Leap of Faith

A Literature Review on the Effects of Professional Development on Program Quality and Youth Outcomes

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We often assume, quite logically, a connection between professional development[1] and improved program quality and youth outcomes. We make a "leap of faith" (Hall & Gannett, 2011) that our work with practitioners will trickle down to their programs, and, ultimately, to the children and youth with whom they work. However, virtually no studies, in either the out-of-school or the school-based literature, present empirical evidence to support this belief.

In the literature on out-of-school time (OST) education, the Massachusetts Afterschool Research Study (MARS, Miller & Hall, 2007) demonstrated a positive correlation in OST programs between having well-trained staff and meeting quality criteria. However, the study was a non-random sample of programs in one state and has not been replicated. The MARS study did not determine whether it was in-service professional development

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[1] By *professional development*, I mean training that occurs once a person has been hired as a professional in the field. It is also called *in-service training*.

or some other type of educational experience—for example, a university degree or certificate program—that had a direct effect on program quality.

A fair amount of research in the in-school literature documents the effects of professional development on teaching practice. Guskey (2002) outlines five levels of impact of professional development: participants' reactions, participants' learning, organization support and change, participants' use of knowledge and skill, and student learning outcomes. However, as Bouffard (2004) notes, "no studies have examined … how professional development impacts youth" (p. 10). Guskey himself writes that evaluators of professional development efforts need to look for *evidence*, not *proof*, that professional development is effective because the "relationship between professional development and improvements in student learning in these real-world settings is far too complex and includes too many intervening variables to permit simple causal inferences" (p. 9). There is clearly a missing link in the chain of inference on impact.

Hall and Gannett (2011) note that the literature suggests a strong correlation between professional development and program improvement. In evaluations of two OST certification programs, the authors found that the "greatest improvements were reported in three competency areas: activities and curriculum, child and youth development, and program management" (p. 18). But changes to activities and curriculum do not automatically translate into improved youth outcomes.

What does the lack of evidence linking professional development causally to youth outcomes mean to those who fund or provide OST professional development? It seems there are three options:

1. Give up on funding and providing professional development and training because there is no evidence that professional development has an impact on program quality and youth outcomes.

2. Dedicate funding to study the effects of professional development on program quality and youth outcomes. Such research would be an expensive proposition, because it would have to study large treatment and control groups.

3. Act on faith, assuming that high-quality (as opposed to low-quality) professional development will have some sort of positive impact on program quality and youth outcomes.[2]

Currently our only choice is option 3. The next step is therefore to define the criteria for high-quality professional development.

Review of Research on High-quality Professional Development

In a review of 1,300 studies of the impact of professional development on student achievement (Yoon, Duncan, Lee, Scarloss, & Shapley, 2007), nine studies were selected, based on quality criteria, for closer scrutiny. These studies showed that providing teachers with more than 14 hours of professional development had a positive and significant effect on student achievement. The majority of professional development programs studied provided follow-up support to the main event, in a type of linked or sustained professional development. One of the major drawbacks of the study was variation in the types of professional development offered, so that no conclusions about the effect of specific kinds of professional development on youth outcomes could be reached (Yoon et al., 2007).

A 2001 study (Garet, Porter, Desimone, Birman, & Yoon) intended to define high-quality professional development by studying outcomes of the Eisenhower Professional Development Program for teachers. The outcomes were self-reported increases in teacher knowledge and skills or changes in classroom practice. Eisenhower funds many different types and models of professional development, including workshops, conferences, study groups, professional networks and teacher collaboratives, taskforce work, and peer coaching. The researchers organized the data into frameworks of *structural* features—having to do with the structure or design of the professional development—and *core* features related to the substance of the training. Structural features include both *form*, such as whether the professional development is a "reform type" study group or a traditional workshop, and *duration*, which includes the total number of contact hours, as well as the span of time over which the activity takes place.

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[2] Though the literature on professional development in schools is wholly occupied with academic outcomes, in OST we would also include nonacademic outcomes such as socio-emotional competencies, career or vocational preparation, and civic engagement and leadership.

The findings demonstrated that "time span and contact hours have a substantial positive influence on opportunities for active learning and coherence" (Garet et al., 2001, p. 933). The researchers' "results indicate that sustained and intensive professional development is more likely to have an impact … than is shorter professional development" (p. 935). Their results also indicate that professional development that focuses on academic subject matter (content), gives teachers active learning opportunities, "and is integrated into the daily life of the school (coherence), is more likely to produce enhanced knowledge and skills" (p. 935). The researchers found that professional development that encourages collective participation and professional communication among practitioners—in other words, that builds learning communities—gets better outcomes (Garet et al., 2001).

Penuel, Fishman, Yamaguchi, and Gallagher (2007) studied 454 teachers who had received professional development from a variety of providers on the GLOBE curriculum, an international earth-science program. The data sources included surveys of professional development providers, teacher surveys, and implementation data from an online database. While it could not link the professional development with student outcomes, the study was able to observe fidelity of implementation of the curriculum, which was the researchers' independent measure. That is, researchers were able to document whether and how the teachers who had attended the training were implementing the curriculum as intended. The professional development was analyzed based on the categories identified by Garet and colleagues (2001), including coherence, active learning, and length of time, among others. The major finding was that "teacher perceptions of support for planning had a positive impact on teacher learning" (Penuel et al., 2007, p. 947). That is, when the professional developers provided time for teachers to discuss how to align the curriculum with their current practices and local standards—when the professional development was "coherent"—teachers felt more prepared. Another finding was that professional development that focused on content as well as on methods of inquiry and the scientific process was positively related to implementation of the curriculum.

In a recent article, Bausman and Barry (2011) reviewed the literature on teacher professional learning communities (PLCs) and their effects on the college readiness of students. The authors argue that PLCs are "likely insufficient for meeting the new expectation of the Common Core Standards to increase college and workforce readiness" but are promising as "opportunities for teacher teams to work collaboratively on student learning" (p. 176). However, the researchers found that subject matter and how students learn content were not typically the focus of the PLCs. The authors call for the development of a collection of videos that offer "externally developed, research-

based, and standards-aligned examples of instruction" (Bausman & Barry, 2011, p. 176).

Research-based Criteria for High-quality Professional Development

The literature suggests several criteria that define high-quality professional development.

Time Span: More and Longer

One study found that "professional development that is sustained over time and includes a substantial number of contact hours on a single professional development focus (averaging 49 hours in one multi-study review and close to 100 in another) results in increases in student learning" (Chung Wei, Darling-Hammond, & Adamson, 2010, p. 3). In order to accomplish this kind of duration, professional development must be viewed as part of the organizational culture. The expectation is that staff will attend professional development, and time and funding are made available for them to do so. This professional development can occur in a range of contexts. For example, a week-long institute that provides an in-depth analysis of a teaching issue or curriculum would provide approximately the length and range of time that would yield results. Alternatively, weekly or monthly staff development over time that follows a specific focus—perhaps on a theme or specific content—would also satisfy this criterion.

Coherence: Making Connections to Practice through Active Learning

Professional development that supports educators in integrating what they learn into their daily practice promotes coherence. Coherence can be accomplished in a variety of ways and through multiple venues. It is closely aligned with active learning in which, for example, practitioners learn a new teaching approach or strategy, implement the new technique with their students during the time between professional development sessions, and then reflect on this strategy during the next session. Another example of active learning occurs when staff members analyze student work during a professional development session in order determine how a new strategy would help students learn.

Focus on Content

Though the findings are somewhat mixed with regard to *what content* should be the focus of professional development, they do show that opportunities for in-depth examination of a subject have more effect on youth outcomes than do more superficial interventions. In a review of professional development and student outcomes, Chung Wei and colleagues (2009) found that student achievement improved most when teachers were "engaged in sustained, collaborative professional development that

specifically focused on deepening teachers' content knowledge and instructional practices" (p. 5).

One of the conundrums of the OST field is that staff come not only with a range of expertise in such diverse areas as the arts, social work, or recreation, but also with a range of educational levels. In addition, there are yet few undergraduate and graduate schools that provide a degree in OST youth work. Colleges and universities that do have degree-bearing youth work or youth development majors typically do not require students to become competent in any academic subject. The irony is that, while school teachers are increasingly called upon to become more proficient in subject matter, we expect OST staff to improve student outcomes in both academic and non-academic subjects without adequate subject matter training. As a field, we need to articulate and address this set of conflicting expectations.

Professional Learning Community

While professional learning communities alone cannot affect youth outcomes, they are cited in the literature as being one key to improving teaching practice. That is because communities, by definition, encourage and sustain professional dialogue and exchange of resources, skills, and strategies. In addition, the literature suggests a positive impact when teachers feel supported, which is an essential feature of well-designed professional learning communities. Professional learning communities also get better results than more limited learning opportunities because they tend to continue for longer periods of time. In the literature, the structures that support these communities are called "reform models," which can include ongoing study groups and fellowships as well as online social networks.

Summary

Though no clear link between professional development and youth outcomes has been established in either the in-school or the OST literature, a research-based consensus establishes the characteristics of high-quality professional development: It is sustained over a period of time, coherent, content focused, and based in a community of learners. These guidelines can inform OST funders and program directors as they decide how to invest limited resources in the OST workforce. Empirical research still needs to be conducted to investigate the link between high-quality professional development and youth outcomes.

References

Bausman, J. M., & Barry, C. (2011). Revisiting professional communities to increase college readiness: The importance of pedagogical content knowledge. *Educational Researcher, 40*(4), 175–178.

Bouffard, S. (2004). Promoting quality afterschool programs through professional development. Harvard Family Research Project. *Issues and Opportunities in Out-of-School Time Evaluation, Brief No. 8.*

Chung Wei, R., Darling-Hammond, L., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad.* Dallas, TX: National Staff Development Council.

Chung Wei, R., Darling-Hammond, L., Adamson, F. (2010). *Professional development in the United States: Trends and challenges*. Stanford, CA: Stanford Center for Opportunity Policy in Education.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915–945.

Guskey, T. R. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership, 59*(6), 45–51.

Hall, G., & Gannett, E. (2010). Body and soul. Reflections on two professional development credential pilots in Massachusetts. *Afterschool Matters, 10,* 13–21.

Miller, S., & Hall, G. (2005). *Pathways to success for youth: What counts in after-school.* National Intercultural Center for Research in Education (INCRE) & National Institute on Out-of School Time (NIOST). Retrieved September 10, 2011, from http://www.niost.org/pdf/MARSReport.pdf

Palmer, K. L., Anderson, S. A., & Sabatelli, R. M. (2009). How is the afterschool field defining program quality? *Afterschool Matters, 9,* 2–12. Retrieved from http://www.robertbownefoundation/org/pdf_files/2009_asm_fall.pdf

Penuel, W. R., Fishman, B. J., Yamaguchi, R., & Gallagher, L. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research Journal, 44*(4), 921–959.

Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. (2007). *Reviewing the evidence on how teacher professional development affects student achievement* (Issues & Answers Report, REL 2007, No. 033). Washington, DC:

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Annotated Bibliography on the Effect of Professional Development on Program Quality and Youth Outcomes

Bausman, J. M., & Barry, C. (2011). Revisiting professional communities to increase college readiness: The importance of pedagogical content knowledge. *Educational Researcher, 40*(4), 175–178.

This article reviews literature on teacher professional learning communities (PLCs) and their effects on the college readiness of students. The authors argue that, although PLCs are "necessary for effective schools," they are "likely insufficient for meeting the new expectation of the Common Core Standards to increase college and workforce readiness." They find that there is "mounting evidence that certain features of professional development also can have an impact on student achievement. These features include training over an extended time period …, a focus on the subject matter content and how students learn that content …, and opportunities for teacher teams to work collaboratively on student learning" (p. 176). However, PLCs do not typically focus on research on subject matter and how students learn content. The authors end by calling for a collection of videos that are "externally developed, research-based, and standards-aligned examples of instruction" (p. 176).

Bouffard, S. (2004). Promoting quality afterschool programs through professional development. Harvard Family Research Project. *Issues and Opportunities in Out-of-School Time Evaluation, Brief No. 8.*

This article makes the case for improved evaluation and research on the impact of professional development. Bouffard finds that "research from education and early child care demonstrates that professional development is related to positive social and cognitive outcomes for youth," but that evaluations of professional development have been "sparse" (p. 10). The author mentions Guskey's (2002) five-level evaluation framework but concurs that most evaluations collect data on the first level, participants'

reactions, in the form of "post-training satisfaction surveys" (p. 10). She writes, "To date, no studies have examined the … level of how professional development impacts youth" (p. 10).

Chung Wei, R., Darling-Hammond, L., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad.* Dallas, TX: National Staff Development Council.

This article is a comprehensive review of studies of the availability of professional development in the U.S. and abroad as well as a review of studies of what constitutes quality professional development. The authors reviewed both qualitative case studies and quantitative, random assignment control group studies. The goal of the review is to "examine policies and contexts that support implementation of more effective professional learning tied to student learning" (p. ix). The researchers group their findings into categories, including content of professional development, context for learning, design of learning experiences, and professional communities. Some of the relevant findings from their review include the need for sustained, in-depth professional development rather than "one shot workshops," opportunities for teachers to engage in active learning or "sense-making" activities, and "job-embedded and collaborative teacher learning" (p. 9).

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915–945.

This study, intended to define high-quality professional development, states that "despite the size of the body of literature, relatively little systematic research has been conducted on the effects of professional development on improvements in teaching or on student outcomes" (p. 917). In addition, few studies have "explicitly compared the effects of different characteristics of professional development" (p. 918). The study collected data on the Eisenhower Professional Development Program, a federally funded program for teacher professional development. The Eisenhower program funds many different types and models of professional development, including workshops, conferences, study groups, professional networks and collaboratives, taskforce work, and peer coaching. The researchers integrated and operationalized the ideas in the literature on "best practices" in professional development to create a set of scales describing the "characteristics of activities assisted by the Eisenhower program." They "then empirically tested these characteristics to examine their effects on teacher outcomes" (p. 918). The researchers organized the data into frameworks of *structural* features—having to do with the structure or design of the professional development— and *core* features related to the substance of the training. Structural features include

both *form*, such as whether the professional development is a "reform type" study group or a traditional workshop, and *duration*, which includes the total number of contact hours, as well as the span of time over which the activity takes place. All of the teacher outcomes were *self-reported* increases in knowledge and skills and changes in classroom practice.

The findings demonstrate that "time span and contact hours have a substantial positive influence on opportunities for active learning and coherence" (p.933). The findings also demonstrate that "activities that give greater emphasis to content and that are better connected to teachers' other professional development experiences and other reform efforts are more likely to produce enhanced knowledge and skills" (p. 933). Results also indicate that "professional development that focuses on academic subject matter (content), gives teachers opportunities for 'hands-on' work (active learning), and is integrated into the daily life of the school (coherence) is more likely to produce enhanced knowledge and skills" (p. 935). What the authors call "reform activities," such as study groups, get better results, because they tend to continue for longer periods of time. Also, the types of professional development that encourage collective participation and professional communication among practitioners get better outcomes.

Guskey, T. R. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership, 59*(6), 45–51.

This article provides a rationale for evaluating professional development: The evaluation can "provide meaningful information that you can use to make thoughtful, responsible decisions about professional development processes and effects" (p. 1). Guskey outlines a framework of five critical levels of professional development to evaluate: participants' reactions, participants' learning, organization support and change, participants' use of new knowledge and skills, and student learning outcomes. The framework also categorizes the type of data that can be collected about each of the levels. Guskey describes a process for planning professional development that starts with the fifth level, student outcomes, and designs backward to determine what professional development practices "will most effectively and efficiently produce those outcomes" (p. 10). Guskey recommends that evaluators look for evidence, not proof, that professional development is effective because the "relationship between professional development and improvements in student learning in these real-world settings is far too complex and includes too many intervening variables to permit simple causal inferences" (p. 9).

Hall, G., & Gannett, E. (2010). Body and soul. Reflections on two professional development credential pilots in Massachusetts. *Afterschool Matters, 10,* 13–21.

This article reviews two pilot credential programs in Massachusetts: the School-Age Youth Development credential and the Professional Youth Worker credential. The article

begins by reviewing current literature on professional development in the youth field, stating that "findings from the Massachusetts Afterschool Research Study … showed that, in a large sample of afterschool programs, staff development had a significant relationship with program quality. Programs with more highly educated and trained staff, both program directors and direct service workers, demonstrated highly quality staff engagement, youth engagement, activities and homework time" (p. 13). Research suggests that professional development is a requirement for program improvement. Hall and Gannett describe Guskey's (2000) framework of five levels of impact of professional development: 1) participants' reactions, 2) participants' learning, 3) organization support and change, 4) participants' use of knowledge and skill, and 5) student learning outcomes. The authors conclude that "few studies have collected youth data specifically tied to training or professional development. We regularly make the leap of faith that high-quality training and professional development have a positive impact not only on the professionals who receive it, but also on the youth they serve. Effects on youth may not be immediate; they most likely take place over time. Use of new content and strategies gained in training or professional development is often delayed due to program or personal constraints" (p. 17). In their evaluations of two certification programs, the authors find that the "greatest improvements were reported in three competency areas: activities and curriculum, child and youth development, and program management" (p. 18).

Miller, S., & Hall, G. (2005). *Pathways to success for youth: What counts in after-school.* National Intercultural Center for Research in Education (INCRE) & National Institute on Out-of School Time (NIOST). Retrieved September 10, 2011, from http://www.niost.org/pdf/MARSReport.pdf

The Massachusetts Afterschool Research Study had two major goals: (1) to identify those program characteristics that are most closely related to high quality implementation and (2) to explore the links between program quality and youth outcomes. The study sample emphasized communities with lower-income families in sites funded by the 21st CCLC program or United Way. Starting with both academic and non-academic outcomes, the researchers traced outcomes back to program practices. They aligned programs in their sample with a series of research-based quality indicators. One of the findings was that "programs with more highly educated staff, both at the program director and direct service levels, were rated significantly higher on program quality, including staff engagement, youth engagement, activities, and homework time. In addition, programs that used certified teachers and other school staff tended to rate higher on [the] *Quality Indicators*" (p. 24)

Palmer, K. L., Anderson, S. A., & Sabatelli, R. M. (2009). How is the afterschool field defining program quality? *Afterschool Matters, 9,* 2–12. Retrieved from http://www.robertbownefoundation/org/pdf_files/2009_asm_fall.pdf

In this review of literature on program quality, the authors suggest that well-prepared staff with adequate resources and professional development supports can build afterschool programs with a safe, enriching climate; foster positive relationships with the youth they service; offer focused, intentional programming; and build strong partnerships with families, school leaders, and the larger community to enrich and enhance their work.

Penuel, W. R., Fishman, B. J., Yamaguchi, R., & Gallagher, L. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research Journal, 44*(4), 921–959.

This article reports on a study of 454 teachers who received professional development from a variety of providers on the GLOBE curriculum, an international earth-science program. The data sources included surveys of professional development providers, teacher surveys, and implementation data from an online database. While it could not link the professional development with student outcomes, the study was able to observe fidelity of implementation of the curriculum. The professional development was analyzed based on commonly accepted indicators of quality practice, including coherence, active learning, and length of time, among others. The major finding was that "teacher perceptions of support for planning had a positive impact on teacher learning" (p. 947). That is, when the professional development provided time for teachers to discuss how to align the curriculum with their current practices and local standards, they felt more prepared. Another finding was that professional development that focused on content as well as inquiry and the scientific process had a positive relationship to implementation of the curriculum.

Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. (2007). *Reviewing the evidence on how teacher professional development affects student achievement* (Issues & Answers Report, REL 2007, No. 033). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. Retrieved from http://ies.ed.gov/ncee/edlabs

The authors reviewed 1,300 studies of the impact of professional development on student achievement, and, based on criteria from the U.S. Department of Education What Works Clearinghouse, selected nine for closer scrutiny. One of the major drawbacks of the study was that there was "variability" in the professional development that precluded "any conclusions about the effectiveness of specific professional development programs" (p. 14). That is, the studies were not selected in a secondary screening process based on a specific professional development model. Another limitation is that none of the nine studies were of middle or high school teachers.

However, the studies of interventions consisting of more than 14 hours of professional development showed a positive and significant effect on student achievement. In addition, all but one of the interventions offered follow-up support to the main professional development event.