) ensuring a closer monitoring of the students' academic progress and ultimate achievement (Cotton, 2003; Marzano, Waters, & McNulty, 2005; Pont, Nusche & Moorman, 2008; Robinson, 2007).

The challenges of supervision. School principals often face significant practical, conceptual, and socioaffective challenges. Regarding the practical challenges, these leaders decidedly lack sufficient time to properly conduct the supervision of their teachers (Bouchamma & Basque, 2012; Brassard et al., 2004), and they tend to focus more on administrative duties than on their teachers' professional development (DuFour & Eaker, 2004). In addition, principals have the difficult task of balancing pedagogical guidance and authority in their role as leader. However, when teachers are supervised by their peers, they develop a culture of collaboration, mutual support, and motivation, which in turn generates an environment that is more favourable to pedagogical supervision because the hierarchical dimension is less evident (DuFour & Eaker, 2004; Marshall, 2005; Nolan & Hoover, 2008; Sergiovanni & Starratt, 2006). In recent years, teacher supervision has mostly been studied from the angle of the professional learning community (PLC) (DuFour & Eaker, 2004; Hord & Sommers, 2008). This being so, the above authors estimate that the PLC would constitute the most adequate response to the challenges of pedagogical supervision. However, to our knowledge, there appear to be no studies directly correlating individual and collective teacher supervision practices, and even less from the standpoint of PLC. With regard to the conceptual challenges, the distinction between the concept of teacher supervision with no summative assessment—designed to help the teachers to develop their professional competencies in order to improve student outcomes—and the concept of evaluation—more directed toward promotion, retention, and personal decision making (Nolan & Hoover, 2008)—does not appear to be clearly established or understood by education specialists. This explains the ambiguity and erroneous perceptions of both principal-supervisors and those they supervise (Nolan & Hoover 2008). As a matter of fact, the summative assessment proposes areas for improvement and remains a tool to promote rather than impose professional development:

> Though improvements in the teacher's performance may result from the process and may be a desired outcome, but the process as a whole is aimed primarily at making a summative judgment about the quality of the teacher's performance in carrying out both instructional duties and other responsibilities. (Nolan & Hoover, 2008, p. 6)

Referring to socioaffective challenges, that is to say the obstacles linked to the social, affective and cultural environment in which the supervisors live, Eaker, DuFour, and DuFour (2004) observed a hesitance among educators regarding their ability to establish peer supervision by the personal learning community within their own school. These authors suggested that principals generally adopt the ideas and basics of collaborative structures of the PLC, but that the level of confidence required to go from abstraction to implementation in their own environment was often lacking. In light of this, IsaBelle, Lapointe, Bouchamma, Clarke, Langlois, and Leurebourg (2008) detected a limited sense of efficacy of principals: a) for tasks involving the use of quantitative data; and b) to encourage the development, exchange and implementation of efficient collaborative practices among the teachers with regard to student achievement.

Principals' characteristics and teacher supervision practices. Has research established any connection between principals' individual/collective supervision practices and

their sociodemographic/socioprofessional characteristics and those of their schools? In their analysis of 50 studies, Eagly, Karau, and Makhijani (1995) examined the sociodemographic characteristics of principals and found that the type of leadership these leaders used differed between the sexes. More specifically, female principals tended to use a more participative and less directive or authoritative leadership than that employed by their male counterparts. Eckman (2004) on the other hand, observed significant similarities between men and women in terms of their practices, commitment, effectiveness, and level of satisfaction with their work. In contrast, the pan-Canadian study led by the Centre de recherche interuniversitaire sur la formation et la profession enseignante (CRIFPE, 2007) revealed that a principal's gender was not linked to how they perceived themselves or their work/practice environments. This study also suggested that older principals were more likely to support professional development and personal growth as well as the elaboration of the school's mission, teacher supervision initiatives, coordinated parent participation, and accountability. Regarding the socioprofessional characteristics of principal-supervisors, Cranston (2009) argued that all professionalization and teacher supervision structures are difficult to activate, regardless of the level of experience of the principals. In this regard, the CRIFPE study (2007) determined that less experienced principals tended to want to take on the pedagogical supervision of their teachers and participate in management committees. Furthermore, among participating primary school principals, those with a Master's degree stated being more often in charge of teacher supervision, parent training, and accountability (CRIFPE, 2007). In another study examining strategies to prepare more good principals, Bottoms, O'Neill, Fry, and Hill (2003) reported that a principal with greater certification was more likely to feel accountable for failure compared to a principal who was less certified. Likewise, Cranston (2009) stated that the majority of principals lack sufficient training in teacher supervision, and as a result of this do not possess the necessary skills to implement and sustain effective professional development initiatives.

As for the characteristics of the supervisory settings of school principals, Leithwood and Jantzi (2009) conducted a meta-analysis of 57 empirical studies on the effects of school size on the student and on school organization. Their results indicated that academic achievement in small schools is greater or equal to that observed in large schools. Smaller settings also produced more positive results in terms of how the teachers felt about their school and the interpersonal relationships between teachers, professionals, administrators, and students. Kuziemko (2006) also noted that small schools were more open to using peer collaborative learning and supervision models. Although few studies (Jerald, 2001; Leithwood & Jantzi, 2009) have found a correlation between deprivation index and principals' pedagogical supervision practices, the pan-Canadian study by the CRIFPE (2007) illustrated that principals of schools where students come from higher socio-economic backgrounds were more likely to be satisfied with their workload, the recognition received for their work, and their level of accountability.

General Research Objective

Following examination of the legal context, the practical challenges of supervision and the principals' characteristics and teacher supervision practices, we sought to identify two things. First, we wanted to determine the principals' individual as well as collective pedagogical supervision practices. Second, we aspired to establish connections between these practices and the sociodemographic and socioprofessional characteristics of the principals and their schools.

Conceptual Framework

Teacher Supervision

Teacher supervision is a management process involving teacher and a supervising principal—henceforth known as the "supervisor" for brevity—where the goal is to enhance the possibility and potential of schools to contribute more effectively to the academic achievement of the students. This supervision includes, but is not limited to, monitoring the students' progress, conducting in-class observations, providing the teacher with constructive feedback, support, and guidance toward professional development activities. Teacher supervision must ultimately provide the teacher with growth opportunities to learn and to cooperate better to become more effective in the classroom (Sergiovanni & Starrat (2006). In this sense, Sergiovanni and Starrat (2006) saw the learning community as the means to achieve the most promising collective teacher supervision, as "the heart of supervisory leadership is designing opportunities for teachers to continuously expand their capacity to learn, to care, to help each other, and to teach more effectively. We view schools as learning communities where students, teachers, and supervisors alike are learners and teachers depending upon the circumstances" (p. 9). So what constitutes these two types of teacher supervision?

Individual teacher supervision by the school principal is defined as a specific and unique relationship between the supervising principal and the supervised teacher. Three phases of operation by the supervisor have been identified in the model proposed by Bouchamma (2005), namely, the pre-observation meeting, the scheduled observation, and the post-observation meeting:

1. During the pre-observation meeting, the supervisor introduces the objectives of the process; both parties then concur on the aspects to be addressed, the observation tools, and the time the observation will take place. The supervisor concludes the meeting by going over the teacher's preparation.
2. During the in-class observation, the supervisor discreetly observes the teacher's practice according to the elements agreed upon with the latter, and gathers data. Each party concludes by reviewing the observation session which will be further examined during the post-observation meeting.
3. During the post-observation meeting, both parties go over the initial goals and any potential adjustments to be made, and the teacher proceeds with a self-evaluation. The supervisor and supervised teacher then determine the objectives for the next supervision, plan this activity, and go over future support measures if needed (Acheson & Gall, 1987; Bouchamma, 2005).

The supervisor concludes with a prepared report of the session, which may be in the form of an assessment depending on legal provisions.

Collective teacher supervision centers on alleviating the limitations of individual supervision, improving the effectiveness of existing education practices, introducing sustainable reforms, nurturing reflection, and supporting a climate of collaboration and collegiality (Nolan & Hoover, 2008). Here, the principal serves as guide for the teachers. Mentoring, professional development groups, and the professional learning community (PLC) are all concrete examples of collective teacher supervision.

In the present study, the PLC model was retained as the framework for collective supervision, as this model appears to show more promise in ultimately improving student

achievement (DuFour & Eaker, 2004; Eaker, DuFour, & DuFour, 2004; Hord & Sommers, 2008). The following paragraph describes the PLC as a form of collective teacher supervision.

The professional learning community as a form of collective teacher supervision. The PLC is defined as a mode of operation in schools that focuses on collaboration within the school-team and encourages them as a group to adopt reflective actions and activities for their continuous improvement as well as that of their students (Roy & Hord, 2006). DuFour and Eaker (2004) exposed four key actions by the principal to successfully transform a school into a PLC. According to these authors, the principal must first guide the actions of the team members by communicating the common vision and values daily to the staff, rather than merely dictating rules and procedures. Second, the principal must encourage their teachers to become more involved in the decision-making process and thus feel empowered, which in turn encourages them to view themselves as leaders and become true agents of change. In this sense, effective school leaders welcome not only change, but innovation. Third, the PLC leader must provide their members with the necessary information, training, and guidance they need to make informed decisions; for example, the principal provides their staff with the time and available material resources they require during regular work hours, financially supports their teachers' participation in activities, attends to their new teachers, and meets the team's needs for as long as necessary. Fourth, the principal must establish their credibility by practicing what they preach with behaviour that fosters the school's values and vision. DuFour and Eaker (2004) further emphasized that the principal's duty is to develop collaborative structures focused on teaching and learning by not only providing co-teaching and mentoring opportunities, but also by encouraging the sharing of knowledge and effective practices.

Specific Research Objectives

Following examination of the research issue, the literature, and the established concepts, four specific research objectives for this study were defined:

1. Determine connections between the principals' supervision practices and their sociodemographic/socioprofessional characteristics and those of their schools.
2. Determine whether these principals followed the recognized steps of the supervisory process (before, during, after) when conducting individual/collective supervision, and which steps were performed the most/least often.
3. Identify which practices were used by principals to effectively help their school-team to become a professional learning community (PLC), and how frequently these practices were deployed.
4. Determine which of the two supervisory practices (individual or collective) was used the most.

Research Methods

Participants

An online questionnaire was administered to 39 principals and vice-principals of elementary and secondary schools as well as professional development and adult education establishments in the *Navigateurs* (n = 16) and *Découvreurs* (n = 21) school districts. These school leaders

participated in a collaborative research project on teacher supervision. A team of researchers and education practitioners accompanied these participants over two years by means of online and onsite learning communities. This research project made it possible to train these principals through a reflective approach. The collected data was used for a needs analysis and to study the initial practices of principals in the first portion of this collaborative research project. All of the participants answered the online questionnaire, corresponding to a response rate of 100%.

Instrumentation

The questionnaire was developed following 39 interviews with education professionals involved in PLCs as part of Bouchamma and Michaud's three year (2011-2014) SSHRC-funded study titled *Instructional Leadership and Supervision by Professional Learning Communities*.. The questions in the questionnaire pertained to the sociodemographic (age, gender) and socioprofessional (status, teaching assignment, experience as principal and in the school, level of certification, and level of training on teacher supervision) characteristics of the principals and those of their schools (number of students, teachers, vice-principals, deprivation index) in relation to the five teacher supervision practices in a PLC targeted by the conceptual framework. Fifteen individual practices were grouped around the three stages of teacher supervision (before, during, and after the in-class observation), while 26 factors were grouped around the five supervision practices as a PLC. The questionnaire was empirically validated by pilot committees from each school district involved in the research project.

Data Analysis

Following data collection, we used SPSS 16.0 Statistics software to conduct simple linear regression tests between the interval and continuous variables, as well as T-tests between the dichotomous and continuous variables. Three assumptions were observed prior to performing the T-tests, namely, normality, homogeneity of variance, and independent observations (George & Mallery, 2001). Results of these preliminary tests indicated that parametric tests were preferable for the data analysis. Measures of central tendency and dispersion were used to quantify the frequency of the individual and collective supervision practices, and Cronbach's alpha was calculated between the different factors associated with these supervision practices to measure the internal consistency of the questionnaire items.

Results

Respondent Characteristics

Among the 36 respondents, 58.3% (n = 21) were principals and 41.7% (n = 15) were vice-principals. The average age of the participants was 45.85 years, and the average number of years of experience as principal or vice-principal was 4.16 years. 61.1% of the respondents were women (n = 22) and 38.9 % were men (n = 14). The number of students under their responsibility ranged from 153 to 4,442, while the number of teachers was between 14 and 113. Lastly, 36.1% of the respondents stated having received training on teacher supervision, either during initial school principal training or through continuing education (n = 13), compared to 63.9% who had received no training (n = 23).

Individual Teacher Supervision Practices

Table 1 presents the results of the simple linear regression tests (r^2) and the independent samples T-tests. This table contains two major axes: the column on the left lists the dependent variables and the first line presents the independent variables. Test scores indicating a statistically significant difference are asterisked (** $p < 0.01$ and * $p < 0.05$) and shaded. On the extreme right-hand side, the averages and standard deviations obtained for each independent variable are presented for the continuous variables. Tables 1 and 2 address our initial research question, namely, which associations could be found between the principals' individual and collective supervision practices, their sociodemographic and socioprofessional characteristics, and those of their school, where they work as principal or vice-principal.

Table 1 indicates that the pre-observation practices used often by the principals were communicating their expectations to the teacher and scheduling the in-class observation together. The least used practices were discussing preparation with the teacher and sharing grids with them to note observations. A greater number of vice-principals tended to be associated with explaining the goals of the supervision to the teacher more frequently, meeting with the latter to go over aspects which may be targeted by the supervision, and scheduling the in-class observation with the teacher. Lastly, a high number of both teachers and students was linked to more frequent meetings between the principals and their teachers to discuss elements which may be targeted by the supervision. These same independent variables were also associated with observing the aspects which both parties agreed should be addressed.

Table 3 shows that the post-observation practice most often used by the respondents was meeting with the teacher, followed by sharing their comments with the teacher, while the least used practice was the drawing up of a post-observation report. The respondents who possessed more experience in the same school and those who were responsible for more than one school were associated with the less frequently used practice of writing an observation report. Further to this, the older principals, those who had received teacher supervision training, and those working in socioeconomically disadvantaged areas were more prone to ask their teachers to perform a self-evaluation. Lastly, status determined whether the principal met with the teacher and expressed their comments, as the principals were more inclined to do so compared to their vice-principals.

Table 4 addresses two specific questions.

1. In their individual supervision practices, did the principals follow the three recognized steps of the supervision process (before, during, after)?
2. Which stages of the supervision process were performed the most/least?

To quantify these practices according to the three stages of the supervision process, Cronbach's alpha was calculated and a means test was performed. The resulting Cronbach values were 0.9 (before the in-class observation), 0.61 (during), and 0.86 (after). Cronbach (1951) deemed these values as excellent, adequate, and good respectively.

Table 4 shows that the respondents primarily concentrated their supervisory practices on the in-class observation, followed by the post-observation meeting. Pre-observation practices were, on average, the least frequently used. Our analysis of the paired T-test revealed a statistically significant difference ($t(32) = 3.466$, $p < 0.01$) between the mean of the pre-observation practices ($M = 4$; $SD = .70$) and that during the observation ($M = 4.34$; $SD = .57$). Again, based on the paired T-test, another statistically significant difference ($t(32) = 3.299$,

Table 1

Principals' Individual Supervision Practices before the Observation and Independent Variables: Simple Linear Regression (r2) and Student T-test (T)

	Sociodemographic variables		Socioprofessional variables						School characteristics						
	Gender (T=)	Age (r^2)	Status (T=)	Experience as principal (r^2)	Experience in the school (r^2)	Teaching experience (r^2)	Certification (r^2)	Training received in supervision (T=)	Number of students (r^2)	Number of teachers (r^2)	Number of vice-principals (r^2)	Number of schools (r^2)	Deprivation index (r^2)	**MEAN (/5)**	**STANDARD DEVIATION**
PRINCIPALS' PRACTICES BEFORE THE OBSERVATION (r^2)															
a) I explain the goals of supervision to the teacher as clearly and precisely as possible.	.89	.01	1.61	.01	.04	.00	.00	1.13	.08	.08	.18*	.08	.07	4.35	.95
b) I meet with the teacher to decide which aspects could be addressed in the supervision (I involve the teacher in the supervision process).	1.21	.01	1.74	.00	.00	.02	.00	.14	.11*	.15*	.34**	.00	.00	4.28	.95
c) I communicate my expectations to the supervised teacher.	.91	.09	.23	.03	.01	.00	.00	.67	.06	.06	.11	.04	.08	4.42	.84
d) The teacher and I schedule the observation visit.	.62	.01	1.01	.01	.00	.00	.03	.23	.064	.11	.13*	.01	.03	4.43	.88
e) The teacher and I discuss their preparation.	1.97	.09	1.54	.01	.57	.04	.05	1.89	.08	.09	.11	.01	.00	3.77	1.13
f) I share one or more grids with the teacher to note the observations.	.07	.00	.67	.00	.00	.01	.00	.88	.08	.05	.70	.10	.03	3.81	1.45

Table 2

Principals' Individual Supervision Practices during the Observation and Independent Variables

	Sociodemographic variables		Socioprofessional variables						School characteristics						
	Gender (T=)	Age (r^2)	Status (T=)	Experience as principal (r^2)	Experience in the school (r^2)	Teaching experience (r^2)	Certification (r^2)	Training received in supervision (T=)	Number of students (r^2)	Number of teachers (r^2)	Number of vice-principals (r^2)	Number of schools (r^2)	Deprivation index (r^2)	**MEAN (/5)**	**STANDARD DEVIATION**
PRINCIPALS' PRACTICES DURING THE OBSERVATION (r^2)															
a) I observe the aspects agreed upon with the teacher.	2.43	.00	1.3	.00	.00	.00	.05	.04	.11	.22**	.25**	.01	.00	4.34	.87
b) I discreetly observe.	2.47	.08	.67	.04	.05	.07	.00	.7	.05	.07	.11	.01	.00	4.49	.70

Table 3

Principals' Individual Supervision Practices after the Observation and Independent Variables

	Sociodemographic variables		Socioprofessional variables						School characteristics						
	Gender (T=)	Age (r^2)	Status (T=)	Experience as principal (r^2)	Experience in the school (r^2)	Teaching experience (r^2)	Certification (r^2)	Training received in supervision (T=)	Number of students (r^2)	Number of teachers (r^2)	Number of vice-principals (r^2)	Number of schools (r^2)	Deprivation index (r^2)	**MEAN (/5)**	**STANDARD DEVIATION**
PRINCIPALS' PRACTICES AFTER THE OBSERVATION (r^2)															
a) I meet with the teacher.	.36	.034	.96*	.06	.07	.03	.04	.45	.03	.03	.075	.01	.00	4.80	.63
b) I ask the teacher to perform a self-evaluation.	.41	.13*	.49	.03	.04	.05	.02	.58*	.06	.11*	.024	.05	.13*	4.34	.87
c) I share my comments with the teacher.	.65	.02	1.75**	.01	.03	.04	.04	.59	.01	.03	.11	.01	.12	4.94	.42
d) I ask the teacher what they need: training, resources, guidance etc.	.41	.00	.13	.00	.02	.00	.03	.81	.02	.03	.00	.05	.04	4.31	.76
e) I express to the teacher the goals to reach for the next supervision.	.93	.03	1.01	.17*	.04	.01	.01	1.52	.12*	.17*	.15*	.00	.04	4.31	.90
f) I decide with the teacher which goals are to be reached for the next supervision.	1.35	.00	.31	.06	.00	.00	.01	1.43	.08	.09	.01	.00	.00	4.29	.83
g) I prepare an observation report of the meeting.	.11	.03	.17	.03	.15*	.00	.00	1.16	.05	.03	.04	.12*	.01	3.89	1.30

Table 4

Principals' Individual Supervision Practices: Measures of Central Tendency and Dispersion

	BEFORE the observation visit	DURING the observation visit	AFTER the observation visit
Cronbach's alpha	.903	.611	.845
Minimum	2	3	3.29
Maximum	5	5	5
Mode	3.83	4	4
Median	4	4.25	4.43
Mean (/5)	4	4.34	4.31
S. deviation	.70	.57	.44

$p < 0.01$) was found between the mean of the pre-observation practices and that following the in-class observation ($M = 4.31$; $SD = .44$). Lastly, no statistically significant difference was found ($t(32) = .397$, $p > 0.05$) between the means of the practices during and following the observation.

Collective Teacher Supervision Practices

Table 5 responds to two research questions.

1. In collective supervision, which practices were used by the principals to effectively transform their school-team into a professional learning community (PLC)?
2. What connections existed between the collective supervision practices of principals and their sociodemographic/socioprofessional characteristics and those of their school?

A point important to mention is that the Cronbach's alpha was calculated between the factors of each of the five collective teacher supervision practices identified by DuFour and Eaker (2004), with the resulting values respectively measured as 0.83 (good), 0.71 (good), 0.81 (good), 0.82 (good), and 0.64 (acceptable).

Table 5 presents four statistically significant correlations ($p < 0.05$). Indeed, our findings show that the principals were more likely to share their authority and their responsibilities compared to their vice-principals. In addition, the more teachers they had, the more the principals employed ethical practices. Furthermore, the greater the number of schools under the principal's authority, the more likely the latter was to daily communicate the common visions and values of their school-teams. In addition, our results suggest that principals in impoverished areas were more likely to provide their teachers with needed training and guidance with regard to their decision making. A statistically significant connection ($p < 0.01$) also shows that the principals in underprivileged areas made greater use of ethical practices. Lastly, we observed that the least-used collective supervision practice was that of creating collaborative structures centered on teaching and learning, although the principals did communicate the common vision and values on a daily basis with their teaching staff.

Table 5

Principals' Collective Supervision Practices for the Successful Transition from School to PLC (DuFour & Eaker, 2004) and Independent Variables

	1. Communicate the common visions and values of the school-team daily	2. Involve the teachers in the decision-making processes: sharing power and responsibilities	3. Provide the necessary information, training, and guidance to make sound decisions	4. Ethical action	5. Create collaborative structures centered on teaching and learning	**Mean**	**Standard deviation**
Sociodemographic variables							
Gender	T = 1.08	T = 1.03	T = 1.48	T = .96	T = .84	-	-
Age	r^2 = .029	r^2 = .01	r^2 = .011	r^2 = .07	r^2 = .04	45.85	5.82
Socioprofessional variables							
Status	T = .23	T = .23*	T = 1.94	T = 1.5	T = .59	-	-
Experience as principal	r^2 = .04	r = .02	r^2 = .01	r^2 = .00	r^2 = .04	8.65	4.16
Experience in the school	r^2 = .04	r^2 = .02	r^2 = .01	r^2 = .00	r^2 = .04	4.66	4.63
Teaching experience	r^2 = .02	r^2 = .00	r^2 = .00	r^2 = .09	r^2 = .08	14.08	6.56
Certification	r^2 = .08	r^2 = .00	r^2 = .1	r^2 = .00	r^2 = .09	-	-
Training received in teacher supervision	T = 1.17	T = .88	T = .2	T = .75	T = 1.74	-	
School characteristics							
Number of students	r^2 = .02	r^2 = .00	r^2 = .07	r^2 = .03	r^2 = .02	764.08	898.93
Number of teachers	r^2 = .08	r^2 = .04	r^2 = .06	r^2 = .12*	r^2 = .00	40.19	22.93
Number of v-principals	r^2 = .06	r^2 = .03	r^2 = .08	r^2 = .07	r^2 = .00	2.31	1.25
Number of schools under their responsibility	r^2 = .10*	r^2 = .00	r^2 = .1	r^2 = .10	r^2 = .00	2.5	.74
Deprivation index	r^2 = .07	r^2 = .01	r^2 = .12*	r^2= .49**	r^2 = .03	4.03	2.46
Mean	4.13	4.02	3.99	4.11	3.90	4.03	
Standard Deviation	.44	.5	.4	.45	.58	.47	

Individual and Collective Teacher Supervision Practices

Table 6 presents a synthesis of the test results in response to the question regarding which type of supervision (individual or collective) was most used by the principals in our study.

Table 6

Cumulative Means of the Principals' Individual and Collective Supervision Practices

	Mean (/5)	SD
Individual supervision practices		
Frequency of practices prior to the in-class observation	4	.70
Frequency of practices during the in-class observation	4.34	.57
Frequency of practices following the in-class observation	4.31	.44
Cumulative mean of the individual supervision practices	4.22	.57
Collective supervision practices		
1. Daily communicate the common visions and values of the school-team	4.13	.44
2. Involve the teachers in the decision-making processes: sharing power and responsibilities	4.02	.5
3. Provide the necessary information, training, and guidance to make sound decisions	3.99	.4
4. Ethical action	4.11	.45
5. Create collaborative structures centered on teaching and learning	3.90	.58
Cumulative mean of the collective supervision practices	4.03	.47

The paired T-test reveals a statistically significant difference ($t(33) = 4.107$, $p < 0.01$) between the cumulative mean of the individual supervision practices (M = 4.22; SD = .57) and that of the collective supervision practices (M = 4.028; SD = .473).

Discussion

Initial Training and Continuing Education

Our initial analysis shows that 36.1% of the respondents stated having received training (initial and/or continuing) in teacher supervision. This appears low, considering the context in Québec where school principals must hold a) a Bachelor's or in some cases a Master's degree in education, b) be certified by the *Ministère de l'Éducation, du Loisir et du Sport* (MELS), and c) have completed a university graduate program (at least 30 credits) in school administration leadership. Six of these credits must be acquired prior to the first appointment as principal, and the remaining during the five years following appointment to the position (Barnabé & Toussaint, 2002; Service Canada, 2013). Either the respondents entertained a more restrictive notion of teacher supervision and thus failed to fully associate it with an initial or continuing training activity they had experienced, or they actually received no training on the subject. It must be mentioned here that studies on skills development and knowledge acquisition contexts for school principals are few and far between; indeed, the scope and depth of studies on teacher development far outweigh those targeting principals.

The present study delves deeper by showing that principals who had received teacher supervision training were more likely to ask their teacher to perform a self-evaluation during an individual post-observation meeting (see Table 3). Of interest is that the most recent research on teacher supervision training for principals shows that the most used pedagogical action remains

that of participating in more theoretical training activities with no particular longitudinal follow-up by external experts (Marshall, 2013). This type of training actually generates few sustainable changes in how principals supervise their teachers. Our respondents in fact stated that principals were in fact the most effective trainers of their peers in developing novel competencies. It is precisely for this purpose that the 39 principals participating in this study will be trained and accompanied in their teacher supervision projects through the learning community approach. This approach will meet the cognitive, affective, and ideological demands of these school leaders through co-training activities, collaborative initiatives, and the sharing of knowledge and effective practices (Bickmore, 2010).

School Characteristics and Supervision Practices

Our findings regarding school size appear to contradict those of the aforementioned studies that mostly attribute smaller area schools with such advantages as a greater flexibility in implement peer supervision practices (e.g., Leithwood & Jantzi, 2009). Older studies on the subject mention advantages such as reduced bureaucracy, greater security, and faster action in dealing with behaviours, as well as greater parent/community participation and greater accountability in smaller settings (Riggen, 2013). To the contrary, we observed a significantly positive correlation between a large number of students and a high number of in-class observations as well as pre-observation meetings with the teacher to go over aspects which they feel should be addressed during the supervision. In addition, an elevated number of teachers was associated with an elevated number of ethical practices by the principal. The fact of heading more than one school correlated with a more effective daily communication of the goals/values shared by the school-teams. It must however be pointed out that at this stage, no trace of multi-collinearity was found between the independent variable *School size* (number of students, teachers, and principals) and the fact of directing more than one school (variance inflation factor (VIF) = 1.58).

Additionally, in contrast with the conclusions of the CRIFPE (2007) study—which generally associated a greater level of satisfaction by privileged area school principals in terms of their responsibilities, practices, acknowledgement received, and level of accountability—our results indicate that the principals in socioeconomically disadvantaged areas were more inclined to ask their teachers to do a self-evaluation. Consequently, this was commonly the least-used supervisory practice following the in-class observation. Our study also shows that the principals in socioeconomically disadvantaged areas were more likely to promote ethical practices and provide the proper training and guidance to help their teachers make informed decisions. While it is difficult to explain these contrasting results, we hypothesize that principals in larger schools as well as those in socioeconomically disadvantaged areas have not only developed a greater social ability to deal with challenges and stress, but have also adapted by adopting practices that better suit the community. This claim, although promising, remains to be explored with further research focusing more specifically on school management in disadvantaged settings.

Teacher Supervision Practices

Our results reveal that the pre-observation phase was the most omitted activity in individual pedagogical supervision. But what of the individual supervision guidelines of the school districts involved in this research project? Do they advocate the pre-observation meeting in the

supervision process? According to their HR services, the answer is yes, as these procedures are clearly identified in a teacher performance assessment guidebook reserved for school principals. This recommendation is only made to principal-supervisors when it regards teacher assessment; no formal policy on teacher supervision in a perspective of exchange and professional development currently exists in these school districts.

In response to this situation, we strongly urge these school districts to not only adopt a policy with specific goals and guidelines for individual and collective teacher supervision, but to also work toward a flexible approach to this important form of supervision. We thus recommend that the pre-assessment interview be transferred to the supervision process and suggest that this clarification of the anticipated skills, expectations of both parties, observation resources used, and steps of the supervision process will hopefully allow for a better interpretation of the concepts (Nolan & Hoover, 2008), as established in the research problem.

On a different note, the results of this study indicate that the practice used least often following the in-class observation was the writing of an observation report. Does this practice accentuate the persistent tension that exists between the professional autonomy of the teacher and the control exercised by their principals? Despite its formative purpose, does this report render supervision too formal?

Lastly, we found a statistically significant difference between the frequency of individual supervision practices (more frequent) and that of collective supervision practices. This observation should force us to rethink the design of pedagogical supervision which is often proposed as a one-on-one process. Furthermore, we must broaden our knowledge regarding the benefits of collective supervision to notably support the progress and results relative to the goals and priorities of the school, ensure focused coordination (between the classes, levels, cycles, and the school), enhance awareness regarding teaching and learning practices, provide immediate assistance to the teaching staff and their needs, encourage professional exchange and reflection, be more time-efficient, and strengthen practices to ultimately improve student achievement.

Conclusion

We sought to identify, quantify, and compare the individual and collective supervision practices of school principals in light of their sociodemographic and socioprofessional characteristics and those of their schools. Our findings indicate that 36.1% of the principals in our study stated having received both initial and continuing training in teacher supervision (n = 13). In addition, it appears that the principals tended to prefer individual supervision practices, particularly the in-class observation and post-observation meeting. Pre-observation practices were less frequently employed, such as discussing preparation with the teacher and sharing grids to note the observations. The principals from underprivileged area schools were more inclined to provide the necessary supervision and training for their teachers. Despite the elevated number of students and number of teachers to supervise, the principals from larger schools not only organized frequent pre-observation meetings and were able to arrive at a consensus with their staff on what needed to be supervised, but were also more likely to use ethical practices. As for the principals responsible for more than one school, they tended to adopt more frequent opportunities to communicate the visions and values shared by their teachers.

All things considered, correlational research establishes no cause and effect connection between variables. Indeed, if variable A shows a statistically significant connection to variable B, there is nothing to indicate which variable is the cause of the other. Furthermore, a third variable, C,

may possibly be the cause of both A and B. In this sense, other associations may come into play through the introduction of control variables. Other characteristics may also have been considered here, such as the type and level of motivation and the principals' perceptions of efficacy. In light of the results of the present study, it is evident that teacher supervision must be a priority shared not only by the school principal and district leaders but also the Ministry of Education and universities in terms of initial teacher training. These professionals and institutions must strive together to welcome changes in existing training formats, examine networking and collaborative opportunities, and rethink how the competencies of school principals in individual and collective pedagogical supervision can become more effective.

Acknowledgements

Ministère de l'Éducation, de l'Enseignement supérieur et de la Recherche du Québec

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