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## **Principal Instructional Leadership and Teaching for Learner Autonomy: A Multilevel Analysis of the Case of South Korea \***

### **Abstract**

This study aims to explore how teachers' use of instructional strategies to foster learner autonomy varies depending on principal instructional leadership. Based on a nationally representative sample of approximately 2,200 teachers in 131 middle schools in South Korea, a series of hierarchical generalized linear modeling analyses has been conducted. The main findings from this study lend credence to the idea that teachers whose school principals provide greater instructional leadership are significantly more likely to integrate instructional strategies to advance learner autonomy into their classroom teaching. This result appears very robust even after a range of variables pertaining to school and teacher characteristics is simultaneously taken into account.

### **Introduction**

This study examines how principal instructional leadership is associated with teachers' effort to use instructional strategies to advance student autonomy in learning. Although there has been extensive evidence pointing to the beneficial effects of teachers' autonomy-supportive behaviors on students' academic competence, engagement, and achievement (Assor, Kaplan, & Roth, 2010; Black & Deci, 2000; Reeve, Jang, Carrell, Jeon, & Barch, 2004), little systematic effort has been made to understand what types of teachers, under what contextual conditions, use instructional strategies that are conducive to learner autonomy. As a first step toward systematic investigation in this direction, this study empirically explores

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how teachers' use of instructional strategies to foster learner autonomy varies depending on principal instructional leadership, one of the decisive factors known to exert a substantial influence on teachers' instructional practices.

In particular, this study examines teaching for learner autonomy in South Korea, where educational discourse has recently witnessed an increasingly problematic situation where students are usually viewed as passive recipients of a standardized package of information and knowledge for tests, rather than as active agents of learning and creative producers of useful knowledge and skills who are well prepared to be responsible and competent global citizens and leaders. Although the context of this study is confined to the case of South Korea, we believe the current context of educational reform in South Korea epitomizes a range of educational reform ideas and policies present in many countries that commonly highlight the importance of helping individual students become autonomous learners who are capable of not only wisely consuming, but also creatively producing knowledge and skills.

## **Conceptual Framework**

A lot of educational literature highlights that individual students' distinctiveness and uniqueness must be paid special attention to, so that they can experience greater engagement in and take fuller responsibility for their own learning. Specifically, autonomy-supportive teachers are known for "creating opportunities for students to work in their own way, [encouraging them] to talk [in class, and] arrange learning materials and seating patterns so students manipulate objects and conversations rather than passively watch and listen" (Reeve, 2006, p. 231). Depending on the instructional strategies used by teachers, the extent to which students believe they are entitled to become active and reflective individuals capable of autonomous learning may vary significantly (Daniels & Perry, 2003; Nucci, Killen, & Smetana, 1996)

Despite the widely acknowledged beneficial effects of autonomy-supportive teaching, teachers may well prefer conventional teaching as they choose to avoid the uncertainties that could emerge from students' unexpected reactions in classrooms and the subsequent risk of not meeting achievement expectations set out by externally defined curriculum standards (Kennedy, 2005; Thomas, 1992). That is, teachers may not be motivated enough to expose themselves to increased "instructional uncertainty" (Cha & Ham, 2012), given that they can safely ensure

a certain basic level of student achievement by simply conforming to conventional teaching practices; in addition, as teachers put greater effort into using instructional strategies to advance learner autonomy, the practice of teaching becomes inevitably less reducible to predictable routines, thereby exposing teachers to a greater extent to the nature of “teaching as an improvisational activity ... [that requires] moment-to-moment responsiveness” (Heaton, 2000, pp. 60–63) in interacting with individual students.

We posit that such instructional uncertainty arising from promoting learner autonomy can be more successfully managed, rather than simply avoided, if a teacher works in a school where the principal provides effective instructional leadership. School principals who are instructional leaders are keen to provide teachers with opportunities to reflect upon and improve their teaching (Blase & Blase, 1999; DiPaola & Hoy, 2007); they serve as facilitators of teacher growth, promoting and sustaining a school climate for continuous learning by keeping teachers well informed about possibilities for getting new insights into their teaching practices (Murphy, 1990; Supovitz & Pogliinco, 2001). This type of principal behavior has been documented to help teachers consider alternative frameworks for understanding teaching, thereby helping teachers face, rather than avoid, instructional uncertainty that arises from their efforts to improve their teaching (Reitzug, 1994; Sergiovanni & Starratt, 2002). In this regard, the following hypothesis is examined in this study: teachers who work in a school where the principal demonstrates a higher level of instructional leadership are more likely to incorporate autonomy-supportive teaching into their instructional practice.

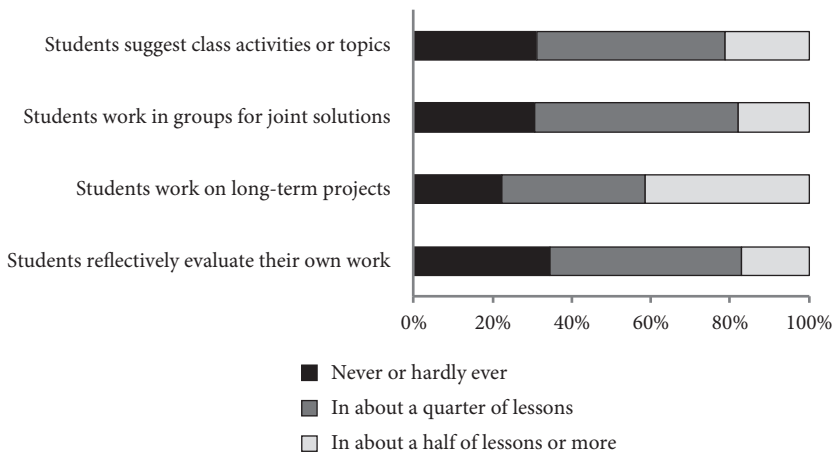
## **Data and Methodology**

The data used in this study come from the OECD Teaching and Learning International Survey (TALIS) 2008. This survey dataset is the first large-scale compilation of data concerning teachers’ work life in schools in many countries. The teachers selected for TALIS 2008 were a nationally representative sample of lower secondary teachers within each country (OECD, 2010). Because this study concerns teachers’ use of instructional strategies for student autonomy in learning as the dependent variable, the teacher is the primary unit of analysis. In terms of hierarchical generalized linear modeling (Raudenbush & Bryk, 2002), teacher-level data constitute level-1 variables. With these teachers nested within their schools

in terms of the data structure, the school is the level-2 unit of analysis. Data for approximately 2,200 teachers in 131 middle schools in South Korea for which all data were available with respect to the variables of interest were analyzed in this study.

With respect to measures of teaching for learner autonomy (TCHAUTO) as dependent variables, the following teacher behaviors that involve instructional strategies for fostering student autonomy in learning were used in this study: the TALIS 2008 survey asked teachers how often their students were encouraged to “suggest or to help plan classroom activities or topics” (TCHAUTO\_I), “work in small groups to come up with a joint solution to a problem or task” (TCHAUTO\_II), “work on projects that require at least one week to complete” (TCHAUTO\_III), and “evaluate and reflect upon their own work” (TCHAUTO\_IV). These teacher behaviors, while not exhaustive, provide some illustrative examples of teachers’ use of the type of instructional strategies that help students become autonomous learners who are empowered to make important decisions on their own learning and reflectively monitor their own progress while actively engaging in collaborative and sustained inquiry and discovery (Little, 1994; Reeve, 2006). All these variables are ordinal-scale categorical variables. The breakdown of these variables, after appropriate weighting was applied to the data, is presented in Figure 1.

**Figure 1:** Frequencies of teachers’ use of teaching for learner autonomy, the case of middle schools in South Korea, by instructional strategy



With respect to the primary independent variables, the following variables were used to test the hypothesis for this study:

*Principal instructional leadership, principals' self-report* (INSTL\_PR): A school-level continuous variable that measures principals' self-assessment of their own instructional leadership behaviors. This variable was constructed based on the frequencies of the following behaviors as reported by individual principals: "I give teachers suggestions as to how they can improve their teaching" and "I inform teachers about possibilities for updating their knowledge and skills." This variable theoretically ranges from one (= the principal reports that she/he "never" engages in these behaviors) to four (= the principal reports that she/he "very often" engages in these behaviors).

*Principal instructional leadership, teachers' collective perception* (INSTL\_TE): A school-level continuous variable that captures the degree to which teachers in a school collectively perceive their principal as an instructional leader. To construct this variable, the teacher-level data were aggregated at the school level and then linked to the principal data. Specifically, teachers' perceptions of how frequently the following activities took place in their school were used to create the variable: "The principal gives teachers suggestions as to how they can improve their teaching" and "The principal ensures that teachers are informed about possibilities for updating their knowledge and skills." This variable theoretically ranges from one (= all teachers agree that these activities "never" happen at this school) to four (= all teachers agree that these activities happen "very often" at this school).

To determine whether the hypothesis examined in this study is empirically supported even after some other possibilities are simultaneously taken into account, the following variables were also considered at level 1: *Advanced degree* (DEGREE): A dichotomous variable indicating whether a teacher has a graduate degree (coded one) or not (coded zero). *Scholarly activity* (SCHOLAR): A dichotomous variable indicating whether a teacher participates in scholarly activities or not. If a teacher not only conducted individual or collaborative research on a topic of interest to her/him professionally but also attended educational research conferences during the previous one and a half years, the teacher was considered as engaging in scholarly activities (coded one; otherwise, zero). *Teaching load* (TCHLOAD): The number of hours a teacher spent teaching students in a typical school week (divided by 10 to make 10 hours a unit). *Administrative workload* (ADMINIS): The number of hours a teacher spent completing administrative duties in a typical school week (divided by 10 to make 10 hours a unit). *Teacher experience* (EXPERNC): The length of a teacher's experience as a school teacher. This variable ranges from one (= less than one year) to seven (= more than 20 years).

In addition to these level-1 control variables, the following variables were also controlled at level 2 because they might shape important parts of the contextual contour of classroom teaching: *Student-teacher ratio* (STURATIO): The ratio of students to teachers in a school (divided by 10 to make 10 students per teacher a unit), which is a school-level continuous variable that should be strongly negatively correlated with class size. *Student performance* (PERFORM): A school-level continuous variable reflecting the level of students’ academic performance in a school. To construct this variable, the data on individual teachers’ perceptions of “the ability of students” in their schools “compared to other students in the same grade/year level” were aggregated at the school level. This variable theoretically ranges from one (= all teachers in a school describe the ability of their students as “much lower than average ability”) to five (= all teachers in a school describe the ability of their students as “much higher than average ability”). *Private school* (PRIVATE): A dichotomous variable indicating whether a school is a private school (coded one) or not (coded zero). The descriptive statistics for all these level-1 and level-2 independent variables used for this study are presented in Table 1.

**Table 1.** Unweighted description for independent variables

	n	Mean	SD	Min.	Max.
Primary independent variables					
School level:					
Principal instructional leadership, principal's self-report (INSTL_PR)	131	3.21	.45	2.00	4.00
Principal instructional leadership, teachers' collective perception (INSTL_TE)	131	2.49	.25	1.91	3.06
Control variables					
Teacher level:					
Advanced degree (DEGREE)	2,264	.35	...	.00	1.00
Scholarly activity (SCHOLAR)	2,248	.28	...	.00	1.00
Teaching load (TCHLOAD)	2,220	1.92	.54	.10	5.00
Administrative workload (ADMINIS)	2,193	.91	.62	.00	5.00
Teacher experience (EXPERNC)	2,258	5.29	1.68	1.00	7.00
School level:					
Student-teacher ratio (STURATIO)	131	2.03	.52	.14	2.98
Student performance (PERFORM)	131	2.89	.46	1.56	4.09
Private school (PRIVATE)	131	.17	...	.00	1.00

Multilevel ordinal logistic regression, which is a form of hierarchical generalized linear modeling, was used in this study, as suggested by O’Connell et.al., (2008) and Raudenbush and Bryk (2002). Specifically, for teacher *i* in school *j*:

$$P(R_{ij} = 1) = \text{Prob}(\text{TCHAUTO}_{ij} = \text{“In about a half of lessons or more”}),$$

$P(R_{ij} = 2) = \text{Prob}(\text{TCHAUTO}_{ij} = \text{“In about a quarter of lessons”}),$

$P(R_{ij} = 3) = \text{Prob}(\text{TCHAUTO}_{ij} = \text{“Never or hardly ever”}),$

and :

$P(R_{ij} \leq m) = P(R_{ij} = 1) + \dots + P(R_{ij} = m).$

Then, the level-1 model is specified as

$$\begin{aligned} \eta(m)_{ij} &= \ln\{P(R_{ij} \leq m) / [1 - P(R_{ij} \leq m)]\} \\ &= \beta_0j + \beta_1j(\text{DEGREE})_{ij} + \beta_2j(\text{SCHOLAR})_{ij} + \beta_3j(\text{TCHLOAD})_{ij} \\ &\quad + \beta_4j(\text{ADMINIS})_{ij} + \beta_5j(\text{EXPERNC})_{ij} + D(2)_{ij}\delta(2), \end{aligned}$$

where  $\beta_0j$  is the intercept, and  $\beta pj$  for  $1 \leq p \leq 5$  is the slope for each level-1 variable.  $D(2)_{ij}$  is a dummy variable indicating whether  $m = 2$  (then,  $D(2)_{ij} = 1$ ) or not (i.e., if  $m = 1$ ,  $D(2)_{ij} = 0$ ), and  $\delta(2)$  is the threshold difference, which equals  $\eta(2)_{ij} - \eta(1)_{ij}$ .

At level 2, the intercept and the slopes are specified as follows:

$$\begin{aligned} \beta_0j &= \gamma_{00} + \gamma_{01}(\text{INSTL\_PR})_j + \gamma_{02}(\text{INSTL\_TE})_j + \gamma_{03}(\text{STURATIO})_j \\ &\quad + \gamma_{04}(\text{PERFORM})_j + \gamma_{05}(\text{PRIVATE})_j + u_{0j}, \text{ and} \\ \beta pj &= \gamma_{p0} \text{ for } 1 \leq p \leq 5, \end{aligned}$$

where  $\gamma_{00}$  is a constant, and  $\gamma_{0b}$  for  $1 \leq q \leq 5$  is the slope for each level-2 variable. A random error,  $u_{0j}$ , is added to the intercept in light of the possibility of random variance due to some factors that are unique to individual schools, while the slopes are treated as fixed.

In addition to this statistical model, two variations on the model were also examined: the model with the control variables removed and the model with the subject area variable added. In all our multilevel ordinal logistic regression analyses, all level-1 and level-2 independent variables were grand-mean-centered. Appropriate sampling weights designed to be used for multilevel modeling analyses were applied to the dataset to produce more accurate estimates at the national level (OECD, 2010).

## **Results**

Table 2 presents the results of our hierarchical generalized linear modeling analyses of the teachers' use of instructional strategies to foster learner autonomy. A very clear pattern emerges: in all models presented in Table 2, the principal's instructional leadership as collectively perceived by the teachers is significantly positively associated with all four instructional strategies for promoting learner autonomy examined in this study. This significant association appears to persist even when a range of other variables are simultaneously taken into account. This

result strongly supports this study’s hypothesis that teachers who work in a school where the school principal effectively demonstrates greater instructional leadership are more likely to integrate elements of teaching for learner autonomy into their classroom instructional practice.

For instance, with respect to the teachers’ efforts to encourage students to work on long-term projects (model III-b), the ordered log-odds estimate for the effect

**Table 2.** Multilevel ordinal logistic regressions for teaching for learner autonomy

Fixed effect	I. Students suggest class activities or topics					
	a		b		c	
	Coeff.	(SE )	Coeff.	(SE )	Coeff.	(SE )
Intercept, $\gamma_{00}$	-802	(.050) ***	-.875	(.054) ***	-.891	(.053) ***
Level 2:						
INSTL_PR, $\gamma_{01}$	.043	(.084)	.058	(.081)	.044	(.082)
INSTL_TE, $\gamma_{02}$	.659	(.171) ***	.521	(.182) **	.536	(.186) **
STURATIO, $\gamma_{03}$			.016	(.101)	.034	(.103)
PERFORM, $\gamma_{04}$			-.025	(.127)	.004	(.127)
PRIVATE, $\gamma_{05}$			.446	(.124) ***	.430	(.130) **
Level 1:						
DEGREE, $\gamma_{10}$			.210	(.117)	.217	(.118)
SCHOLAR, $\gamma_{20}$			.642	(.092) ***	.602	(.097) ***
TCHLOAD, $\gamma_{30}$			-.003	(.102)	.015	(.098)
ADMINIS, $\gamma_{40}$			.146	(.068) *	.156	(.072) *
EXPERNC, $\gamma_{50}$			-.054	(.032)	-.055	(.031)
Subjects (ref. = math)						
Language arts, $\gamma_{60}$					-.296	(.181)
Science, $\gamma_{70}$					-.447	(.198) *
Social studies, $\gamma_{80}$					-.279	(.179)
Foreign language, $\gamma_{90}$					.112	(.196)
Art, $\gamma_{100}$					.507	(.217)
Others, $\gamma_{110}$					.265	(.157) *
Threshold diff., $\delta_{(2)}$	2.193	(.081) ***	2.273	(.084) ***	2.316	(.082) ***
Level-2 df	128		125		125	
Level-1 df	2,206		2,101		2,095	
Random effect	Var.	$\chi^2$	Var.	$\chi^2$	Var.	$\chi^2$
Intercept, $u_{0j}$	.00	130.36	.00	122.19	.00	125.68

Note. Coeff. = Unstandardized ordered logit coefficients with robust standard errors in parentheses. Var. = Variance component. For the chi-square tests for random effects, the degrees of freedom are equal to level-2 df’s reported in the table. All independent variables are grand-mean-centered.

\*p ≤ .05; \*\*p ≤ .01; \*\*\*p ≤ .001.



Table 2. (cont'd.)

Fixed effect	II. Students work in groups for joint solutions					
	a		b		c	
	Coeff.	(SE )	Coeff.	(SE )	Coeff.	(SE )
Intercept, $\gamma_{00}$	-.787	(.059) ***	-.864	(.062) ***	-.884	(.064) ***
Level 2:						
INSTL_PR, $\gamma_{01}$	-.156	(.107)	-.099	(.100)	-.108	(.104)
INSTL_TE, $\gamma_{02}$	.709	(.232) **	.532	(.196) **	.501	(.202) *
STURATIO, $\gamma_{03}$			-.223	(.143)	-.241	(.141)
PERFORM, $\gamma_{04}$			.178	(.179)	.204	(.171)
PRIVATE, $\gamma_{05}$			.131	(.155)	.102	(.159)
Level 1:						
DEGREE, $\gamma_{10}$			.095	(.108)	.104	(.108)
SCHOLAR, $\gamma_{20}$			.708	(.126) ***	.689	(.129) ***
TCHLOAD, $\gamma_{30}$			.055	(.097)	.085	(.092)
ADMINIS, $\gamma_{40}$			.026	(.087)	.034	(.090)
EXPERNC, $\gamma_{50}$			-.103	(.031) ***	-.110	(.033) ***
Subjects (ref. = math)						
Language arts, $\gamma_{60}$					.185	(.174)
Science, $\gamma_{70}$					.220	(.185)
Social studies, $\gamma_{80}$					-.293	(.222)
Foreign language, $\gamma_{90}$					.347	(.189)
Art, $\gamma_{100}$					.750	(.269) **
Others, $\gamma_{110}$					.633	(.175) ***
Threshold diff., $\delta_{(2)}$	2.415	(.085) ***	2.498	(.090) ***	2.554	(.092) ***
Level-2 df	128		125		125	
Level-1 df	2,207		2,101		2,095	
Random effect	Var.	$\chi^2$	Var.	$\chi^2$	Var.	$\chi^2$
Intercept, $u_{0j}$	.06	177.0 **	.07	180.49 ***	.08	185.19 ***

of the principal's instructional leadership as collectively perceived by the teachers is 0.483, which translates into  $\exp(0.483) = 1.621$  in terms of the odds ratio, i.e., for a one-unit increase in the teachers' collective perception of the principal's instructional leadership, we can expect to see a 62.1%  $(= (1.621 - 1) \times 100)$  increase in the odds of moving to the next higher level in the teachers' encouragement of students working on long-term projects, after all other things in the model are taken into account. The magnitude of the effect of the same principal instructional leadership variable increases further when the dependent variable becomes one of the other instructional strategies examined, i.e., encouraging students to suggest

Table 2. (cont'd.)

Fixed effect	III. Students work on long-term projects					
	a		b		c	
	Coeff.	(SE)	Coeff.	(SE)	Coeff.	(SE)
Intercept, $\gamma_{00}$	-1.255	(.056) ***	-1.357	(.064) ***	-1.414	(.065) ***
Level 2:						
INSTL_PR, $\gamma_{01}$	-.139	(.078)	-.106	(.078)	-.111	(.088)
INSTL_TE, $\gamma_{02}$	.626	(.159) ***	.483	(.156) **	.500	(.169) **
STURATIO, $\gamma_{03}$			-.099	(.098)	-.129	(.106)
PERFORM, $\gamma_{04}$			.020	(.118)	.062	(.118)
PRIVATE, $\gamma_{05}$			.174	(.126)	.142	(.146)
Level 1:						
DEGREE, $\gamma_{10}$			.082	(.106)	.104	(.102)
SCHOLAR, $\gamma_{20}$			.739	(.119) ***	.657	(.116) ***
TCHLOAD, $\gamma_{30}$			-.053	(.080)	.008	(.085)
ADMINIS, $\gamma_{40}$			.097	(.075)	.108	(.077)
EXPERNC, $\gamma_{50}$			-.070	(.033) *	-.088	(.034) **
Subjects (ref. = math)						
Language arts, $\gamma_{60}$					.203	(.174)
Science, $\gamma_{70}$					-.414	(.192) *
Social studies, $\gamma_{80}$					.190	(.207)
Foreign language, $\gamma_{90}$					-.237	(.194)
Art, $\gamma_{100}$					1.357	(.194) ***
Others, $\gamma_{110}$					.766	(.199) ***
Threshold diff., $\delta_{(2)}$	1.652	(.073) ***	1.715	(.077) ***	1.812	(.081) ***
Level-2 df	128		125		125	
Level-1 df	2,191		2,088		2,082	
Random effect						
Intercept, $u_{0j}$	Var.	$\chi^2$	Var.	$\chi^2$	Var.	$\chi^2$
	.00	119.37	.00	114.2	.00	128.4

class activities or topics (model I-b), to work in groups for joint solutions (model II-b), or to reflectively evaluate their own work (model IV-b).

In contrast to the strong effect of the teachers' collective perception of the principal's instructional leadership on the teachers' use of instructional strategies to foster learner autonomy, the effect of the same leadership behavior as reported by the principals themselves appears to be unrelated to the teachers' classroom teaching with respect to any of the four autonomy-supportive instructional strategies examined in this study. One way to interpret these contrasting results is that the principal's instructional leadership behavior as collectively perceived by the teach-

Table 2. (cont'd.)

Fixed effect	IV. Students reflectively evaluate their own work					
	a		b		c	
	Coeff.	(SE )	Coeff.	(SE )	Coeff.	(SE )
Intercept, $\gamma_{00}$	-.670	(.057) ***	-.749	(.057) ***	-.768	(.057) ***
Level 2:						
INSTL_PR, $\gamma_{01}$	-.032	(.088)	-.029	(.089)	-.038	(.088)
INSTL_TE, $\gamma_{02}$	.682	(.190) ***	.610	(.186) **	.653	(.194) ***
STURATIO, $\gamma_{03}$			-.104	(.128)	-.091	(.132)
PERFORM, $\gamma_{04}$			.004	(.130)	.036	(.128)
PRIVATE, $\gamma_{05}$			.099	(.152)	.094	(.165)
Level 1:						
DEGREE, $\gamma_{10}$			.243	(.125) *	.235	(.128)
SCHOLAR, $\gamma_{20}$			.719	(.122) ***	.680	(.122) ***
TCHLOAD, $\gamma_{30}$			.040	(.100)	.048	(.097)
ADMINIS, $\gamma_{40}$			.046	(.090)	.068	(.092)
EXPERNC, $\gamma_{50}$			-.071	(.039)	-.074	(.040)
Subjects (ref. = math)						
Language arts, $\gamma_{60}$					-.537	(.176) **
Science, $\gamma_{70}$					-1.016	(.174) ***
Social studies, $\gamma_{80}$					-.608	(.211) **
Foreign language, $\gamma_{90}$					-.415	(.208) *
Art, $\gamma_{100}$					.250	(.205)
Others, $\gamma_{110}$					.171	(.174)
Threshold diff., $\delta_{(2)}$	2.381	(.078) ***	2.473	(.080) ***	2.562	(.083) ***
Level-2 df	128		125		125	
Level-1 df	2,193		2,091		2,085	
Random effect	Var.	$\chi^2$	Var.	$\chi^2$	Var.	$\chi^2$
Intercept, $u_{0j}$	.01	150.2	.02	150.23	.03	152.13 *

ers in a given school may provide more reliable information than the principal's self-report, suggesting the possibility of considerable incongruence between the two measures of the principal's instructional leadership.

In addition to these main findings, it is also notable that the teachers' participation in scholarly activities is strongly associated with their use of all four instructional strategies to promote learner autonomy. For instance, the teachers' participation in professional scholarly activities during the previous one and a half years increased the odds of moving to the next higher level in having students suggest class activities or topics by 90.0% ( $= (\exp(0.642) - 1) \times 100$ ; model I-b)

and encouraging students to reflectively evaluate their own work by 105.2% ( $(\exp(0.719) - 1) \times 100$ ; model IV-b). These patterns suggest the possibility that the teachers who actively seek new ideas about teaching and learning are more likely to put effort into promoting learner autonomy in their classrooms. The length of experience as a school teacher, however, appears to be negatively associated with some strategies of teaching for learner autonomy; the teachers with more years of experience were found to be significantly less likely to have students work in groups for joint solutions (model II-b) or work on long-term projects (model III-b). Such an inverse relationship between the length of teaching experience and teaching for learner autonomy may be plausibly attributed, at least in part, to the insufficiency and/or inadequacy of professional development opportunities conducive to the teachers' sustained learning about the reflective practice of teaching.

## **Conclusion**

Educational researchers have ruminated on how to create school environments in which teachers are constantly encouraged to develop and use instructional strategies to foster student engagement in autonomous learning activities (Little, 1995; Reeve, 2006). Despite extensive evidence pointing to the beneficial effects of teaching for learner autonomy on student learning (Black & Deci, 2000; Reeve, 2006; Vallerand, Fortier, & Guay, 1997), little systematic effort has been made to understand what types of teachers, under what contextual conditions, use such instructional strategies. As a first step toward systematic investigation in this direction, this study lends some empirical credence to the idea that teachers whose school principals provide greater instructional leadership are significantly more likely to integrate instructional strategies for advancing learner autonomy into their classroom teaching, after a range of school and teacher characteristics are taken into account. This result is very suggestive, as it sheds new light on the importance of the principal instructional leadership model in which teachers are empowered to become more attuned to ways in which they can creatively overcome the sharp contradiction "between the ideal of [learner] autonomy and the prevailing rigid and closed school structure which usually prevents true [educational] experimentation" (Aviram, 1993, p. 419). We hope the findings from this study will stimulate further inquiry into how to build and sustain a school environment in which teachers are constantly encouraged to develop as reflective practitioners who can design and implement innovative instructional strategies for advancing learner autonomy in their classrooms.

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