International professional learning communities: The role of enabling school structures, trust, and collective efficacy

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We explored the role of enabling school structures, trust in the principal, collegial trust, and collective efficacy in 15 pre-Kindergarten to 12th grade international, private schools in South and Central America. The majority of these schools shared an "American" curriculum that was taught predominantly in English, but we found that local culture and school norms affected the development of professional learning communities in each school and country accordingly. In this quantitative study based upon teacher perceptions we found that the more established the enabling school structures, trust in principal, collegial trust, and collective efficacy, the more likely the professional learning community was to be developed.

Keywords: professional learning communities; trust; collective efficacy; enabling school structures; international private education

INTRODUCTION

Many studies have been conducted about professional learning communities (PLCs); some even in international schools. While there is much research about the role of the factors: trust, enabling school structures, and collective efficacy, to our knowledge, none has been applied to PLCs in the context of private international schools in Mexico, and South and Central America. This paper explores the role of enabling school structures, trust in the principal, collegial trust, and collective efficacy in the development of PLCs in 14 private international schools in Mexico, and South and Central America. Each school had students that ranged from pre-Kindergarten to 12th grade. We hypothesized that enabling school structures, trust in the principal, collegial trust, and collective efficacy would individually and jointly predict the development of PLCs in these schools. Our work extends the knowledge about the development of PLCs, provides the theoretical and practical implications of such, and adds to the literature base about private international schools.

THEORETICAL FRAMEWORK

One of the assumptions underlying the theoretical framework on PLCs is that trust is an essential aspect of its development. The school leader is responsible for establishing enabling school structures through policies, rules, and shared decision-making so that a PLC can be developed and sustained over time (Gray, 2011; Hoy 2002; Hoy & Sweetland, 2001). Teachers need time to meet, share best practices, and develop lessons collaboratively (Hord, 1997). In considering PLCs in an international context, we are making the assumption that despite geographic location certain common characteristics will be found amongst PLCs in international private schools.

Certain structural conditions are essential to the development of a PLC, including: "openness to improvement, trust and respect, access to expertise, supportive leadership, and socialization . . . time and places to meet and talk, interdependent teacher roles, communication structures, teacher empowerment and school autonomy" (Kruse, Louis, & Bryk, 1994, p. 4). Enabling school structures, the policies, rules, and conditions that help teachers to do their jobs more effectively represent these structural conditions within a PLC. School leaders must demonstrate support for teachers' willingness to collaborate, implement new instructional strategies, and share best practices with each other.

Trust and efficacy play an important role in how teachers interact with one another. Because teachers learn, plan, and develop curricula together, their relationships are influenced by the levels of trust and efficacy they have in one another. Trust in colleagues is essential for the maintenance and sustenance of PLCs in schools. How can teachers collaborate with one another if there is a lack of trust? "Trust is the keystone of successful interpersonal relationships, leadership, teamwork, and effective organization" (Forsyth, Adams, & Hoy, 2010, p. 3). The assumptions in our study are that: PLCs are an effective approach to restructuring schools for improvement; enabling school structures enhance PLCs; trust is an integral aspect of PLCs; and collective efficacy promotes collegial relationships (Gray, 2011; Hord, 2004, 2008; Louis & Kruse, 1995).

CONCEPTUAL FRAMEWORK

"Two types of supportive conditions necessary for PLCs to function productively: (1) logistical conditions such as physical and structural factors and resources, and (2) the capacities and relationships developed among staff members so that they may work well and productively together" (Hord, 2007, p. 3). In other words, teachers need time and a place to meet in order to collaborate as well as to interact collegially. The development of PLCs depends upon a focus on learning, effective use of resources and facilities, and positive interaction between all participants (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006).

Enabling school structures represent the formal aspect of the organization, while trust and collective efficacy correspond to the informal part of the organization. In other words, a school with enabling school structures provides the supportive leadership and conditions needed to sustain a professional learning community. Enabling school structures support these conditions and resources, while trust builds the strength of the relationships amongst teachers and the school leader. Without trust in colleagues and the school leader, "shared values," "collective learning," and "shared practice" are difficult, if not impossible, to attain (Hord, 2004, p. 7). Trust is essential to build and sustain a PLC (Stoll & Louis, 2007).

SCHOLARLY AND PRACTICAL SIGNIFICANCE OF THE STUDY

In this study we firstly hypothesized that enabling school structures exist in PLCs and that a relationship exists between the two. Secondly, we hypothesized that trust plays an integral role in the relationships between colleagues and school principals in PLCs. Thirdly, we hypothesized that collective efficacy and PLCs are interrelated. Finally, we hypothesized that there is a collective relationship among: enabling school structures, trust in the principal, collegial trust, collective efficacy, and the development of PLCs as demonstrated in Conceptual Diagram of Hypothesized Relationships. .

REVIEW OF THE LITERATURE

Professional Learning Communities (PLCs)

While there are numerous definitions of PLCs, none is universally accepted. SEDL (Southwest Educational Development Laboratory) credits Hord (2007) with developing the term. We chose the Hord (1997) definition as the best fit for this study because Hord's 1997 research led to the development of the Professional Learning Communities Assessment—Revised (PLCA-R) instrument, which was implemented to gather empirical data for this project (Olivier, Hipp, & Huffman, 2003).

Hord describes a PLC as a collegial group of faculty and staff who are united in their commitment to student learning (1997). According to Hord, PLCs encompass these attributes: supportive and shared leadership, collective creativity, shared values and vision, supportive conditions, and shared personal practice (1997). Building upon Hord's research, McLaughlin and Talbert (2001) summarized PLC as: "teachers' joint efforts to generate new knowledge of practice and their mutual support of each other's professional growth" (p. 75). Further, there are "two types of supportive conditions necessary for PLCs to function productively: (1) logistical conditions such as physical and structural factors and resources, and (2) the capacities and relationships developed among staff members so that they may work well and productively together" (p. 3).

Louis and Kruse (1995) define a professional learning community as an organization with the following characteristics: "shared values, reflective dialogue, deprivatization of practice, focus and student learning, and collaboration" (p. 25). Bryk, Camburn, and Louis (1999) note that "broadly speaking, we use the term professional community to refer to schools in which interaction among teachers is frequent and teachers' actions are governed by shared norms focused on the practice and improvement of teaching and learning" (p. 753).

Johnson (2009) provides a good "working" definition for the concept of PLCs as: "a specific model of organizational development and learning for schools that has as its ultimate aim student learning (sic)" (p. 18). Johnson further asserts that a PLC is a "model of school organization designed to foster collaboration and learning among school personnel and to harness this organizational learning to enhance the learning of all students" (p. 18). Johnson's definition combines those of Hord (1997), Louis and Kruse (1995), McLaughlin and Talbert (2001), and Olivier et al. (2003), adding to the literature about PLCs.

International schools

"Schools describe themselves as international schools for a variety of reasons including the nature of the student population and of the curriculum offered, marketing and competition with other schools in the area, and the school's overall ethos and mission" (Hayden, 2006, p. 10). Despite these characteristics, there is no universal definition for an international school (Hayden & Thompson, 1995). However, these schools share a number of common features (Blandford & Shaw, 2001). For instance, international schools possess cultural diversity in the student body and staff (Roberts, 2010; Walker & Cheong, 2009).

There exists a cultural distance between the international school and local host culture. Generally, there is a high student and staff turnover (Murakami-Ramalho & Benham, 2010). It is important to note that this turnover is not necessarily representative of teacher dissatisfaction. Instead, teachers leave a school so that they can build their international teaching experience by teaching in various countries, or to travel and experience the different cultures in which these schools are located (Joslin, 2002). For the purposes of this study, we define an international school as one that is located

outside of the US, has adopted an "American" curriculum, and is recognized by a regional accrediting agency.

Enabling School Structures (ESS)

Hoy and Miskel (2008) define an enabling school structure as "a hierarchy that helps rather than hinders and a system of rules and regulations that guides problem solving rather than punishes failure" (p. 110). School structures vary along a continuum from enabling to hindering (Hoy & Sweetland, 2001). Hoy and Sweetland (2001) describe the formalization of the structures as: "the degree to which the organization has written rules, regulations, procedures, and policies" (p. 297).

Organizations with enabling structures facilitate problem solving, protect participants, and encourage cooperation and collaboration through flexibility and innovation (Hoy & Sweetland, 2001). In contrast a hindering school structure is tightly managed or controlled by the school leader (Hoy, 2002). Miskel, Fevurly, and Stewart (1979) found that "more effective schools, as perceived by teachers, are characterized by (a) more participative organizational processes, (b) less centralized decision making structures, (c) more formalized general rules, and (d) more complexity or high professional activity" (p. 114). In other words, teachers believe they work in an effective school when they are involved in shared decision-making and collegial relationships, the rules are more formalized, and professional activity is encouraged (Gray, 2011; Hoy & Sweetland, 2001).

Trust in the organization

Trust has been described as being an essential element in the work of schools (Bryk & Schneider, 2002; Hoy & Tschannen-Moran, 1999). For this study trust is defined as "an individual's or group's willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open" (Hoy & Tschannen-Moran, 1999, p. 189). In this study, we focused on two aspects of trust: collegial trust and trust in the principal.

Collegial trust is the faculty belief "that teachers can depend on one another in a difficult situation; teachers can rely on the integrity of their colleagues" (Tschannen-Moran & Hoy, 1998, p. 342). Faculty members who have trust in their principal believe he/she will act with integrity and in the best interests of his/her colleagues (Tschannen-Moran & Hoy, 1998). "The principal who is friendly, supportive, open, and collegial in interactions with teachers is able to command respect and trust from teachers, and trust is further enhanced by protecting teachers from unreasonable community and parental demands" (Hoy, Tarter, & Kottkamp, 1991, p. 96).

Wahlstrom and Louis (2008) contend "Tschannen-Moran's (2004) work on trust implies, creating trust among teachers, which happens within professional communities, may be more significant in stimulating change in practice than does having a trusting relationship with the principal" (p. 482). In summary, trust in the principal has an indirect effect on teacher practice, while trust in colleagues may directly influence classroom practice as teachers collaborate and share instructional strategies (Gray, 2011).

Collective efficacy

Collective efficacy is "the group's shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments" (Bandura, 1997, p. 477). In schools, collective efficacy refers to the perceptions teachers have of their colleagues' ability to affect student outcomes in a positive way (Goddard, 2002; Goddard, Hoy, & Woolfolk Hoy, 2000). Goddard, Hoy, and Hoy (200) further state: "teachers' beliefs about the faculty's capability to

successfully educate students constitute a norm that influences the actions and achievements of schools" (p. 496).

Tschannen-Moran and Goddard (in Forsyth et al., 2011) assert: "collective efficacy explained more school-level variability in faculty trust in clients than other school-level predictors" (2011, p. 60). Forsyth et al. (2011) describe collective efficacy as a "powerful determinant" of collegial trust, which further supports the framework of this study. We contend that the more efficacious the teachers are as a group, the more likely they are to develop and sustain a PLC.

HYPOTHESES

We assert that these three factors—enabling school structures, trust, and collective efficacy—are essential elements in the development of PLCs in international schools. Prior research has shown a relationship between the three factors (Gray, 2011; Goddard, 2002; Hord, 1997, 2004; Hoy & Sweetland, 2001). Therefore we hypothesized that:

> **H1: Enabling school structure, teacher trust in colleagues and teacher trust in the principal, and collective efficacy will be correlated with PLC development in international schools.**

While each of the independent variables would logically contribute to the development of the PLCs, there is no guiding literature as to which elements would be greater contributors. Consequently, we hypothesized that:

> **H2: Enabling school structure, trust in colleagues and trust in the principal, and collective efficacy will individually and jointly contribute to an explanation, and be predictive of, professional learning community development within the context of international schools.**

METHODOLOGY

The independent variables in this study are: enabling school structures, trust in the principal, collegial trust, and collective efficacy. The dependent variable is the development of PLCs, and the control variable is teacher nationality. School directors from 89 private international schools in South and Central America were invited to have their teachers participate in this online survey.

Instrumentation

Professional Learning Communities

PLCs development was measured by a shortened version of the PLCA instrument developed by Olivier et al. (2003) and revised to form the PLCA-R (Olivier & Hipp, 2010). The Cronbach alphas for the subscales range from .82 to .94 (Olivier & Hipp, 2010), meaning that the items were reliable and consistent in what they are meant to measure. The subscales of the PLCA-R are: shared and supportive leadership; shared values and vision; collective learning and application; shared personal practice; supportive conditions—relationships; and supportive conditions—structures (Olivier, 2003, p. 69; Olivier et al., 2003; Olivier & Hipp, 2010). Sample items include: leadership is promoted and nurtured among staff members; Professional development focuses on teaching and learning; and Opportunities exist for coaching and mentoring (Olivier, et al., 2003; Olivier & Hipp, 2010).

The shortened version of the PLCA-R is a 12-item, Likert-type scale with answers ranging from "strongly disagree" to "strongly agree" (Olivier et al., 2003; Olivier & Hipp, 2010). The shortened

form of this instrument was developed after two items were selected from each of the six subscales. A pilot study was conducted in eight schools (elementary, middle, and high) in a small southeastern school district in the US. A factor analysis performed on the shortened version of the PLCA-R showed it had high internal reliability: a Cronbach's alpha of .92 (Gray, 2011).

Enabling school structures

Enabling school structure was determined by a 12-item, five-point Likert-type scale that ranged from "never" to "always," and was reliable in the high .8s and .9s (Hoy & Sweetland, 2001). Sample items include: Administrative rules help rather than hinder; The administrative hierarchy of this school enables teachers to do their job; and Administrative rules in this school enable authentic communication between teachers and administrators (Hoy & Sweetland, 2001, p. 307). For this study the Cronbach's alpha was .91, indicating reliability.

Organizational trust: Trust in the principal and collegial trust

Operationally, collegial trust will be defined by the Omnibus Trust instrument: Omnibus T Scale (Hoy & Tschannen-Moran, 1999, 2003). The scale is a 26-item, six-point Likert-type scale and consists of three subscales, teacher trust in the principal (eight items), teacher trust in students and parents (ten items), and teacher collegial trust (eight items). The choices for response ranged from "strongly disagree" to "strongly agree." Sample items include: Teachers in this school trust each other; Teachers in this school can rely on the principal; and Teachers in this school are open with each other (Hoy & Tschannen-Moran, 2003, p. 202; Hoy & Tschannen-Moran, 1999). The alpha coefficient of reliability for trust is .94 (Hoy & Tschannen-Moran, 1999) and for this study it is .91, both demonstrating high internal reliability.

It is also important to mention that, in private international schools, there are both headmasters and principals. The headmaster manages the school finances, personnel, resources, recruiting, community relations, and more, while the principal is an instructional leader for groups of teachers and students. For example, a school may have elementary, middle, and high school principals who all work under the supervision of the school headmaster (Walker & Cheong, 2009). This partitioning of roles proved to be confusing for some teachers when asked, in our survey, about trust in their principal; this was a limitation of this study.

Collective efficacy

Collective efficacy is measured using the short version of the Collective Efficacy (CE) Scale, a 12-item Likert-type scale with responses ranging from "strongly disagree" to "strongly agree," and a Cronbach's alpha of .96 (Goddard, Sweetland, & Hoy, 2000). Sample items include: Teachers here are confident they will be able to motivate their students; and Teachers in this school believe that every child can learn (Goddard, Sweetland, & Hoy, 2000). For this study the Cronbach's alpha was .87, which indicates internal reliability.

Control variable

The control variable is teacher nationality and categorized as native (from the host country) or non-native (from another country). Teachers were given a choice of the host country of the school, indicating "native" status, or the US, Canada or "other," indicating non-native status. The majority of teachers categorized themselves as native, as we would have predicted. The rationale for making this distinction was to control for cultural or contextual differences of the participants.

DATA COLLECTION

One-thousand-and-twenty-five teachers and faculty from 89 private international schools were invited to participate in an online survey using the Qualtrics Research Suite™. The completion rate for teacher data was 18 percent (185 out of 1,025 teachers) of teachers and faculty in the 14 schools that agreed to complete the survey. While this completion rate is low and a limitation of the study, we are taking into consideration the fact that all requests took place over email and these schools received a number of requests for survey completion. The school directors who chose not to participate mentioned numerous requests for survey completion or time constraints as reasons for nonparticipation.

Because enabling school structures, collegial trust, trust in principal, and collective efficacy are all school-level, collective variables, we need to be consistent and view the development of PLCs as a school-level variable as well (Hoy, 2012). As Johnson has observed, "The PLC model represents a set of ideas that its advocates use to harness the collective learning of school organizations in the interest of student learning" (Johnson, 2009, p. 26). The research upon which this study is founded considers the school, or professional learning community, to be the unit of analysis; we analyzed the findings based upon collective teachers' perceptions of their school (Louis & Kruse, 1995).

Sample

We selected international schools with which we had a previous relationship, thus using a convenience sample approach: two schools in Brazil, two schools in Venezuela, five schools in Colombia, and one school each in Guatemala, Honduras, Mexico, Nicaragua, and Paraguay. Each school educates students from pre-kindergarten to 12th grade, with the total enrolment ranging from 190 to 1,200 students. The number of full-time teachers ranged from 22 to 155 educators, while each school had a school director, as well as a principal for the entire school or for each grade section (elementary, middle and high). In the sample, 23 respondents were from the pre-school, 66 were from elementary, 36 from middle, 44 from high school, and 14 were all grade level educators.

We used native nationality—someone who is from the home country of the school—as a control variable. The overall sample was made up of 193 educators, 149 teachers, 12 support staff members, 8 principals, 4 school directors, and 10 participants fell under other job titles. One-hundred-and-three of the teachers who participated were native to the home country of the school, while 90 were non-native. Of the teachers from other countries, 54 were from the US, 6 from Canada, and 23 from other countries. The years of experience ranged from teachers with three years or less (25 teachers), four to seven years (41 teachers), eight to 15 years (69 teachers), and more than 15 years (50 teachers).

DATA ANALYSIS

The independent variables for this study are: enabling school structures; trust in the principal; collegial trust; and collective efficacy. The dependent variable is the development of PLCs. The first level of quantitative analysis is a bivariate correlational analysis using a Pearson Correlation in order to test the relationships of the independent and dependent variables within the context of the 14 international schools in this study. A multiple regression is used to determine the individual and collective relationships between the independent variables, (enabling school structures, trust in the principal, collegial trust, and collective efficacy) and the dependent variable (PLC).

FINDINGS

Hypothesis 1 was supported; all of the variables were correlated significantly with one another (see Table 2). Enabling school structures, trust in the principal, collegial trust, and collective efficacy had moderate to strong, significant correlations with PLCs (see Table 2 and Figure 1).

Together ESS, trust in the principal, collegial trust, and collective efficacy, when controlling for non-native status, explained approximately 63 percent of the variance in PLCs development (see Table 3). Each of the independent variables had an effect on PLCs and was significant: ESS (β = .22, ρ < .05), Trust in the principal (β = .36, ρ < .01), Collegial Trust (β = .21, ρ < .05), and Collective Efficacy (β = .22, ρ < .01) as demonstrated in Table 4. Therefore, Hypothesis 2 is also supported by the findings (see Table 4 and Figure 1).

Descriptive Analysis

Our first level of analysis involved obtaining descriptive statistics and bivariate correlations of the variables in our study. In Table 1 the descriptive statistics for our sample of schools revealed that PLC development ranged from 1.50 to 3.83 with a mean of 2.90 and a standard deviation of .45. Enabling school structures ranged from 2.00 to 5.00 with a mean of 3.86 and a standard deviation of .63. Trust in the principal ranged from 1.38 to 6.00 with a mean of 4.60 and a standard deviation of 1.00. Collegial trust varied from 1.88 to 6.00 with a mean of 4.56 and a standard deviation of .80. Collective efficacy ranged from 2.58 to 5.59 with a mean of 4.39 and a standard deviation of .62. Additional variables, position, years of experience, and grade level were included only for demographic information.

Table 1: Descriptive statistics for all variables

	N	Minimum	Maximum	Mean	Standard Deviation
Professional learning community (PLC)	193	1.50	3.83	2.90	.446
Enabling Structures (ESS)	193	2.00	5.00	3.86	.628
Trust in Principal (TP)	193	1.38	6.00	4.60	1.00
Collegial Trust (TC)	193	1.88	6.00	4.56	.799
Collective Efficacy (CE)	193	2.58	5.59	4.39	.620
Nationality	186	1	5	1.78	1.14
Native	186	1	2	1.45	.498
Position	183	1	5	1.44	1.06
Years	185	1	4	2.78	.994
Grade level	183	1	5	2.78	1.17
Valid N (list wise)	182				

Bivariate correlational analysis

Hypothesis 1 states that enabling school structures, trust in the principal, collegial trust, and collective efficacy will be correlated with PLC development in international schools. Results, shown in Table 2, support the hypothesis. PLC development is positively correlated with enabling school structures (r = .61, ρ < .01), trust in the principal (r = .57, ρ < .01), collegial trust (r = .55, ρ < .01), and collective efficacy (r = .50, ρ < .01). Although not a hypothesized relationship, PLC development was negatively correlated with school level (r = -.08, ρ < .01) indicating that PLC development was higher at the elementary level and declined progressively at the middle and high

school level. School level was inversely related to PLC implementation. In other words, PLCs tend to be more developed at the elementary level. This finding is supported by the research of Herriot and Firestone (1984), who investigated the effect of school level.

The independent variables in this study are also moderately correlated with each other: trust in the principal and enabling school structures ($r = .60$, $\rho < .01$); trust in the principal and collegial trust ($r = .54$, $\rho < .01$); collegial trust and enabling school structures ($r = .56$, $\rho < .01$); collegial trust and collective efficacy ($r = .47$, $\rho < .01$); and enabling school structures and collective efficacy ($r = .47$, $\rho < .01$). Additionally, there is a weak correlation between trust in the principal and collective efficacy ($r = .29$, $\rho < .01$).

Table 2: Pearson correlations of all variables (N=193)

Control variables	Enabling structures	Trust in principal	Collegial trust	Collective efficacy	Position	Years	Grade level
Professional learning community (PLCs)	.61**	.57**	.55**	.50**	.17*	.01	-.08
Enabling structures (ESS)		.60**	.56**	.47**	.09	.05	-.04
Trust in principal (TP)			.54**	.29**	.18	.08	.02
Collegial trust				.47**	.11	-.04	-.01
Collective efficacy (CE)					.04	.07**	-.21**
Position (in school)						.22	.10
Years (of experience)							.06

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed)

Regression analysis

The development of PLCs—the dependent variable—is regressed on the independent variables of the study: enabling school structures; trust in the principal; collegial trust; and collective efficacy, controlling for non-native status of teachers (see Tables 3 and 4).

Table 3: Regression model (PLCS regressed on independent variables)—model summary

Model	R Non-native (selected)	R square	Adjusted R square	Std. error of the estimate
1	.802[a]	.643	.625	.27088

a. Predictors: (constant), collective efficacy, trust in principal, collegial trust, enabling structures

b. Dependent variable: professional learning community

When controlling for non-native status of teachers, the variable, enabling school structures, had a less significant positive effect on PLC development ($\beta = .22$, $\rho < .05$), as did the variable collegial trust (CT) ($\beta = .21$, $\rho < .05$). However, trust in the principal (TP) had a significant positive effect on PLCs ($\beta = .36$, $\rho < .01$) and on collective efficacy (CE) ($\beta = .22$, $\rho < .01$), as shown in Table 4.

Table 4: Regression of PLCs on ESS, CT, TP, and CE (control is non-native)—coefficients[a,b]

Model	Unstandardized coefficients		Standardized coefficients		
	β	Std. error	Beta	t	Sig.
1 (Constant)	.446	.237		1.877	.064

Enabling structures	.150	.074	**.224**	2.015	**.047**
Trust in principal	.146	.042	**.358**	3.514	**.001**
Collegial trust	.104	.052	**.208**	2.013	**.048**
Collective efficacy	.160	.062	**.220**	2.602	**.011**

a. Dependent Variable: PLCs

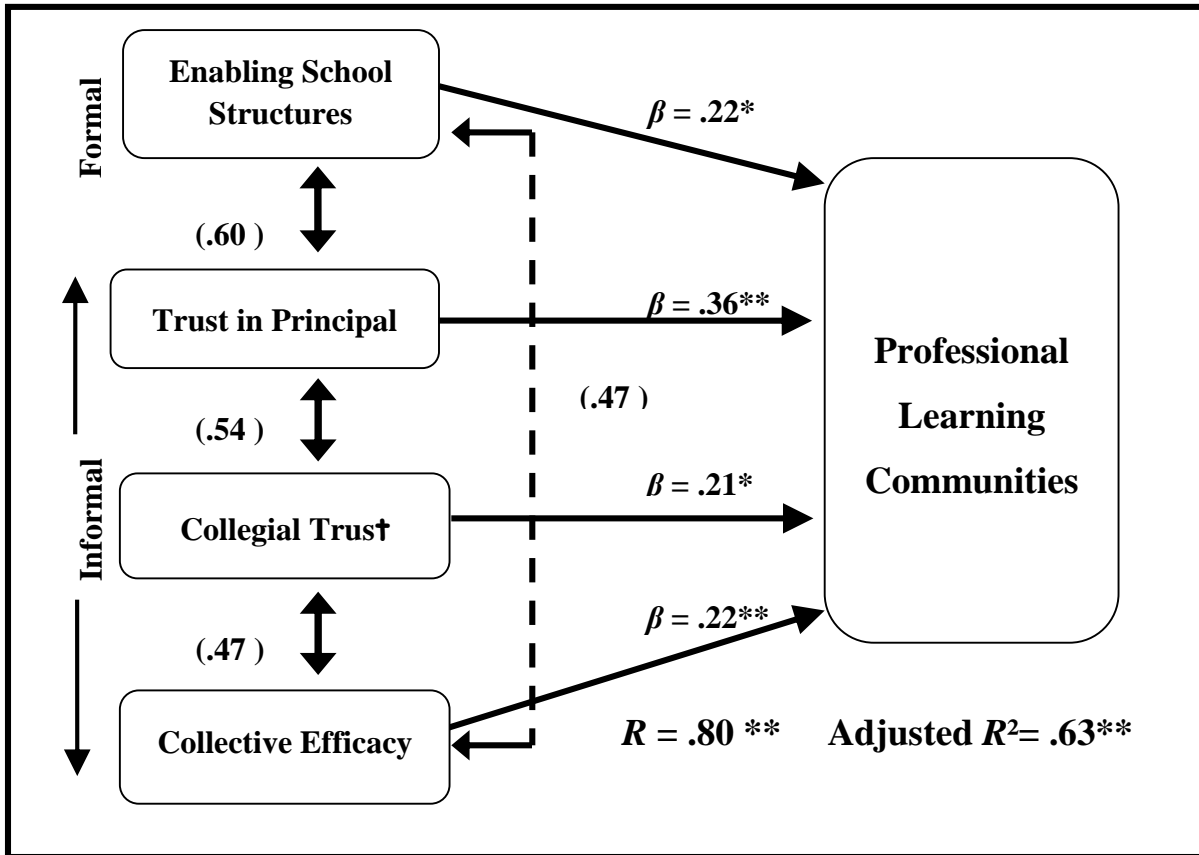b. Selecting only cases for which Non-Native = Non-Native Citizen

Figure 1: Conceptual diagram of hypothesized relationships with results (** *p* < 0.01; * *p* < 0.05)

CONCEPTUALIZATION OF HYPOTHESIZED RELATIONSHIPS

This study demonstrates the importance and necessity of enabling school structures, trust in the principal and colleagues, and collective efficacy. The empirical findings demonstrate the relationships between the dependent variable and independent variables, which are all significant. We argue that these variables cannot exist or be sustained without the other. This reciprocal relationship confirms the hypotheses, yet further extends what is known about PLCs in the context to international schools in South and Central America. Prior to this study, these organizational factors had not been investigated in private international schools. Therefore, the findings and this research study add to our knowledge about PLCs in an international school setting.

SCHOLARLY AND PRACTICAL SIGNIFICANCE OF THE STUDY

This study demonstrates the importance of enabling school structures, trust in the principal, collegial trust, and collective efficacy in the development of PLCs in selected private international schools in our sample. Because of the limitation of the sample size, the results cannot be generalized

to all private international schools in South and Central America. The regression reveals that trust in the principal has more effect than the collegial trust, collective efficacy, and enabling school structures. This result is different to the result from similar studies conducted in the US (Gray, 2011).

The empirical findings demonstrate the importance of formal and informal structures as antecedents to the development of PLCs. The reciprocal relationship of the independent variables confirms the importance of such relationships and adds to our conceptual understanding of PLCs. "Collegiality in different nations is influenced by structural as well as cultural arrangements . . . a variety of systematic factors can shape collegial interactions" (Toole & Louis, 2002, p. 264). In many countries teachers prepare lessons within a group setting (Toole & Louis, 2002), although this may vary greatly from location to location. School leaders need to provide opportunities for teachers to collaborate, build trusting relationships, and develop efficacious beliefs about their colleagues (Gray, 2011; Toole & Louis, 2002). Without a foundation of trust, it is almost impossible for teachers to share ideas of instructional practice and to truly collaborate (Bryk & Schneider, 2002; Kruse & Louis, 1993; Louis & Kruse, 1995).

Theoretical Implications

This study affirms that PLCs must be built upon both the informal and formal foundations of the organization. The formal structure of the PLC allows change, as it relates to classroom practice, to be institutionalized within the school organization (Gray, 2011). The informal structure may encourage those resistant to change to accept such as a way to achieve school improvement via PLCs (Hord, 2004). When the principal acts as a change agent within the organization, he/she shares the power of the formal organization through shared decision-making and leadership opportunities for teachers (Hord, 2004). That is, the principal, through the PLC, provides the structure in which trust (with colleagues and principal) is developed and, thus, the conditions that foster change and innovation are created.

Based upon decades of PLC research, this study asserts that certain physical and structural conditions must be developed for a PLC to exist and be sustained over time (Hipp, Huffman, Pankake, & Olivier, 2008; Hord, 1997, 2004, 2007, 2009; Huffman & Hipp, 2003; Kruse & Louis, 1993; Louis & Kruse, 1995; McLaughlin & Talbert, 2001, 2006). However, the mere presence of enabling structures is not enough to ensure that a PLC will thrive within a school. Open and trusting relationships must be built between teachers, teachers' colleagues, and the principal for PLCs to produce positive results (Hord, 2007). It seems logical that the operational aspects of the organization and its leadership provide the foundation upon which professional relationships can be nurtured and developed (Gray, 2012).

Hoy argues that, "When school structure was enabling, teachers trust each other, demonstrate professional autonomy, are not bound by rigid rules, and do not feel powerless" (Hoy, 2002, p. 91). Because PLCs are sub-organizational elements, they maintain the general characteristics of organizations; in varying degrees they exhibit formalization, centralization, and specialization (Hoy & DiPaola, 2008; Mintzberg, 1983). Therefore, enabling school structures are critical for the centralization and formalization of leadership within PLCs. Teacher trust in the principal and in colleagues, and teacher perception of collective efficacy contribute to the informal aspects of the school as an organization and PLC (Gray, 2011).

It is important to keep in mind the international context of the private schools in this study. "From an international perspective, it is necessary to ask whether PLCs are critical to current definitions of school improvement" (Toole & Louis, 2002, p. 259). In other words, international private schools

may have other ways to determine school and student success through improvement within the school.

Limitations of the Study

While we believe in the efficacy of our findings that enabling school structures, collegial trust, trust in principal, and collective efficacy are important in the development of PLCs, this study took place in a limited sample and may not be generalizable to other contexts. Further, we are cautious in interpreting our results because of the possibility of multicollinearity between the independent variables (Cohen & Cohen, 1983) as some instrument items are similar in nature. Further, we acknowledge that there can be limitations in the use of instruments with different Likert-type responses (Norman, 2010). In other words, comparing a scale with four options for response (PLCA-R) with another with five options (ESS) or six options (Omnibus Trust) may not yield the same results. Therefore, we are careful in making "inferences about differences in the underlying, latent, characteristic reflected in the Likert numbers, but this does not invalidate conclusions about the numbers" (Norman, 2010, p. 629).

CONCLUSION

There are numerous benefits to schools embracing the PLCs model for improvement, as supported by the research of Hord (1997, 2004, 2007, 2009), Hipp and Huffman (2010), McLaughlin and Talbert (2001, 2006), and Louis and Kruse (1993, 1995). Bolam, McMahon, Stoll, Thomas, and Wallace (2005) summarized "the idea of a PLC is one well worth pursuing as a means of promoting school and system-wide capacity building for sustainable improvement and pupil learning" (p. 3). This study demonstrates the relationships between enabling school structures, trust in the principal, collegial trust, and collective efficacy in developing professional learning communities and addressing a gap in the literature. In summary, PLCs provide opportunities for increased student achievement, greater teacher job satisfaction, and overall improvement for schools (Gray, 2011; Hord, 1997; Louis & Kruse, 1995; McLaughlin & Talbert, 2001; McLaughlin & Talbert, 2006; Stoll et al, 2006). We offer this school improvement and collaboration model for a viable approach to professional development in private international schools.

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