REGIONAL *EDUCATIONAL* LABORATORY
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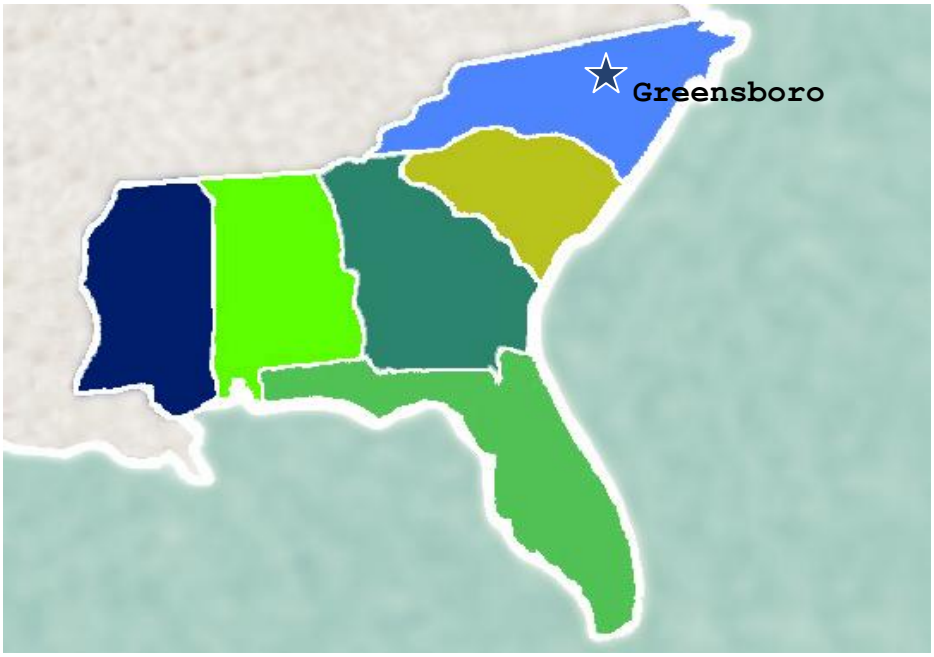
September 2007, EBE # 150

EVIDENCE BASED EDUCATION REQUEST DESK

OUR GOAL

To assist educators and policymakers in their efforts to apply the evidence base to decisions about policies, programs, and practices they encounter.



REQUEST:

- Information on professional learning communities (PLCs) and their effect on teachers, students, and school culture.

RESPONSE

In order to respond to the request, a search for articles related to the subject was conducted using combinations of words such as "professional learning communities," "learning teams," "student outcomes," "school culture," "teacher impact," and "professional development." The majority of articles identified were case studies, school reform evaluations, and many anecdotal and "lessons learned" articles. In addition, reports from two other Evidence-Based Education Request Desk (EBE) requests were utilized to compile information—(1) Request #70, on PLCs and student achievement which provided a review of the literature, study summaries, and findings; and (2) Request #151, on PLCs and the influence of leadership.

This response summarizes findings of the literature review as related to PLCs and school culture, teacher impact, and student achievement. A chart with a brief summary of each article and study findings has been provided. Request #151—which provides an overview of PLCs, potential barriers, and the role of leadership on PLCs—has also been included.

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Though the majority of studies supporting professional learning communities are case studies and implementation evaluations of school reform efforts, the available evidence seems to support the connection between teachers' conscious efforts to improve instructional practice through group/peer study and changes in school culture, classroom practice, and student achievement.

School Culture

> *A school characterized as a professional learning community has a culture that recognizes and capitalizes on the collective strengths and talents of its staff. – Protheroe 2004, p. 39*

There appears to be a connection between professional learning communities and school culture. Based on findings related to collective responsibility, deprivatization, reflective dialogue, and faculty influence, Supovitz (2002) reported a clear relationship between team-based school initiatives and school culture. However, developing a learning community that is strong enough to sustain meaningful change requires commitment, time, and a focused effort.

Bolam, McMahon, Stoll, Thomas, and Ingram (2005) discuss the importance of PLCs and the relationship between student achievement and professional learning, indicating that it is a process whereby teams change over time and grow from "starter" to "developing" and finally "mature" learning communities. It is a deliberate process. During the early stages of PLCs, teams often share materials and resources, but once teams mature they begin to focus on more critical issues related to learning results and best practices (Wells & Feun, 2007). Still, mature levels are only attained through constant attention, focus, and a willingness on the part of participants to move beyond sharing lessons and ideas to more in-depth critical inquiry and action study.

Conflicts between current school norms and the new initiatives often limit implementation, effectiveness, and ultimately, sustainability of PLCs (Wood, 2007). Change is difficult and slow; people do what they know how to do. When new initiatives threaten the status quo, they may be met with objection. Participants in PLCs need time to build relationships, including trust in each other and in the process, but they also must continue to move beyond the initial "getting to know and like this" to a deeper level. Indeed, Wood (2007) found that more time was spent on community building efforts than critical inquiry.

Leadership plays an important role in developing PLCs into highly effective groups. Principal leadership is one of four organizational factors that influence the establishment of PLCs (Scribner, Cockrell, Cockrell, & Valentine, 1999). (Others include organizational history, organizational priorities, and organization of teacher work.) Marks and Printy (2003) looked closely at principal leadership and defined three types: (1) transformational, (2) instructional, and (3) shared instructional. Their findings suggest:

> *Strong performance depends on integrated leadership mobilizing the collective action of individuals to produce high-quality teaching and learning. Where leadership is low, by definition, schools lack the collaborative effort of principal and teachers around matters of curriculum, instruction, and assessment. –p. 388*

In addition to principal leadership, district support is essential. District administrators must provide not only time and resources but greater authority and autonomy to PLC participants (Wood, 2007). Furthermore, they should look at policies that can support efforts rather than hinder the process. (For more information related to PLCs and leadership, see attached Request #151.)

Teacher Impact

Trimble and Peterson (2000) found that multiple teams at schools with teachers involved in study teams, coupled with district and administrative support, resulted in changed classroom practices. Specifically, Hord (1997) conducted a literature review to explore the concept and operation of PLCs and reported that PLCs:

- Decreased the degree to which teachers work in isolation.
- Increased commitment to mission, goals, and lasting change.
- Increased shared responsibility for student achievement.
- Increased meaning and understanding of content taught and roles teachers play in helping all students achieve.
- Increased likelihood that teachers are well informed, professionally renewed, and inspired to inspire.
- Increased satisfaction, increased morale, and decreased absenteeism.
- Increased the rate at which adaptations and changes were made.
- Increased the likelihood of undertaking fundamental, systemic change.

Furthermore, returning to the Marks and Printy study (2003) which looked at leadership styles, teachers in schools with integrated leadership between principals and teachers scored higher on measures of pedagogical quality and authentic assessment. Finally, a New Zealand study (Ministry of Education, 2003) concluded that teachers in professional learning communities met regularly with literacy coaches to discuss student achievement in relation to national benchmarks, discussed specific children's problems and how to address them, and typically followed up with classroom observation and implementation of new practices.

The commitment of teachers to review student-achievement data, examine their instructional practices, allow others to provide vital feedback, and make changes to their instruction is important to improve student academic performance.

Student Achievement

There is evidence to support the relationship between the continued education of teachers, teacher instructional practices, and student achievement (Ancess 2000; Buffman & Hinman, 2006; Hord, 1997; Marks & Printy, 2003; Natkin & Jurs, 2005; and Wheelan & Kesselring, 2005). Gains have been demonstrated in multiple subject areas, including mathematics, science, history, reading, writing, and citizenship. When examining the maturity levels of PLCs, Wheelan and Tilin (1999) reported students in more mature groups performed better on standardized tests. Louis and Marks (1998) concluded that the increase in student achievement is due to more authentic pedagogy.

The evidence shows that PLCs affect not only student academic achievement but also attitudinal and behavioral outcomes. Erb (1997) reported greater satisfaction, increased commitment to doing school work, more engagement, fewer tardies, and less moodiness among students in schools implementing learning teams. Students also were found to cut classes less and experienced a decrease in absenteeism (Hord, 1997).

Both academic and attitudinal differences were found in the Trimble and Peterson studies (1999, 2000). Students in schools with supportive administrative practices and high-team functioning scored higher academically, dropped out less often, and the middle school studied increased its percentile rankings in math and reading in each of the three years data were collected.

Even in studies where there was no clear or significant connection between PLCs and student achievement, the data still tended to favor team-based teacher learning and instruction. For example, Supovitz (2002) found that students in team-based schools that utilized group instruction performed better than their peers in schools with low levels of group instructional practices after accounting for background characteristics of students. However, Wood's (2007) teacher participants did not claim a connection between their collaborative work and student learning.

There appears to be a connection among professional learning communities and school culture, teacher practice and beliefs, and student outcomes. More rigorous studies are needed to strengthen the findings of the case studies and evaluations included in this response, but there is a strong trend in the evidence to support PLCs as a means to improve schools and their impact on students.

Table:

<table>
<tr><td colspan="3">Ancess, J. (2000). The article is based on findings from a five-year multiple case study of three public high schools for at-risk students. The article contains descriptions about each school and the process that stimulated teacher learning and school change and how this impacted outcomes for these at-risk students.</td></tr>
<tr><th>Culture</th><th>Teacher</th><th>Student</th></tr>
<tr><td></td><td></td><td>▪ There is a reciprocal relationship among teacher learning, teacher practice, restructuring, and student outcomes. This indicates that the interaction of these variables produces practitioner knowledge that teachers use to the benefit of student outcomes. Student outcomes include improvement in student graduation rates, course pass rates, college-admission rates, and academic course-taking notes.</td></tr>
<tr><td colspan="3">Bolam, R., McMahon, A., Stoll, L, Thomas, S., & Ingram, M. (2005). This article discusses a 34-month study consisting of (a) literature review, (b) an analysis of survey responses from 393 schools (spanning the grades), (c) case studies in 16 school settings, and (d) three workshop conferences for representatives from case-study schools and project-steering group.</td></tr>
<tr><th>Culture</th><th>Teacher</th><th>Student</th></tr>
<tr><td>▪ PLCs are worth pursuing for capacity building for sustainable improvement and pupil learning.
▪ More developed PLCs had a stronger relationship between pupil achievement and professional learning.
▪ PLCs change over time (starter, developer, mature).</td><td></td><td></td></tr>
</table>

Buffman, A., & Hinman, C. (2006). This 2001 study is of San Clemente High School's (Capistrano Unified School District, CA) seven-year plan to improve student achievement. Though the school statistics were strong, students experienced little academic growth over the years. Some of the issues leaders pinpointed included: ninth-grade transitions; one-third of students failing at least one class; poorer grades for ninth graders; and little done for "average" students. They decided to make some changes, such as (1) altering the bell schedule to allow for four collaborative meetings each month, (2) giving assessment results as a means for collaboration, not evaluation, (3) adding mandatory tutorial and freshmen mentoring (this was provided during lunch so that student were more inclined to pass their classes than spend half of lunch in mandatory tutorials), and (4) creating a "Freshmen House" that separates ninth graders from upperclassmen when possible, except for a mentoring program between freshmen and upperclassmen (1:7 ratio).

Culture	Teachers	Students
		Over the past five years: ▪ Failure rate of one or more "F" grades dropped from 33% in 2000 to 18% in 2005 for sophomores, juniors, and seniors—for freshmen, it dropped from 41% to 20%. ▪ The number of students taking AP courses increased 213% with a pass rate above the national average at 71%. ▪ The pass rate on exit exams increased from 63% to 93%. ▪ The number of students taking the SAT increased 103% from 185 to 375 with scores increasing as well from a 460 average to 545 in math and from 425 to 544 in verbal. ▪ The number of students completing A-G requirements increased 38%, from 144 to 202. ▪ The school's API increased two points.

Erb, T.O. (1997). Erb reviews early literature to determine conclusions related to student and teacher outcomes.		
Culture	**Teacher**	**Student**
	▪ Teachers' efficacy is associated with higher student achievement in math, language arts, and reading	▪ Schools with learning teams affect student learning and attitudes towards school. Students express greater satisfaction and commitment to doing classwork; are more engaged in learning and less bored; arrive tardy for class less often; complete homework more often; are less aggressive and moody and less worried and fearful in school.
Hord, S.M. (1997). Hord conducted a literature review to explore the concept and operation of professional learning communities, including what they look like, why they are important, and how they are implemented. She reviewed multiple studies and identified outcomes for teachers and students.		
Culture	**Teacher**	**Student**
	▪ PLCs decreased teachers working in isolation. ▪ Increased commitment to mission and goals and an increased vigor to strengthen mission as well as an increased commitment to lasting change. ▪ Increased shared responsibility for student achievement. ▪ Increased learning that defines good teaching and practice. ▪ Increased meaning and understanding of content taught and roles teachers play in helping all students achieve. ▪ Increased likelihood that teachers are well informed, professionally renewed, and inspired to inspire.	▪ Decrease in dropout rate and decrease in cut classes/ ▪ Decrease in rates of absenteeism. ▪ Increased learning, distributed more equitability in smaller high schools/ ▪ Larger academic gains in math, science, history, and reading than traditional schools. ▪ Smaller achievement gaps between students from different backgrounds.

	▪ Increased satisfaction, increased morale, and decreased absenteeism. ▪ Adaptations and changes made more quickly than in traditional schools. ▪ Increased likelihood of undertaking fundamental, systemic change.	

Louis, K.S., & Marks, H.M. (1998). Data were collected between 1991 and 1994 from 24 schools (8 elementary, 8 middle, and 8 high schools) through a national search for schools that had made substantial progress in organizational restructuring in the areas of student experiences, the professional life of teachers, school governance, management, leadership, and the coordination of community resources. Researchers sought information related to (a) the extent to which professional communities influence the social and technical organization of the classroom and (b) the relative effect of school professional community and classroom social and technical organization on student achievement. Data included:

- Responses to a teacher questionnaire that included information about their instructional practices, professional activities, personal and professional background, and their perceptions of school culture.
- Ratings by two SRS researchers of the instructional practices of approximately 25% of the 144 teachers.
- Two written assessment tasks from each teacher that they assigned students in the fall and the spring. Subject matter specialists from the SRS staff, in collaboration with teacher practitioners, rated the authenticity of the tasks which were then scored by a two-person team of raters.
- Student work submitted by teachers.
- Responses from twice-annual interviews of each core-class teacher about his or her work life. Other representative teachers from each school were interviewed as were teachers nominated by their peers as influential or exceptional teachers.
- Student responses to a six-question survey about their school environment.

Student responses to an eight-question survey about their learning environment in their mathematics and social studies classrooms.

Culture	Teacher	Student
		▪ Suggests professional community boosts student achievement because it tends toward authentic pedagogy. These studies demonstrate how professional community creates a school culture where support for authentic learning is strong and authentic pedagogy is the means for bringing it about.

Marks, H.M., & Printy, S.M. (2003). This study looks at the potential of collaboration between principals and teachers to enhance the quality of teaching and student performance. Investigators reviewed 24 nationally selected restructured schools (8 elementary, 8 middle, and 8 high schools) and measured the pedagogical quality of classroom instruction and assessment tasks. Though the bulk of the article focused on leadership styles, there were some interesting findings that should be further investigated.		
Culture	**Teacher**	**Student**
▪ Evidence suggests that leadership affected teacher instruction and student performance. For summary purposes, leadership is defined by low, limited, and integrated leadership. In schools with integrated leadership, shared leadership between principal and teachers was above average; teachers in 5 of the 6 schools viewed their responsibilities as going beyond the classroom; and teachers were acting as instructional leaders. ▪ Low-leadership schools tended to have more poor, minority, and lower achieving students than the limited and integrated leadership schools. More information is needed.	▪ Teachers in integrated leadership schools scored higher on measures of pedagogical quality. ▪ Teachers scored higher on measures of authentic assessment in integrated leadership schools.	▪ Students in schools with low leadership scored below average on baseline achievement NAEP scores.
Ministry of Education, New Zealand (2003). The New Zealand study examines the sustainability of professional development following the completion of an intensive course in literacy acquisition by teachers of Year One (six-year olds) students and literacy leaders. Seven schools were studied to look at how professional development changed teachers' expectations of student achievement and to see how sustainability was related to trends in student achievement over three years, as well as school-based factors associated with sustainability. The study utilized classroom observations, interviews, and children's test scores.		
Culture	**Teacher**	**Student**
	▪ In schools with high achievement, teachers met regularly with literacy leaders to discuss data on student	▪ Overall, initial achievement gains continued into Year 3. ▪ Teachers' attitudes and implementation

	achievement in relation to national benchmarks. They discussed specific children's problems and how teachers may assist them. This was typically followed up with classroom observations and support to put new practices into place.	issues did not appear to affect student achievement.

Natkin, J., & Jurs, S. (2005). The analysis was designed to determine the impact of SERVE's Professional Learning Team (PLT) initiative, when implemented in one middle school, on students' reading scores on End of Grade Tests. A quasi-experimental technique was used to study program impact. Data were collected for all North Carolina 6th, 7th, and 8th grades students via the North Carolina Education Research Data Center. Included in the dataset were—(a) reading and mathematics pretest from the year immediately preceding the PLT implementation and (b) gender, ethnicity, school lunch status, and previous retention status.

Culture	Teacher	Student
		▪ The initiative showed a trend for every grade and a regression model showed that reading scores of the students at this school were uniformly higher than predicted. On average, the reading scores were more than .2 standard deviations higher than the scores of students of comparable ethnicity, gender, family-income level, and pretest reading and math scores from other North Carolina schools.

Scribner, J.P., Cockrell, K.S., Cockrell, D.H., & Valentine, J.W. (1999). A two-year qualitative study of three rural middle schools, evaluating their school-improvement processes.

Culture	Teacher	Student
▪ Four organizational factors influence the establishment of professional communities—(a) organizational history, (b) organizational priorities, (c) principal	▪ "Double loop" learning is invaluable for sustaining professional communities. It is defined as the continuous questioning of the basic premises governing behavior to	

leadership, and (d) organization of teacher work.	ensure against systematic error, examining values that guide actions, and questioning so that chosen solutions address the core problem and not symptoms.	

Supovitz, J.A. (2002). Consortium for Policy Research in Education conducted an evaluation of the Cincinnati Public Schools' efforts to engage teachers in group practice to improve instructional practices and increase student outcomes. Of the 79 schools in the district, 41 volunteered to be team based. Eighty percent of the faculty had to vote in favor to be a team-based school. Some chose to participate because of additional flexibility provided to their schools as related to budget and time, some saw change coming and thought best to get on board early in the process, and others felt they were strong-armed into participating.

The study sought to address the teaming influence on school culture, changes in instructional practices, and improvements in student learning. The study employed multiple data sources—(a) annual survey to teachers and administrators (roughly 3,000); (b) interviews with district administrators; (c) site visits of sample schools (4-7 days of interviewing, observing, etc.); (d) professional development training targeting these teams during the summer and times throughout the year; (e) document review (team portfolios, minutes of meetings); and (f) student test results, district and state assessments.

School-culture findings were based on items related to collective responsibility, deprivitization, reflective dialogue, and faculty influence. Instructional practices items studied individual teacher and group instruction. Finally, teaming instructional practices looked at academic-preparation strategies, student-grouping strategies, and team-teaching practices.

Culture	Teacher	Student
▪ Team-based schooling initiatives had clear effects on the culture of schools, but this did not translate into greater instructional focus.	▪ Overall, neither group nor individual instructional practice of teachers showed significant differences, although there were significant differences for teachers in middle and high school grades. ▪ Only about one-quarter of the teams frequently practiced the three dimensions of group practice—academic- preparation strategies, collective team practices, and student-grouping strategies.	▪ No clear pattern of differences in student achievement, presumably due to the low levels of group practice within team-based schools. However, within team-based schools, students on teams with higher use of group-instructional practices performed better than students on teams with low levels of group-instructional practices, after accounting for the background characteristics of students.

Trimble, S.B, & Peterson, G.W. (1999). This report is based on a systemic research project that studied the relationships among administrative support, interdisciplinary team functioning, classroom practices, and student outcomes. Data sources included questionnaires, school- comparison data, school documents, interviews, public report cards, and team lesson plans from a middle school with approximately 756 students. The study identified specific relationships that impact classroom practice, which in turn affects student outcomes.

Culture	Teacher	Student
		▪ Results provided compelling evidence that supportive administrative practices, coupled with high-team functioning, influence classroom practices, which in turn leads to more favorable student outcomes. According to the Georgia Public Education Report Card, the middle school studied increased their percentile rankings in both math and reading in each of the three years the data were collected.

Trimble, S.B., & Peterson, G.W. (2000). The study investigated the relationship between multiple team structure and student achievement in a high-minority, low-socioeconomic middle school in Georgia. It is a three-year study that is part of a larger five-year study. The school site contains grades 6-8, with a total enrollment of approximately 893 students and 59 certified personnel. Faculty and administrators participated or rotated within five different types of teams:

- Executive team—consisting of the principal, three assistant principals, a counselor, and a paraprofessional/clerical representative
- School leadership team—consisting of representatives of other teams
- Grade-level teams—consisting of representatives of the 6^{th}, 7^{th}, and 8^{th} grades
- Cross-grade level, subject-level teams—consisting of representatives of a specific discipline from each interdisciplinary team
- Interdisciplinary teams at each grade—meetings were held at least twice a week during a daily 50-minute common planning time. Once a month, these interdisciplinary teams acted as study teams where they met for instruction of new teaching techniques and practice with a consultant on a specified topic aligned to the school goals.

Culture	Teacher	Student
	▪ Multiple teams at the school, with teachers involved in study teams, coupled with district and administrative support, resulted in changed classroom practices.	▪ Students who consistently scored in the lower 25% made substantial increases in test scores. ▪ Performance indicators reported by the Georgia Council for School Improvement

		for a three-year period showed a decline in dropout rates and an increase in student attendance at the targeted school.
Wells, C., & Feun, L. (2007). Six high schools participated in a nine-day training on implementing learning communities. The study was conducted one year after the training was complete and looked at the implementation levels of the learning-community principles covered during the training. A survey based on Hord's five dimensions of learning communities was developed and used.		
Culture	**Teacher**	**Student**
▪ Findings revealed that early days of transition to a learning community tend to focus on sharing materials and resources, and critical issues such as learning results or best practices are seldom discussed. ▪ A concept of cultural changes and structural changes emerged. Both need to happen, but cultural changes are more challenging. ▪ Change was slow and deliberate, and teachers generally wanted to collaborate.		
Wheelan, S.A., & Tilin, F. (1999). The purpose of this research is to investigate the relationship between teacher perception of faculty-group effectiveness and development and actual levels of productivity in ten elementary, middle, and high schools. Data were collected from all participating faculty groups using the *Group Development Questionnaire*. This instrument was subjected to a number of statistical tests to ensure reliability and validity. Additional data collected included student grades, standardized test scores, and parental involvement.		
Culture	**Teacher**	**Student**
		▪ Overall, the study concluded that students perform better on standardized achievement tests in schools where faculties are functioning at a more mature level of group development, and students do not perform as well in schools where faculties are functioning at a less mature group developmental level.

Wheelan, S.A., & Kesselring, J. (2005). The authors investigated the relationship between perceived effectiveness of elementary school faculty group as a whole and student performances on standardized tests. Group- development levels were assessed by using the *Group Development Questionnaire.* The study compared the percentage of children who met the state proficiency standard for citizenship, mathematics, reading, writing, and science in schools where teachers perceived that their faculty group functioned at the lower stages of group development with the percentage of children who met those standards in schools where teachers perceived that their faculty group functioned at the higher stages of group development.

Culture	Teacher	Student
		▪ Significant differences were noted in three of five tests—reading, science, and citizenship. Although there were no noted significant differences found in mathematics and writing, the authors noted that there was a higher percentage of students that were proficient in mathematics where teachers perceived that the faculty group functioned at the higher states of group development.

Wood, D. (2007). This is a case study of a mid-Atlantic U.S. city, consisting of site-visit interviews, focus groups, observations of classroom instruction and meetings, e-mail correspondences, observations of trainings, and document reviews. Participants included the district superintendent, district administrators, principals, instructional coaches, and teachers. Investigators collected data for two-and-a-half years then compared field data with survey responses from 251 district participants.

Culture	Teacher	Student
▪ Initiative was well institutionalized at district level, but high-stakes policies remained that limited full teacher participation. ▪ Participants spent more time on community-building efforts than on critical inquiry to improve practice. ▪ Conflicts between school culture/norms and the new initiative limited		▪ Most participants did not claim a connection between their collaborative work and student learning.

sustainability. ▪ Districts must invest greater authority and autonomy in participants in addition to adequate time and support		

References

Ancess, J. (2000). The reciprocal influence of teacher learning, teaching practice, school restructuring, and student learning outcomes. *The Teachers College Record, 102*(3), 590-619.

Bolam, R., McMahon, A., Stoll, L., Thomas, S., & Ingram, M. (2005). *Creating and sustaining effective professional learning communities*. Department for Education and Skills. Research Report RR637. Downloaded, August 20, 2007, from http://www.dfes.gov.uk/rsgateway/DB/RRP/u013543/index.shtml

Buffman, A., & Hinman, C. (2006). Professional learning communities: Reigniting passion and purpose. *Leadership, 35*(5), 16-19.

Erb, T.O. (1997). Meeting the needs of young adolescents on interdisciplinary teams: The growing research base. *Childhood Education, 73*, 309-311.

Hord, S.M. (1997). Professional learning communities: Communities of continuous inquiry and improvement. Southwest Development Laboratory. Downloaded, August 20, 2007, from www.sedl.org/pubs/change34/plc-cha34.pdf

Louis, K.S., & Marks, H.M. (1998). Does professional community affect the classroom? Teachers' work and student experiences in restructuring schools. *American Journal of Education, 106*(4), 532-575.

Marks, H.M., & Printy, S.M. (2003). Principal leadership and school performance: An integration of transformational and instructional leadership. *Educational Administration Quarterly 39*(3), 370-397.

Ministry of Education, New Zealand (2003). The sustainability of professional development in literacy. Part 2: School based factors associated with high student achievement. Downloaded, August 20, 2007, from www.minedu.govt.nz.

Natkin, J., & Jurs, S. (2005). *The effect of a professional learning team on middle school reading achievement: An impact assessment*. Greensboro, NC: SERVE.

Protheroe, N. (2004). Professional learning communities. *Principal, 83*(5), 39-42.

Scribner, J.P., Cockrell, K.S., Cockrell, D.H., & Valentine, J.W. (1999). Creating professional communities in schools through organizational learning: An

evaluation of a school improvement process. *Education Administration Quarterly*. Available online, August 20, 2007, from http://eaq.sagepub.com/cgi/content/abstract/35/1/130

Supovitz, J.A. (2002). Developing communities of instructional practice. *Teachers College Record, 104*(8), p. 1591-1626.

Trimble, S.B, & Peterson, G.W. (1999). *Beyond the process of teaming: Administrative support, classroom practices, and student learning.* Paper presented at the annual meeting of the American Educational Research Association, Montreal, Quebec, Canada.

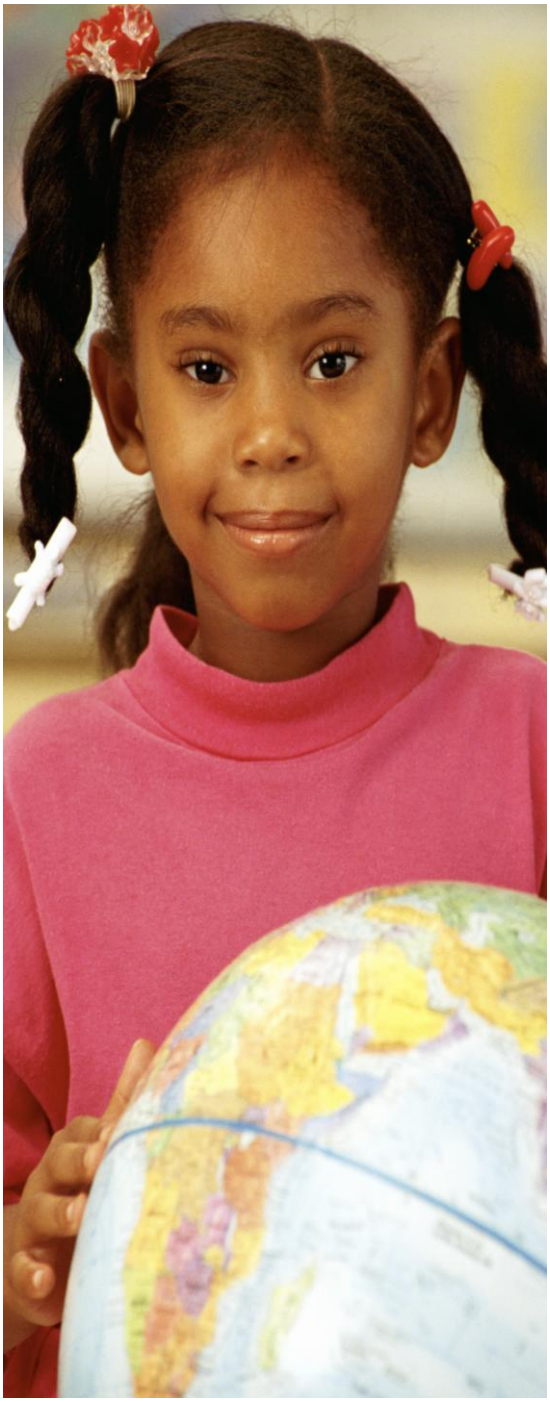
Trimble, S.B., & Peterson, G.W. (2000). *Multiple team structures and student learning in a high risk middle school.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Wells, C., & Feun, L. (2007). Implementation of learning community principles: A study of six high schools. *National Association of Secondary School Principals Bulletin 91*(2), 141-160.

Wheelan, S.A., & Kesselring, J. (2005). Link between faculty group development and elementary student performance of standardized tests. *Journal of Educational Research, 98*(6), 323-330.

Wheelan, S.A., & Tilin, F. (1999). The relationship between faculty group development and school productivity. *Small Group Research, 30*(1), 59-81.

Wood, D. (2007). Teachers' learning communities: Catalyst for change or a new infrastructure for the status quo? Downloaded, August 20, 2007, from http://www.tcrecord.org/library/Abstract.asp?ContentId=12829.



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