

Peer Coaching's Role in Integrating Technology to Enhance Student Achievement

Les Foltos, Puget Sound Center for Teaching, Learning and Technology

A growing consensus in the educational field supports a new model of professional development that includes peer coaching. The North Central Research Education Lab (NCREL) has drawn on the work of Michael Fullan, the National Staff Development Council (NSDC), the National Center for Research on Teacher Learning (NCRTL), and others to identify the characteristics of effective professional development. This growing consensus about what makes professional development effective highlights the need for a collaborative work culture and a learning community. NCREL argues that schools create learning communities by providing teachers with time—during the teachers' workdays—for training, practice, and follow-up support. This training must be linked to the work teachers are doing in their classes each day and model effective classroom instruction, which NCREL defines as an inquiry-based approach to teaching and learning. Finally, schools must provide teachers with multiple avenues for collaboration with colleagues. Peer coaching is a logical part of this professional development model. In fact, NCREL encourages schools to adopt a coaching model or some other follow-up procedures to provide needed feedback and collaboration to teachers (NCREL, 1995).

Infusing professional development into the life of the school

Repeated surveys of teachers demonstrate that they don't have much time for professional development aimed at integrating technology; when they do, teachers tend to look first to others in their schools for guidance, advice, and training (Web-Based Education Commission, 2001). Peer coaching provides the job-embedded professional feedback and support that teachers are already seeking. Coaches can help build new strategies and skills by utilizing the school's teacher leaders to:

- Plan technology-rich activities or projects with individual teachers.
- Model lessons.
- Offer one-on-one or small group professional development as needed.
- Observe other teachers to encourage reflection and analysis of teaching practice.
- Foster collaboration among teachers throughout the school building.

Research findings indicate that school-based peer coaching plays an important role in improving teachers' abilities to adopt and implement new learning practices. Several researchers have noted that workshops don't provide sufficient time, activities, or content necessary to promote meaningful change (Garet, Porter, Desimone, Birman, & Yoon, 2001). Joyce and Showers have published two studies indicating that fewer than 10 % of teachers implement new ideas learned in traditional training settings like workshops. The problem with these traditional approaches, they insist, is that teachers often have no ability to apply what they learn in these workshops and no way to receive feedback when they do attempt to apply what they have learned (Joyce & Showers, 1994). Other

researchers have echoed these beliefs arguing that teachers need time to see new strategies modeled during the school day and opportunities to use the skill in developing and implementing a learning activity (Rodriguez & Knuth, 2000). In studies of several schools that adopted a peer coaching model, researchers found that when teachers combined participation in typical workshops with peer coaching for sharing and observation, 88 % of teachers were using new strategies in their classrooms effectively (Joyce & Showers, 1994; Joyce, Murphy, & Showers, 1996; Richardson, 1999). A significant number of other researchers in the field of professional development agree that peer coaching and study groups which provide opportunities for ongoing discussion and reflection change teaching practice (Darling-Hammond, 1995, 1996; Garet et al., 2001; Hargreaves & Fullan, 1992; Little, 1993; Loucks-Horsley, Stiles, & Hewson, 1996; Richardson, 1994; Sparks & Loucks-Horsley, 1989).

Research indicates that peer coaching can play an effective role in helping teachers integrate technology into their classrooms in ways that encourage active learning by their students. Several studies show that peer coaching has been used successfully to help teachers use technology in ways that promote engaged learning (Ike, 1997; Miller, 1998; Norton & Gonzales, 1998; Saye, 1998; Tenbusch, 1998; Yocam, 1996).

Two other studies suggest a positive correlation between coaching and academic achievement. Boston schools have had a coaching model in place for several years. Guiney (2001) noted that:

Student scores on standardized tests are higher at many of the schools in which coaches have been longest at this task. Several schools have had dramatic increases on parts of the state's difficult test, the MSAC [Massachusetts Comprehensive Assessment System]—increases that can be directly connected to teachers' work that was undertaken with their coaches. It's clear that, under the guidance of coaches, many teachers are adopting new strategies that appear to be resulting in improved student learning (para. 12).

Missouri has a comprehensive technology integration program, eMINTS, in classrooms across the state. "This program combines multimedia and computer technology, an inquiry based approach to teaching, and extensive professional development" (Branigan, 2002, para. 5). eMINTS teachers participate in over two hundred hours of professional development over a two-year period. One key component of this professional development program is peer coaching. The training helps teachers integrate technology so that they can use inquiry-based teaching and emphasize critical-thinking and problem-solving skills. As one of the program leaders noted, "When you put the two together [inquiry-based learning and true technology integration] there's a synergy created that really boosts students' learning" (Branigan, 2002, para. 16). This synergy was directly reflected in the test scores of more than 6,000 third and fourth grade students who recently took the Missouri Assessment Program (MAP) test. "Results show that a higher percent of students in eMINTS classrooms scored in the 'Proficient' or 'Advanced' categories...when compared with other students who took the MAP tests..." (Branigan, 2002, para. 18).

In a review of research on effective professional development, Garet and several co-authors identified a number of characteristics of coaching that make it effective. In addition to providing immediate feedback and a chance for collaboration, they argue that coaching is successful because it occurs during the teachers' regular workday (Garet et al., 2001). Wood and Killian (1998) supported this argument in a recent study of five disadvantaged schools that had success in improving academic achievement. "The professional growth experiences which appeared to have had the greatest impact on teaching and learning had occurred as part of the teachers' normal work activities." (para. 8). Teachers and principals at these schools saw peer coaching, informal peer observation, mentoring for new teachers, and study groups as important elements of their job-embedded professional development program

Garet et al. (2001) also found that coaching is responsive to the way teachers learn, "... and may have more influence on changing teaching practice" (p. 921). Coaching and study groups that focus on teachers from one school had other benefits. Teachers who work together with coaches or in study groups have more opportunities to "... discuss concepts, skills, and problems that arise during their professional development experiences..." and are more likely "... to share common curricular materials, course offerings, and assessment requirements" (Garet et al., 2001, p. 922). Coaching is also valued because it promotes active learning by offering teachers opportunities to become involved in meaningful discussions and planning, observe other teachers, be observed, and receive feedback (Carey & Frechtling, 1997; Darling-Hammond, 1997; Loucks-Horsley et al., 1998). It also offers teachers more opportunities to link the ideas learned in professional development to their teaching context (Garet et al., 2001).

Coaching's power is becoming more evident as schools, districts, and states implement the model. Berkeley, California, Boston, Massachusetts, El Paso, Texas, and other districts have had coaching programs since the mid 1990s. Pinellas County and Clark County School Districts have funded teachers to serve as coaches in each of their schools and Michigan and Missouri have created statewide coaching models.

References

- Branigan, C. (2002). Study: Missouri's ed-tech program is raising student achievement. *eSchool News Online*. Retrieved May 10, 2002 from <http://www.eschoolnews.com/news/registerFP.cfm?ul=%2Fnews%2FshowStory%2Ecfm%3FArticleID%3D3673>
- Carey, N., & Frechtling, J. (1997). *Best practices in action: Follow-up survey on teacher enhancement programs*. Arlington, VA: National Science Foundation.
- Darling-Hammond, L. (1995). Changing conceptions of teaching and teacher development. *Teacher Education Quarterly*, 22(4), 9-26.
- Darling-Hammond, L. (1996). What matters most: A competent teacher for every child. *Phi Delta Kappan*, 78(3). Retrieved January 5, 2004, from <http://www.pdkintl.org/kappan/darling.htm>
- Darling-Hammond, L. (1997). *The right to learn: A blueprint for creating schools that work*. San Francisco: Jossey-Bass.
- Garet, M., Porter, A., Desimone, L., Birman, B., & Yoon, S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38(4), 915-945. Retrieved January 6, 2004, from <http://aztla.asu.edu/ProfDev1.pdf>
- Guiney, E. (2001). Coaching isn't just for athletes: The role of teacher leaders. *Phi Delta Kappan*, 82(10). Retrieved May, 10, 2002, from <http://www.pdkintl.org/kappan/k0106gui.htm>
- Hargreaves, A., & Fullan, M. (1992). *Understanding teacher development*. New York: Teachers College Press.
- Ike, C.A. (1997). Development through educational technology: Implications for teacher personality and peer coaching. *Journal of Instructional Psychology*, 24, 42-49.
- Joyce, B., & Showers, B. (1994). *Student achievement through staff development*. New York: Longman, Inc.
- Joyce, B., Murphy, C., & Showers, B. (1996). The River City Program: Staff development becomes school improvement. In B. Joyce & E. Calhoun (Eds.), *Learning experiences in school renewal: An exploration of five successful programs*. College Park, MD: ERIC Clearinghouse.
- Little, J.W. (1993). Teachers' professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis*, 15(2), 129-151.

- Loucks-Horsley, S., Stiles, K., & Hewson, P. (1996). Principles of effective professional development for mathematics and science education: A synthesis of standards. *NISE Brief, 1(1)*. Madison, WI: University of Wisconsin at Madison, National Institute for Science Education.
- Loucks-Horsley, S., Hewson, P.W., Love, N., & Stiles, K.E. (1998). *Designing professional development for teachers of science and mathematics*. Thousand Oaks, CA: Corwin Press.
- Miller, N.N. (1998). The technology float in education today. *Science Activities, 35(2)*, 3-4.
- National Center for Research on Teacher Learning. (1995). *Learning to walk the reform talk: A framework for professional development for teachers*. Retrieved January 6, 2004, from Michigan State University, NCRTL Web site: <http://ncrtl.msu.edu/http/walk.pdf>
- Norton, P., & Gonzales, C. (1998). Regional Educational Technology Assistance Initiative. Phase II: Evaluating a model for statewide professional development. *Journal of Research on Computing in Education, 31(1)*, 25-48.
- Richardson, J. (1999). Making workshops work for you: Here's how to ensure those new ideas get put into practice. *Tools for Schools*, April/May. Retrieved May 10, 2002, from <http://www.nsd.org/library/tools/tools4-99rich.html>
- Richardson, V. (Ed.).(1994). *Teacher change and the staff development process: A case in reading instruction*. New York: Teachers College Press.
- Rodriquez, G., & Knuth, R. (2000). Critical issue: Providing professional development for effective technology use. *Pathways to School Improvement*. Retrieved January 6, 2004, from <http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te1000.htm>
- Saye, J.W. (1998). Technology in the classroom: The role of dispositions in teacher gatekeeping. *Journal of Curriculum and Supervision, 13(3)*, 210-234.
- Sparks, D., & Loucks-Horsley, S. (1989). Five models of staff development for all teachers. *Journal of Staff Development, 10(4)*, 40-57.
- Tenbusch, J.P. (1998). *Teaching the teachers: Technology staff development that works*. Electronic School [Electronic version]. Retrieved January 6, 2004, from <http://www.electronic-school.com/0398fl.html>

- Web-based Education Commission. (2001). *The power of the Internet for learning: Moving from promise to practice*. Retrieved January 6, 2004, from <http://interact.hpcnet.org/webcommission/index.htm>
- Wood, F.H., & Killian, J. E. (1998). Job-embedded learning makes the difference in school improvement. *Journal of Staff Development, 19*. Retrieved May 12, 2002, from <http://www.nsd.org/library/jsd/wood191.html>
- Yocam, K. (1996). Conversation: An essential element of teacher development. In C. Fisher, D.C. Dwyer, & K. Yocam (Eds.), *Education and technology*. San Francisco: Jossey-Bass.