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Advanced Placement
Program

K-12 Professional Development

Effective Professional
Development:
Findings from
Research

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Effective Professional Development - Findings from Research

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The need for effective professional development has been a well-researched topic in the past decade. Professional development days are now considered a requirement for most teachers in grades K-12. In some states, maintaining a certain number of “professional development” hours per year is necessary to remain certified to teach. Schools and districts are invested in the need to continuously address and improve teacher learning. With the current push for educational reform, teachers, and the professional development they receive, are some of the focal points of interest in the educational arena (Garet, Porter, Andrew, & Desimone, 2001). It is necessary to fully understand that teachers play a key role in students’ success. In the end, it can be said, in most cases, that it is the teacher and management of classroom instruction that can be indicators or catalysts for student achievement. Student motivation, subject content taught, and timing are the teacher’s key responsibilities. Reform efforts are asking for changes in education that will help students develop understandings of content, think critically, and solve problems (Borko & Putnam, 1997). Recent research has also demonstrated that what teachers “know” has substantial influence on what students learn (Darling-Hammond & McLaughlin, 1999). Thus it follows that effective professional development increases the chances that what students learn is meaningful and relevant (Hawley & Valli, 1999).

So what constitutes effective professional development? First and foremost is the realization of a main purpose.

The ultimate goal of all professional development is improved student achievement. (Mundry & Loucks-Horsley, 1999)

With this goal in mind, effective professional development encompasses many connective components. These components may be explained under two main areas of professional development: the structural components and features of the

activities of professional development (Garet, Porter, Andrew, & Desimone, 2001). Professional development programs vary widely, but research has shown that there are key structural and activity features that are prevalent among successful programs (Garet, Porter, Andrew, & Desimone, 2001; Guskey, 2000; Hawley & Valli, 1999; Kennedy, 1999, Loucks-Horsely, Stiles, & Hewson, 1996). **The five key structural characteristics involve prolonged contact, model type, association of attending educators, availability of follow-up and support opportunities, and continuous evaluation. Four important characteristics of an effective professional development activity are content-specific material, inquiry based learning, collaborative grouping, and establishing learning communities. These characteristics are summarized here.**

Prolonged Contact

As with teaching students, training students does not realistically occur in a “one-shot” deal. If teachers do not expect their students to gain all their learning in one sitting, professional development programs planners should not expect teachers to learn effectively all at once either. It is important to ensure that professional development programs will succeed in new strategies and learning methods in the classroom. “Conventional approaches to professional development, such as one-time workshops, typically do not lead to significant change in teaching methodologies”(Hawley & Valli, 1999). Effective programs take into account sufficient contact hours with teachers. The total contact hours and the span of time over which the professional development program takes place are indicative of a successful program (Guskey, 2000). Teachers should be given adequate time to develop, absorb, discuss, and practice new knowledge (Loucks-Horsley, Stiles & Hewson, 1996). **Sustained and intensive professional development is more likely to have an impact on teachers (Garet, Porter, Andrew, & Desimone, 2001).** The additional time (over short professional development programs) can allow for discussions of content and strategies for

student learning. Sufficient time will also thus ensure that teachers will be more likely to use practices and strategies learned through professional development for use in the classroom. When this occurs, the message that professional development is an ongoing activity and integral to the process of teaching effectively is realized (Guskey, 2000; Darling-Hammond & McLaughlin, 1999).

Model Type

Descriptions of the major models of professional development can be found in the writings of Sparks & Loucks-Horsley (1989) and Guskey (2000). These **models include training, observer/assessment, and individually guided models.** Studies of the various models have provided information about both the advantages and disadvantages of each specific model. What has also emerged though is the effectiveness of combining positive factors of these models (Hawley & Valli, 1999). It has been found that a combination of these models can be highly effective at both individual and school wide improvements (Guskey, 2000). **The training model** typically involves a team of presenters that are considered experts in their given field. An important feature of this model is the opportunity to model or demonstrate skills that would be directly successful in the classroom. Teachers are given an opportunity to become students and thus learn to view effective teaching strategies in play. It has been found that it is important for models of professional development to model with teachers the strategies that teachers should use with their students (Loucks-Horsley, Hewson, Love, & Stiles, 1998). **The observer/assessment model** allows opportunities to receive feedback about classroom performance. Receiving feedback and having teaching practices observed can lead to reflection upon areas of personal instruction styles and strengths, as well as areas to seek help with. This type of model thus increases the chances that reflection and change about teacher practice will occur (Guskey, 2000). **The individually guided model** allows for teachers to design their own learning experiences and decision-making in the classroom. This model

encourages the individual pursuit of effective teaching strategies (Hawley & Valli, 1999). In a sense, this model ensures that teachers will be fully invested in the professional development they are undergoing and building a “sense of efficacy”. “Teachers with a high sense of efficacy plan for student learning, set goals for themselves and their students, and identify strategies to achieve them.” (Ashton, 1984).

Association of Attending Educators

Another key component in the structure of an effective professional development program is the similarity between educators that attend the program. In essence, programs should be geared for educators from the same school, department or grade-level (Garet, Porter, Andrew, & Desimone, 2001). There is a “symbiotic” relation between professional development and school improvement efforts (Hawley & Valli, 1999). There are a number of factors that may occur when the educators attending a professional development program are associated in some manner. Foremost, the issues, questions and answers that may arise from a group of educators are likely to be similar and most helpful when the educators share grade, subject, or school. Teachers will be more likely to discuss problems, strategies, and effective solutions after the training is over. Teaching may then be viewed not only as an individual and solitary effort, but also as part of a team in which teachers support each other and enrich each other’s work (Loucks-Horsley, Stiles, and Hewson, 1996). Evaluation of the Eisenhower Professional Development program by Garet, Porter, Andrew & Desimone (2001) attest to the importance of teacher association. **Their findings support professional development programs that encourage professional communication among teachers and thus help bring change in teacher practice in the classroom. By creating these types of “teacher leaders” in schools, professional development programs thus have the ability to create “agents of change” in the schools for which they work (Loucks-Horsley, Stiles & Hewson, 1996).** Promoting this

type of teacher leadership will also ensure that professional development will have a much farther reach beyond just those who attend a training. In promoting leadership, other teachers will inevitably be introduced to effective teaching strategies.

Follow-up and Support Opportunities

Too often teachers will attend workshops and be left on their own to implement and attempt to continue what they have learned. Yet again, just as teachers should not expect their students to be without questions after an important lesson, professional development planners should not expect teachers to be without questions after the professional development is completed. Another component of effective professional development programs are those that have the structures set up for consistent follow-up and support (Asayesh, 1993). Support and follow-up is needed in order to help in facing any new issues or problems that may arise from classroom implementation (Hawley & Valli, 1999). The full potential of professional development may not be reached if teachers do not implement practices learned in their classrooms. **Without the opportunity to follow up on any questions that may be occurring, professional development may not be fruitful (Guskey, 2000).** Again, teacher efficacy comes into play. Teachers who are supported and have a high sense of efficacy will likely feel good about teaching and are confident that they are able to influence student learning (Ashton, 1984). An evaluation by Borko and Putnam (1995), of successful professional development programs, has shown that teachers benefit from support as they try to implement new strategies and learning activities. Again, this promotes the range and long term effect that professional development can promote.

Continuous Evaluation and Assessment

Due to the important nature of the ultimate goal of professional development, increasing student achievement, professional development planners that want to establish an effective program must ensure that it is one which is “intentional, ongoing, and systemic” (Guskey, 2000). **Just as assessing students in the classroom is important to gauge effective teaching, assessing professional development programs can provide an insight into improving programs (Loucks-Horsley, Stiles, and Hewson, 1996).** The evaluation of the professional development program is therefore also of crucial importance. There are many questions that may be asked of a program, just as there are many methods in which to gather that data. For example, in order to assess participants’ use of new knowledge and skills, evaluation in the form of questionnaires and teacher portfolios may be used (Guskey, 2000). Questionnaires may address participant’s concerns, focus on quality and indicators of use, and provide valuable information on participant’s own experiences with implementation. Teacher portfolios provide a more specific and long-term framework for planning and implementing the professional development they have received for use in the classroom. Portfolios are an effective evaluation tool because teachers are afforded the opportunity to build a plan, collect evidence, and reflect on learning (Dietz, 1995). “Portfolios capture the intellectual substance and ‘situated ness’ of teaching in ways that other methods of evaluation could not” (Andrejko, 1998). The detailed information on specific implementation behaviors and practices is invaluable (Guskey, 2000). When evaluation is a key component of a professional development program, there is room for intentional and ongoing changes to increase the effectiveness of a given program. As a result, chances for student achievement are increased.

Content-specific material

Professional development activities may have various goals for teachers. Some may want to restructure teacher beliefs about instructional strategies, improve pedagogy, provide a how-to of analyzing student work, or any number of other areas of teaching (Borko & Putnam, 1997; Ball & Cohen, 1999). However, again and again, evaluations of effective professional development programs laud the emphasis on opportunities for teachers to build their knowledge base and address contexts that their students would encounter. **The professional development that produces student outcomes must be intensive enough to develop new knowledge and skills (Asayesh, 1993). Providing in-depth content knowledge and focusing on what to teach and how students learn such content are considered most effective for professional development activities (Kennedy, 1998; Loucks-Horsley, Hewson, Love, & Stiles, 1998).** By providing an environment that addresses context, process, and content the teacher's knowledge base will increase and thus so will student learning (Lewis, 2002).

Special Case for Mathematics Teaching and Learning

The case for content-specific material holds extra importance for the teaching of mathematics and science. In a subject in which teacher knowledge is crucial, it is clear that professional development activities should build and expand teacher's knowledge base in order to create better learning opportunities for students. There is evidence that teachers often do not possess the kind of subject-matter knowledge to provide teaching with understanding to students (Borko & Putnam, 1995). The activities presented in a professional development program should not just briefly cover material, but provide and understanding of core concepts (Loucks-Horsley, Stiles & Hewson, 1996). Teachers must become mathematics learners and be challenged at their own level of competence (Loucks-Horsley, Hewson, Love, & Stiles, 1998). Another finding from Garet, Porter,

Andrew & Desimone (2001) evaluation of the Eisenhower program supports the focus on mathematics content in order to design high-quality professional development programs. Mundry and Loucks-Horsley (1999) assessed the effectiveness of various professional development programs. They found that schools in which teachers had opportunities to learn mathematics the way students learned it created significant increases in learning. Successful programs should not address “generic” learning, but instead focus on the learning of particular mathematical ideas (Kennedy, 1999).

Inquiry-based Learning

Like students, teachers acquire new knowledge best by constructing and investigating for themselves as opposed to “memorizing facts” (Loucks-Horsley, Hewson, Love, & Stiles, 1998; Lewis, 2002). The types of activities provided in a professional development program are also more effective in improving the teacher’s knowledge base if it is inquiry based, for example “hands-on” work (Garet, Porter, Andrew, & Desimone, 2001). **A key component of inquiry-based learning is the opportunity to experience the types of activities that students must complete.** Ball & Cohen (1999) describe a “pedagogy of professional development” in which one of the key components is ensuring that the types of tasks in which teachers engage center around materials of practice. Providing inquiry-based learning allows for teachers to reconceptualize their practices in the classroom (Darling-Hammond & McLaughlin, 1999). Learners who are involved in the learning opportunity and the process to be used will more likely be motivated and have an increased commitment to learning (Hawley & Valli, 1999). Thus professional development activities should reflect the approach to learning and teaching that teachers are expected to adopt in their own classrooms (Borko & Putnam, 1995).

Collaborative Grouping

Along with content rich and inquiry-based activities, teachers should be allowed to work in collaborative groups (Mitchell, Hoyle & Martin, 1993). By breaking down teacher isolation, an environment of professional respect can be cultivated, easing the sharing of good practices (Hawley & Valli, 1999).

Collaborative groups allow teachers to discuss, talk with each other, and learn, in particular in the context of problem solving (Thompson & Zeuli, 1999). Collaborative groups can also be an added resource for teachers to further develop their understanding of teaching and learning (Loucks-Horsley, Hewson, Love, & Stiles, 1998). Teachers in collaborative groups will be able to link similar teaching experiences, and foster a forum for discussion and exchange (Tillema & Imants, 1995). Again, collaborative groups in mathematics professional development are important. Teachers are therefore allowed further opportunity to engage in discussions about mathematics teaching and learning. In addition, teachers need to experience how to learn cooperatively in order to implement such strategies with their own students (Loucks-Horsley, Stiles & Hewson, 1996).

Establishing Learning Communities

As education varies by state and district, so do the standards, curriculums, assessments and materials that teachers must implement in their classrooms. Effective professional development programs must allow opportunities for teachers to make links to other areas of education (Garet, Porter, Andrew, & Desimone, 2001; Loucks-Horsley, Hewson & Stiles, 1996; Asayesh, 1993). Activities must be aligned with standards in order to help teachers understand and apply their professional development to other levels. **By focusing on establishing links between what is learned in professional development and the actual implementation in a classroom, the barriers are removed and teachers may partner the two in improvement efforts (Guskey, 2000).** Helping teachers to

“see the big picture” will increase the likelihood that strategies learned will continue to be implemented. Effective professional development alone will not cause educational reform, but when viewed as part of a comprehensive change process that is multi-faceted, improvements will inevitably follow (Hawley & Valli, 1999).

The structural and activity characteristics of an effective professional development need to be considered and implemented in a thoughtful and conscientious manner. Not only is it important to ensure that practices and strategies learned in professional development are implemented and extended in the classroom, the primary goal of increased student learning should occur as well. **With a program that is of sufficient length and contact, using a combination of various models, involving a target audience of similar teachers, and the opportunity for evaluation and support, the structures of an effective program are in place. Of equal importance are the types of activities that fill these hours. Activities must be content-rich, with opportunities for teachers to expand their knowledge base, must involve inquiry based tasks, must require collaborative work with other teachers, and must create the opportunity for teachers to realize how all factors work together to effectively improve student achievement.**

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