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A THEORETICAL EXAMINATION OF PEER ASSISTANCE AND REVIEW SYSTEMS: THE CASE FOR CHANGE

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Peer assistance and review (PAR) programs are prominent and controversial mechanism within the education reform movement. Undertaken as a joint initiative between unions and school districts, they are new systems of teacher professional development and evaluation. This paper examines the theoretical framework against which peer assistance and review programs should be designed. Using literature on standards, professional development, teacher knowledge, motivation, and behavioral change, guidelines for the creation of PAR programs are developed. Implications of the creation of peer review systems are discussed, including increased accountability and responsibility for teachers and enhanced professionalism for educators in general. A theoretical examination of peer assistance and review programs: The case for change

In 2001, George W. Bush signed into law the most recent reauthorization of the Elementary and Secondary Education Act (ESEA), legislation that has been in effect since 1965. The No Child Left Behind (NCLB) Act, as it is more widely known, is the latest attempt in a reform movement that began in 1983 with the publishing of A Nation at Risk: The Imperative for Education Reform, a report by the National Commission on Excellence in Education. This report initiated a firestorm of controversy among teachers, school districts, students and parents. A Nation at Risk carried the message that unless a drastic overhaul was taken of the education system, American students would continue to fall further behind other industrial nations already surpassing the U.S. in quality of education. The report stated unequivocally, "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war."

Since 1983, the entire U.S. school system has been subject to intense scrutiny and myriad reforms. The mandate for competent and accomplished educators stems back to A Nation at Risk, which identified for the first time that the United Stated faces a deficit in the number of teachers who are well qualified to teach in the areas to which they are assigned. A major talking point in this reform movement is the concept of standards for both students and their teachers. The latest rounds of change, including NCLB, focus a great deal of attention on developing and implementing standards for quality teachers. This jargon means little to both education professionals and the public. The most commonly cited standards include provisions and requirements for student testing and those addressing teacher qualifications. An example of a standard from the NCLB Act is the definition of a 'highly qualified teacher.' This refers to the following: "Any public elementary school or secondary school teacher who teaches core academic subjects must have: obtained the full state certification as teachers (including alternative certification) or passed the state teacher licensing exam; hold a license to teach in a state; and not had a certification or licensure requirement waived on an emergency, temporary or provisional basis." (American Federation of Teachers, 2002) In essence, all educators who are teaching a specific subject are required either to have a Master's degree in education or that subject, or pass an exam which purports to measure their competence in that subject. The statute goes on to address requirements for teachers who are new to the profession, alternate certification measures, and enforcement procedures. The law further provides that beginning with the 2002-03 school year, every district receiving money under ESEA must ensure that all teachers hired and supported by Title I funds, who teach core academic subjects, are "highly qualified." Each state must develop a plan outlining how it will achieve this goal for all teachers who teach core academic subjects by the end of the 2005 - 2006 school year. The plan must require an annual increase in the percentage of highly qualified teachers in each district and school, and an annual increase in the percentage of teachers receiving professional development. (American Federation of Teachers, 2002) In other

words, districts will not receive key funding without showing that a majority and eventually all teachers meet the national definition of 'high quality.'

School boards by public and governmental mandate must ensure that the teachers in each classroom are qualified to provide the caliber of education expected under NCLB. Because public schools are widely unionized, the collective bargaining relationship within districts plays a role in the execution of such mandates. As Keane (1996) writes, "Public education reform initiatives have defined educational policy to such an extent that local officials, board members, and union representatives have relatively little flexibility to determine many key issues, such as length of the academic year and curriculum requirements, which are now often mandated by the state. State proficiency tests have become almost more important than local school district requirements in determining graduation eligibility. It is in the interests of both parties to work to ensure student success by using the narrow scope of issues still left for local determination to their mutual benefit." (p. 24-25) Teacher quality and improvement are two among the 'narrow scope of issues' remaining in which there is significant overlapping of national mandates and local initiatives.

ISSUE

In efforts to satisfy the recognized need to ensure that classroom teachers are able to do their job effectively, many school districts and their respective teacher bargaining units have created joint assistance and evaluation systems known as peer assistance and review (PAR) programs. As the name suggests, these programs provide mentoring and evaluation of struggling teachers. These functions are carried out by fellow teachers who themselves have been recognized by supervisors and peers as outstanding classroom practitioners. The review component, one of the most controversial, means that consulting teachers offer recommendations as to the continued employment of the participating teachers with whom they work at the conclusion of the process. Teachers who have demonstrated improvement receive positive recommendations. In many cases, reviewing teachers may recommend that the

district not extend contracts to their colleagues. In such cases, participating teachers are frequently assisted in finding other employment. A review of several districts which have implemented peer assistance and review mechanisms reveals that more teachers leave the classroom after participation in a PAR program than under traditional evaluation methods. An illustrative case is that of Cincinnati in which one-third of those referred for intervention have left teaching through resignation, retirement, or dismissal. During the first five years of Cincinnati's program, 61 percent of teacher dismissals for performance reasons resulted from peer review, as compared with 39 percent from evaluation by administrators. Five percent of beginning teachers under peer review were dismissed, as compared with only 1.6 percent of those evaluated by principals. (American Federation of Teachers & National Education Association, 1998, p. B4)

The impetus behind these programs is manifold. Of crucial importance to teachers is recognition that each must be accountable first to students but also to the education profession. This means ensuring that fellow teachers are performing adequately. It is also important that such accountability lie not only within the discretion of school boards and administrators, but also within the ranks of teachers themselves, and by extension, their unions. By using peer assistance and review processes, districts and their teachers implicitly acknowledge both the responsibility and capability of teaching professionals to offer support and training to their peers, in addition to evaluation.

An often-ignored function of peer assistance and review lies not in the review and evaluation of teachers, but in the process of assistance. There has been a great deal written by academics, union officials, teachers, and administrators about the effectiveness of the evaluation component. As demonstrated above, when determining whether or not PAR programs are successful, the statistics most often cited are the number of teachers who leave the classroom as a result of participation. (American Federation of Teachers & National Education Association, 1998, Appendix B) By this measure, the success of the program hinges on the ability of consulting teachers to identify teachers who should not be in the classroom. Missing from

this analysis is attention to whether these programs offer struggling teachers true means to improve their performance and emerge as more effective practitioners.   The manner in which peer assistance and review is constructed is then of crucial importance.

RESEARCH QUESTION

In examining the above issue, it is helpful to examine peer assistance and review programs in the context of both professional development and evaluation. When developing a PAR program, what components should designers consider to achieve desired results?   Teaching involves specific skills and behaviors that are now being examined in very public forums. Whether or not teachers meet standards associated with excellence and student achievement is a question of national concern. A review of the literature suggests that organizational   and   individual   factors   of performance such as motivation and behavioral change, however, provide necessary insight to development and evaluation processes.   The purpose of training is to achieve some kind of change in behavior; the purpose of evaluation is to determine if performance is adequate.   PAR programs purport to do both. These areas should be addressed together to determine if the PAR method, touted as a potentially powerful tool to assure quality among classroom teachers, can be effective. The question being examined, therefore, is whether or not peer assistance and review programs can be structured in such a way as to initiate, sustain, and reinforce desired changes in classroom behavior among participating teachers.

PAPER OUTLINE

The question of peer assistance and review program effectiveness will be examined by integrating   various   elements   of   teacher performance.   The limited scope of this examination precludes delving into a detailed overview of each component. Rather, each area highlighted should be the subject of further research into the ways in which they affect the best construction of peer review systems. This paper first provides a brief summary of PAR programs   and   then   considers   the   role   of performance standards, professional development standards for teachers, teacher knowledge, and motivation. It addresses these components within

the transtheoretical model of behavioral change. The evidence developed in the first section is then used to construct guidelines and suggestions for the creation of peer review systems.

TRADITIONAL PERFORMANCE REVIEW: THE CASE FOR CHANGE

Traditional Review Process

Teacher evaluation is traditionally the realm of principals.   Both   supporters   and   critics   of traditional evaluation agree that there is a widely-employed format for assessment.   Evaluation procedures and criteria focus on regimented sets of behavior that have been linked to high student performance on standardized tests. (Weiss & Weiss, 1999, p. 1) Indeed, a large portion of administrators' job duties involves counseling and evaluating teachers. Many principals, as former teachers themselves, have experience in the classroom   and   thus   a   good   contextual understanding of good teaching. "Administrators are trained and paid to evaluate and should be allowed to do their jobs…good schools need strong principals, but they rarely get them in a system   where   principals   know   they   aren't responsible for the quality of the teachers." (Wroth, 1998) Many argue that using current standards to develop new evaluation criteria is the key to better review practices, including the necessary step of maintaining proper authority for principals.

A significant critique to the right of teachers to engage in peer review relates to the undecided role of unionized teachers in the decline in educational attainment within the past half century.

> One of the most significant efforts to assess the union impact on educational achievement was research conducted by Sam Peltzman of the University of Chicago. Peltzman concluded that academic achievement declined from 1960 to 1980, then leveled off from 1980 to 1992. Using various statistical techniques, he tried to identify the educational developments that would be consistent with this pattern. Two were identified: the growth of teacher unions and the shift from local to state revenues as the main source of school district financial support. While conceding that his research could not provide   a   full   explanation,   Peltzman nevertheless concluded that teacher unionization

was a significant causal factor in the decline. (Lieberman, 1997, p. 220)

Critics have been extremely vocal in insisting that teacher protection of weak and incompetent colleagues will further erode educational quality where peer review is permitted.

Criticism of Traditional Processes

In the same breath, Lieberman also acknowledges that research is inconclusive on most matters of student achievement and the role of teacher unions in its supposed decline.

Efforts to estimate the union impact on student achievement encounter a plethora of research problems. Researchers disagree on the following:

1. Whether student achievement improved, deteriorated, or remained stable during the bargaining era.
2. The extent to which non-school factors, such as immigration, the drug culture, family breakdown, and television affect student achievement.
3. Whether student cohorts in the bargaining years were equally talented and/or motivated as those in the pre-bargaining era.
4. The criteria for assessing educational achievement. Test scores have been the most commonly used criterion for assessing pupil achievement. The two tests most frequently cited for this purpose are the Scholastic Aptitude Test (SAT) and American College Tests (ACT). Intense controversy rages over the use of these test scores, or any others, to measure student achievement. (Lieberman, 1997, p. 219)

Critics of traditional approaches emphasize that performance evaluation is typically a once a year observation. In a comparative analysis of four districts with peer assistance and review systems in place, a human resources director posed the following question to skeptics who are critical of the weight given to mentor teacher recommendations with respect to their peers' continuing employment—whether or not they should be offered a continuing contract—as compared to the authority of principal evaluation.

> Somewhere between 40 and 60 percent of new teachers were not getting their full complement of three annual observations and one evaluation.

> They weren't even getting that full contractual observation or evaluation…and that's probably the most you're going to get. In our [PAR] program, a consultant [teacher] has somewhere between 55 and 75 contacts and formal observations with their interns. Question to you is whose recommendation would you support? The one who has been in the classroom three or four times or the one that's been in contact with this mentee 50, 60, or 70 times? (Kelly, 1998, pp. 14-15)

Under traditional review processes, criteria are based on the assumption that "direct instruction" methods such as lecture and recitation are optimal teaching methods; principals judge performance on minimal competencies. (Weiss & Weiss, 1999) Minimal competency is insufficient where teacher performance is already under a microscope. In addition, with principals' focus increasingly divided between a wider number of areas, from student discipline to state budget cuts, and the teaching profession taking on significant new depth, principals can hardly be expected to provide an optimal level of support for and attention to struggling teachers. "Principals can foster a new culture of collaboration and search for best practice among staff. But they cannot be expected to tell individual teachers how to be successful, although they can occasionally help them when they are not succeeding or *ensure opportunities for continuing development that will make each of them more effective practitioners*. (Italics added)...They can provide feedback. They can collect data about the effectiveness of the school, but that cannot hope to do alone what only teachers can do working alone and together." (Keane, 1996, p. 52-53)

The impetus for alternative forms of review, coupled with increased resources, support, and assistance for all teachers, is clear. Once again it is worth quoting Keane at length.

> The way teachers decide to instruct students represents an organizational change. The willingness of a group of teachers to plan together for more than one class of students

represents a change in a traditional cultural norm: blind obedience to the concept of the autonomy of individual teachers. Perhaps an even more profound culture shift can be seen in the joint acceptance of responsibility for student learning. Accountability for results is moving from an obligation imposed on teachers by the school board to a self-imposed requirement. The former practice gave rise to all kinds of haggling at the bargaining table over supervision practices, evaluation documents, and a myriad of other issues designed to get teachers to "perform." In addition, the norm of continuous improvement based on data feedback is being established. Data goes from being individually owned by the classroom teacher to be owned by the staff. Tomorrow's instruction can be better than today's because staffs are searching for tools and techniques that can be shown to make a difference. (p. 53-54)

Quite simply, normal evaluation has not kept pace with the needs of school districts and their teachers. It would be a disservice by districts to fail to employ innovative techniques to meet the changing expectations of all stakeholders. Even though peer review remains controversial within internal and external constituency groups, districts have used it successfully as it currently exists. "However, Adam Urbanski, president of the Rochester Federation of Teachers, a local that has had a peer assistance and review program in place more than 10 years, likes to remind his fellow unionists that such programs 'are only controversial where they haven't been implemented.' " (AFT, 1998, p. 8) Further examination of components such as motivation and behavior change, yet to be examined in a theoretical or practical manner, may lend further understanding to how peer assistance and review can best be used in schools.

PEER ASSISTANCE AND REVIEW PROGRAMS

Despite its widespread use, the definition of peer assistance and review has not been clearly articulated. "Peer review is widely understood to encompass various procedures by which teachers and their unions would exercise more

responsibility for improving teacher performance as well as for terminating the services of teachers who do not perform adequately after receiving assistance." (Lieberman, 1998, p. 2) Lieberman goes on to identify three purposes for peer review: deciding whether or not to renew the contracts of first year teachers, deciding the employment outcome for teachers performing inadequately, and providing assistance to teachers who want help without implications or adverse consequences. (p. 3) A typical model for includes the following components. Consulting teachers are those chosen as peer evaluators; they are sometimes called mentor teachers. Typically, they are selected from a joint governing panel of teachers and administers based on an application and review process which includes recommendations from supervisors and colleagues, interviews, role plays, or case studies. Once selected, the teacher serves in this role, released from the classroom, for up to three years. The caseload of teachers assigned to each mentor or consulting teacher varies, but generally ranges from twelve to twenty-two. (Kelly, 1998, pp. 5-6) Participant teachers are typically selected into a PAR program after being identified by an administrator or peer as someone in need of assistance. The referral is considered by the governing panel. If the panel agrees, a recommendation or mandate is given to the potential participant; he or she may appeal or accept. (pp. 9-10)

It should be noted that in reviewing programs from throughout the United States, there was a universal absence of criteria against which teacher performance should be measured and consultant teachers should be selected. (American Federation of Teachers & National Education Association, 1998, pp. B1-B9) Rather, selection into PAR programs is based on the observations of other teachers, who referred colleagues "who were deemed performing in a way so unsatisfactory that dismissal was likely if unchecked." (Kelly, 1998, p. 4) The lack of recommended selection criteria will be addressed in later sections.

The AFT, within its 1998 convention on Teacher Quality, addresses the purpose and structure of peer review systems. "These programs address many of the weaknesses in the teacher development continuum and speak to teachers' expressed desire that unions play a role

in the improvement of teaching. These programs recognize a legitimate role for teachers in establishing and/or enforcing standards in their own professions." (AFT, 2003, p. 6) Programs in existence among AFT locals share the following characteristics, the most important of which is that all are the product of collective bargaining agreements. Other shared characteristics include:

- Providing unions with at least an equal voice in the process of implementing and evaluating the program;
- Providing assistance and review to new teachers and veteran teachers who are not performing to acceptable standards;
- Having a process to identify and train qualified teachers to provide assistance
- Having resources allocated specifically for these programs; and
- Implementing safeguards to all parties with respect to due process and expression of the proper decision-making process. (pp. 6-7)

Critics of these programs question the ability of teachers to evaluate their peers objectively. They also question the propriety of unions implementing processes that interfere with the union's duty of fair representation, which compels employee representatives to provide equal treatment and representation for all employees. Others question the basic assumption that teachers have any right to be involved with evaluation or improvement. "For all we know, peer review keeps incompetent teachers in the classroom longer than conventional procedures did or would. It is simply assumed that the recommendations under peer review are more reliable, but the assumption is not necessarily a fact. In view of the costs, peer review would have to display a significant margin of superiority to be justified." (Lieberman, 1998, p. 23)

Union views are considerably different, and emphasize the need for ensuring accountability within the teaching profession. "The widespread adoption of joint union-administration-directed peer intervention programs to help weak teachers gain the skills they need or, if that is not possible, counsel them into other lines of work, would do a great deal to raise the status of the profession." (AFT, 2003, p. 7) Peer review processes in which teacher and district

representatives determine the criteria for selection into PAR programs, the mentor teachers who provide assistance, and the criteria for determining successful completion of a program, are held by supporters as one of the most effective new ways to ensure quality in education.

COMPONENTS OF TEACHER DEVELOPMENT AND PERFORMANCE

Performance Standard

In many ways, the term "standard" has become overused jargon. The danger of overuse is loss of meaning. In setting out to quantify improvement, it makes sense to first define the units against which it will be measured. Bobko and Colella outline three components of a standard. "First, standards often have an evaluative component…Second, standards are criteria which are established externally, and imposed on an individual's work task. Finally, as established entities, standards are usually considered to remain somewhat stable over time and individuals." (1994, p. 3) The standards that affect teachers are generally considered to be those imposed by national policy and legislation. The ubiquitous standards of No Child Left Behind, for example, include minimum degree and testing requirements. An example of a standard for a highly qualified teacher who is not new to teaching is as follows:

When this term is used with respect to an elementary, middle, or secondary school teacher who is not new to the profession, it means that the teacher holds at least a bachelor's degree and:

i. has met the applicable standard in clause (1) or (2) of subparagraph (B), which includes an option for at test; or

ii. demonstrates competence in all the academic subjects in which the teacher teaches based on a high objective uniform State standard of evaluation that-

a. is set by the State for both grade appropriate academic subject matter knowledge and teaching skills;

b. is aligned with challenging State academic content and student academic achievement standards and developed in consultation with core content specialists, teachers,

principals, and school administrators;

c. provides objective, coherent information about the teacher's attainment of core content knowledge in the academic subjects in which a teacher teaches;

d. is applied uniformly to all teachers in the same academic subject and the same grade level throughout the State;

e. takes into consideration, but not be based primarily on, the time the teacher has been teaching in the academic subject;

f. is made available to the public upon request; and

g. may involve multiple, objective measures of teacher competency. (Learning First Alliance, 2003)

organizationally evaluative component attached to standards…goals are usually determined on an individual basis: namely, in reference to individual ability and subsequent individual performance." (1994, p. 4) In this context, the organization-level is the entire educational system, and the standards are those imposed by NCLB, mandated by state educational mandates, or legislated on a federal level. Goals, on the other hand, are those objectives and targets established on a district, school, or peer-review level. For the purposes of PAR programs, goals and objectives are linked to aforementioned educational standards and should be operationalized in two ways. The first is in the performance appraisal system that is utilized to assess teacher performance throughout a school system. Are teachers meeting standards across a school district? The second is to use standards to frame the goals established in a consulting

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FIGURE 1
Factors Increasing Commitment to Assigned Goals

A. Goals are assigned by authority figures who…
- ❖ Are seen as legitimate
- ❖ Are physically present
- ❖ Are supportive
- ❖ Are trustworthy
- ❖ Exert reasonable pressure

B. Assigned goals which…
- ❖ Imply rewards and punishments
- ❖ Convey positive self-efficacy information
- ❖ Foster a sense of achievement
- ❖ Are challenging
- ❖ Have high instrumentality and valence
- ❖ Have a high expectancy for success
- ❖ Do not conflict with other goals
- ❖ Are participatively set

This standard is established externally to school districts and, until further reauthorization of the Act, will remain stable across people and time, and clearly delineates criteria against which individuals are evaluated. Standards are important in the discussion of PAR programs because they provide the framework against which teacher performance on a micro-level is measured.

Bobko and Colella, however, are careful to distinguish between performance standard and goals. According to the literature on goals, they can be defined as the ends or aims of a given action, while standards are rules for measurement and evaluation. "Goals do not imply the

relationship between a mentor teacher and a PAR program participant. Bobko and Collella's definition of the difference between goals and standards expresses the intention of the peer assistance and review program: the mechanisms for improvement, goal setting and the assistance of high-performing teachers, are tied to the external standards for evaluation established by law and professional mandate.

How are these standards useful in determining if a PAR program improves teacher performance? Bobko and Collella (1994, p. 5) assert that in order for external standards to have a positive influence on motivation through goal-

setting processes, standards must be translated into personal goals that are both specific and difficult by the individual. The authors go on to say that literature on commitment to assigned goals provides the best description of the translation of standards into goals. Figure 1 illustrates factors that increase individual commitment to goals that have been assigned, many of which have been empirically examined and supported. This research suggests that standards should be used to create personal goals using the guidelines listed to increase PAR participant commitment to these goals and the standards from which they are derived.

Professional Development

Training & development as peer assistance. Researchers often ignore the "assistance" potion of peer assistance and review programs, focusing instead on attrition rates of participants. While outcomes are important—that is, how many teachers receive positive recommendations and how many leave the classroom—the training component has been ignored. As such, there has been little in the way of assessment of peer assistance.

In PAR structures, assistance to teachers is carried out in one-to-one relationships between a consulting or mentor teacher and the participant teacher. The goal of the relationship is to identify areas in need of improvement and select and implement methods to do so. This gets at the heart of the behavioral change process. A review of general research on learning would be useful, but for purposes of this paper, a narrower framework of teacher training can be used: established "best practices" in teacher professional development.

A brief caveat about changes to training is warranted. The reform movement at large would seem to call for changes in the ways teachers are educated before entering the classroom as well as increased and improved opportunities for learning and development once they have entered. "Staff education contributes to reform. It helps each district and union develop a language of reform and change." (Kerchner & Caufman, 1993, p. 13) If the need for educational reform is real, so too is the need for improvements in training. Simply removing teachers from the classroom will not provide better education. It will not raise student

achievement. Nor does it appear will current training and development practices. "A major reason that greater investments have not been made in professional development is that its presumed beneficiaries, teachers, have little positive to say about its usefulness." (Hawley & Valli, 1999, p. 134)

Professional development principles. It would be inaccurate to state that teachers themselves, by virtue of their profession, are better learners. "Success in knowledge of skill-based endeavors in teacher development remains insufficient and elusive…" (Hargreaves, 1995, p. 13) A review of the research by Hargreaves reveals that teachers tend to reject training opportunities under quite a few conditions.

1. They are imposed. As McLaughlin (1990) notes, "we cannot mandate what matters to effective practice" (p. 15).
2. They are encountered in the context of multiple, contradictory, and overwhelming innovations (Werner, 1988).
3. Most teachers, other than those selected for design teams, have been excluded from development [of training opportunities] (Fullan, 1991)
4. They are packaged in off-site courses or one-shot workshops that are alien to the purposes and contexts of teachers' work (Little, 1993b).
5. Teachers experience them alone and are afraid of being criticized by colleagues or of being seen as elevating themselves on pedestals above them (Fullan & Hargreaves, 1991)

A convergence in research on professional development has emerged, however, within the past decade. Research by the National Governor's Association, U.S. Department of Education and myriad academics has delved into this issue and emerged with the New Consensus Model of Professional Development. Eight principles of design are incorporated into this model. These principles are built on professional development strategies found to improve student learning over time as well as more general research on learning. (Hawley & Valli, 1999, p. 137)

These principles, in conjunction with the research on standards, teacher knowledge, and motivation can be used as a means of comparing and assessing PAR programs as effective means of behavioral change.

research judiciously." (Grossman, 1990, p. 4) Simply put, it means that teacher education programs were too focused on teaching behaviors to link them to teacher knowledge of what to do in the classroom. Trying to fix teacher behaviors is an attempt to fix the wrong problem. Addressing

FIGURE 2	
Design Principles of the New Consensus Model of Professional Development	
1. Driven fundamentally by analyses if the differences between (1) goals and standards for student learning and (2) student performance	2. Involves learners (teachers) in the identification of their learning needs, and when possible, the development of the learning opportunity and/or process to be used.
3. Is primarily school based and integral to school operations	4. Provides learning opportunities that relate to individual needs by for the most part are organized around collaborative problem solving
5. Is continuous and ongoing, involving follow-up and support for further learning, including support from sources external to the school.	6. Incorporates evaluation of multiple sources of information on outcomes for student and processes involved in implementing the lessons learned from professional development
7. Provides opportunities to develop a theoretical understanding of the knowledge and skills to be learned.	8. Is integrated with a comprehensive change process that deals with the full range of impediments to and facilitators of student learning

Teacher Knowledge

Among many outside the teaching profession, there are long-held beliefs that anyone with knowledge of a particular subject, a good attitude, and a year or so of training in the classroom can be a good teacher. This is clearly not the case. Inquiries into the failings of the public school system have focused on teacher behavior; what are teachers doing—and what they aren't doing—in the classroom to lead to gaps in educational attainment by students. Within the past ten years, research has refocused on teacher knowledge. "Teacher educators occasionally have tried to incorporate into teacher education research findings on teacher behaviors that were related to student achievement (Lanier & Little, 1986); the attempts, however, lacked a theoretical framework for understanding both the prior knowledge and beliefs prospective teachers bring with them and the knowledge of subject matter, students, and general pedagogy teachers need to draw upon the

teacher knowledge is a prerequisite to addressing insufficient teacher behavior.

A brief overview of the four cornerstone components to teacher professional knowledge is therefore necessary. Current research and practice generally embraces these areas within teacher preparation and development programs. Figure 3 illustrates the relationship between each area. (Grossman, 1990, p. 5)

Subject matter knowledge. Until the mid-1980s, subject matter knowledge was largely ignored in studies of teacher learning. It is now acknowledged as an important factor in teacher success in answering student questions, critiquing and selecting curriculum materials, and constructing instructional practice. (Grossman, 1990, p. 6) Content knowledge is fairly simple. It refers to understanding of major facts, concepts, and relationships within a given field, such as mathematics or music. Substantive and syntactic structures guide the presentation of material in the

classroom. They include knowledge of how a field has developed, important conceptions or theoretical bases and the major unresolved issues or questions that are important to people within the

research in this area and teacher education has been prescriptive; researchers have identified instructional skills related to student achievement that prospective teachers are then trained to use."

FIGURE 3:
Model of Teacher Knowledge
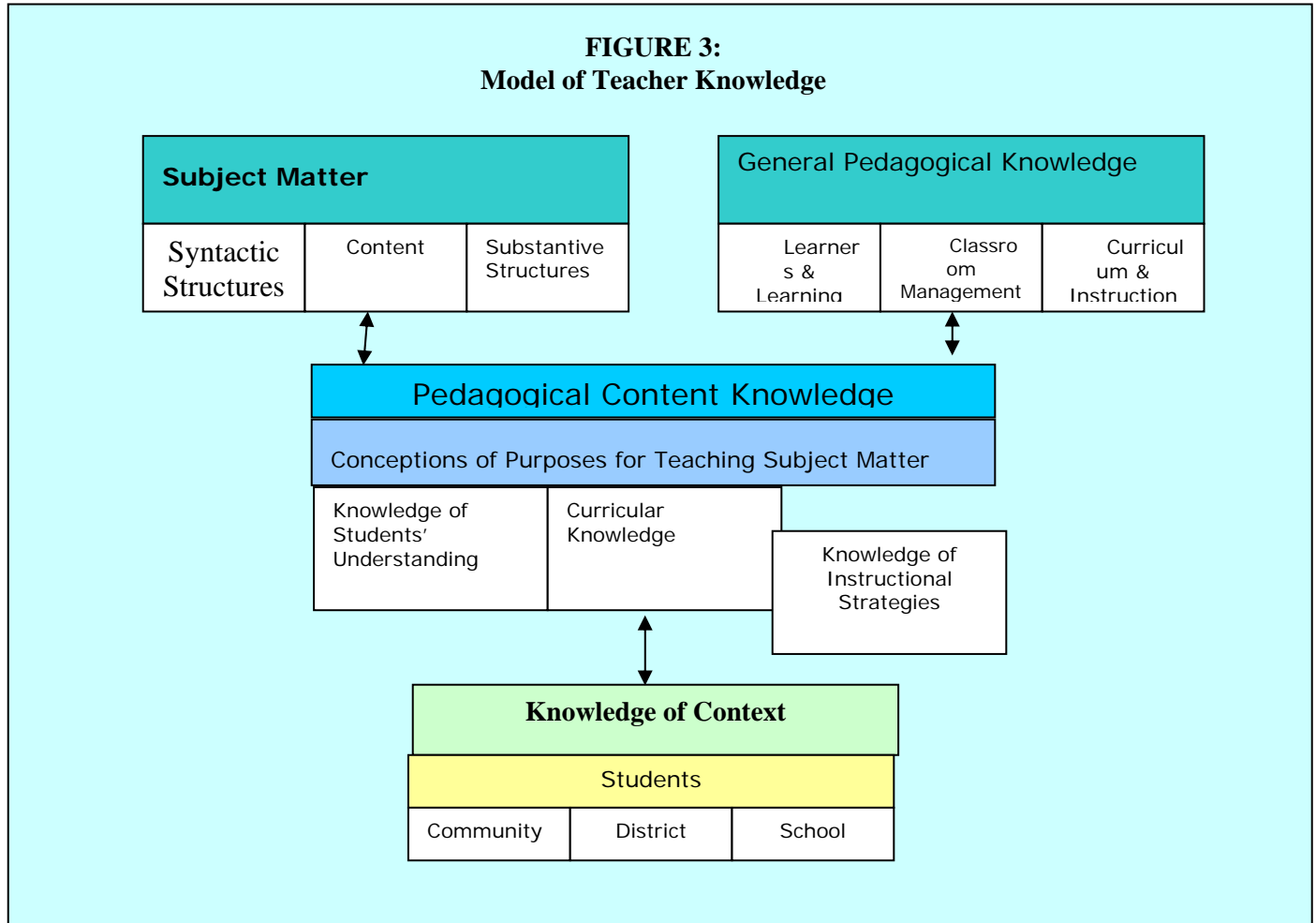
field. (p. 7) A music teacher, for example, who does not have a clear understanding of the Classical period and its roots will not be able to instruct students on the origins of the Romantic era, how the two eras differ, and why differentiating between them is important. She will not be able to teach students a meaningful difference between Mozart and Brahms.

General pedagogical knowledge. Pedagogy is the most commonly conceived of aspect of teacher preparation. Pedagogy is the art and science of teaching. It includes classroom management, knowledge and beliefs about the purpose and goals of education, and general principles of instruction. This is the area widely addressed in methodology courses for nascent teachers. "The historical relationship between

(Gage, 1978) For failing teachers, it may be lack of understanding or skill in this area that leads to difficulties.

Pedagogical content knowledge. This term is relatively new to the field of education and draws from both general pedagogical and subject matter knowledge. The condensed explanation for pedagogical content knowledge is that it is a union between what is being taught and the best way to teach it. Shulman expresses this concept as both essential to successful classroom practice and a function of experience therein. In other words, teachers will acquire this body of knowledge over time and add to it through their own mistakes and triumphs. "Within the category of pedagogical content knowledge I include, for the most

regularly taught topics in one's subject area, the most useful forms of representations of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations—in a word, ways of representing and formulating the subject that make it comprehensible to others." (1986, p. 9-10)

A perfect example of pedagogical content knowledge is the science teacher trying to explain the concept of gravity and acceleration. A teacher tells his students that when an object drops from a height, it falls at the same rate of acceleration—9.8 meters per second to be exact—as all other objects. He uses the example of dropping an elephant and a mouse from a cargo plane, and tells his students that the elephant and the mouse, though different in size, will hit the ground at the same time. This is a difficult concept for students to grasp, as most tend to equate size with speed. The teacher then demonstrates this concept by having students stand on a desk and drop a pencil eraser and a much heavier orange. The equalizing effect of gravity on acceleration becomes clear as students experience this for themselves. (R.A. Cecconi, personal communication, March 14, 2004)

This concept is particularly important in the context of the PAR program and the relationship between a mentor and a teacher. While pedagogical content knowledge is acquired over time, it does not have to be a function of purely individual experience. Mentor teachers can be an

Knowledge of context. Teachers in urban districts and those in rural districts will have different methods and approaches. Educators in wealthy private schools will teach to a different audience than teachers with a classroom full of sons and daughters of military personnel. Contextual knowledge means that teachers know how to successfully their adapt practices to the environment in which they teach. "Teachers' knowledge, to be of use for classroom practice, must be context-specific; that is, it must be adapted to their specific students and the demands of their districts." (Grossman, 1990, p. 8) Examples of this type of knowledge are community expectations, family backgrounds and demographic trends, cultural sensitivities with respect to students, colleagues, and the overarching organization. Indeed, the importance of this cannot be understated, because contextual knowledge includes an understanding of the constraints or expectations imposed by a district by local, state, or national policy. Contextual knowledge now includes the mandates of NCLB, which means that teachers in schools with low overall student test scores must be aware of and responsive to the reasons that test scores are low and ways to improve them.

Importance of teacher knowledge. Teachers who do not have the appropriate knowledge of

FIGURE 4:
Sources of Motivation

Intrinsic Process Motivation	Individuals will be motivated by tasks they perceive to be fun or entertaining
Instrumental Motivation	Individuals are motivated by the receipt or of rewards or the withholding of expected benefits
External Self Concept-Based Motivation	Individuals are motivated by a desire for acceptance and status within an external reference group held in esteem or to be of value
Internal Self Concept-Based Motivation	Individuals are motivated by a desire to meet or exceed internal standards for competency
Goal Internalization	Individuals are motivated by the desire to meet standards set by group of which one is part and belief in organizational values

important resource for teachers who lack this kind of knowledge by providing illustrations, exercises, and references for other such way of representing subject matter to PAR participants.

their chosen discipline will not perform to expected standards. The importance of the kind of knowledge discussed above is that it informs classroom behavior. When a teacher is identified as having difficulties in the classroom, it may be

that he or she lacks the appropriate background and skills in one of these four areas. Successful professional development rests on the identification of that area and implementation of strategies for improvement. As we will see later, a peer assessment and review program should be designed with this at its core.

Motivation

Motivation itself represents in and of itself an entire area of research in which peer assessment and review Programs could be reviewed. Due to the limited scope of this paper, I will merely touch on motivation as it can be applied to the workplace. In the interests of simplicity, motivation is defined as the behavioral force that energizes, directs, and sustains behavior. That which motivates people varies between individuals. (Scholl, 2002a) In the context of PAR programs, understanding what motivates people to perform on the job will help explain how to change behavior and improve performance. There have been five major sources of motivation identified that impact workplace behavior. The accompanying figure briefly addresses each one. (Leonard et al, 1999, p. 989-991; Scholl, 2002a).

The importance of motivation. Motivation is an essential component of teacher performance. Many have argued that the decision to teach is motivated primarily by goal internalization; the common belief in the importance and power of the educational system and its inherent values such as equalization of opportunity, intellectual stimulation, and advancing students towards future economic stability. (Nelson, 1997; Guskey & Huberman, 1995; Kerchner & Koppich, 1993) This is a rather nebulous and unsubstantiated claim when applied on the individual level; different teachers perform their job duties on a daily or yearly basis with more specific motivational drive than simply a belief in the good of education. Consider a neophyte teacher in his first year in the classroom. His primary motivation might be internal self concept-based, demonstrating competence to himself according to his standards of "good teaching." He may judge his success by the number of students that pass or fail a mandated state subject test in his first year. The veteran teacher who is being considered for tenure is perhaps instrumentally motivated to

perform by the salary increase that will result from achieving tenure. There could also be the case of the music teacher who is motivated by teaching a subject that he considers fun. The challenge is that any strategy employed that is intended to improve performance should ultimately tap into individual motivational sources in order to be most effective.

Behavioral Change

As discussed above, teacher behavior is inextricably linked to the four major components of teacher professional knowledge. Without the knowledge base including pedagogical, subject matter, contextual, and pedagogical content knowledge, effective performance is impossible. Patterns of behavior, however, may develop over a short or long period of time that render classroom practitioners ineffective in one or more areas. This is a complex problem. How do districts identify and evaluate teacher performance and behavior? How do individuals evaluate their own practices within the classroom? What outcomes are important in determining whether or not a teacher is any good? These questions and myriad others should be addressed by further research. This paper focuses on the initiation and sustenance of change where it has been identified as important, without addressing in detail the methods of evaluation used to identify that need or performance gap. Suffice it to say that all school districts have a degree of variation in the means and methods of evaluating educators. This evaluation method should draw from performance standards established by law and best practice, and be informed by the knowledge bases discussed above.

In cases in which evaluation results in the identification of a teacher who is struggling according to the standards and expectations established by the district, the question of how to change behavior assumes central importance. Behavior change, quite simply, involves altering what one is currently doing to a different, more desirable and in this case, more effective method. (Scholl, 2002b)

The Transtheoretical Model of Behavioral Change. It is useful to understand change according to theoretical dimensions that can be applied to workplace interventions and policies. The model used in this analysis of peer assistance and review programs is the transtheoretical model
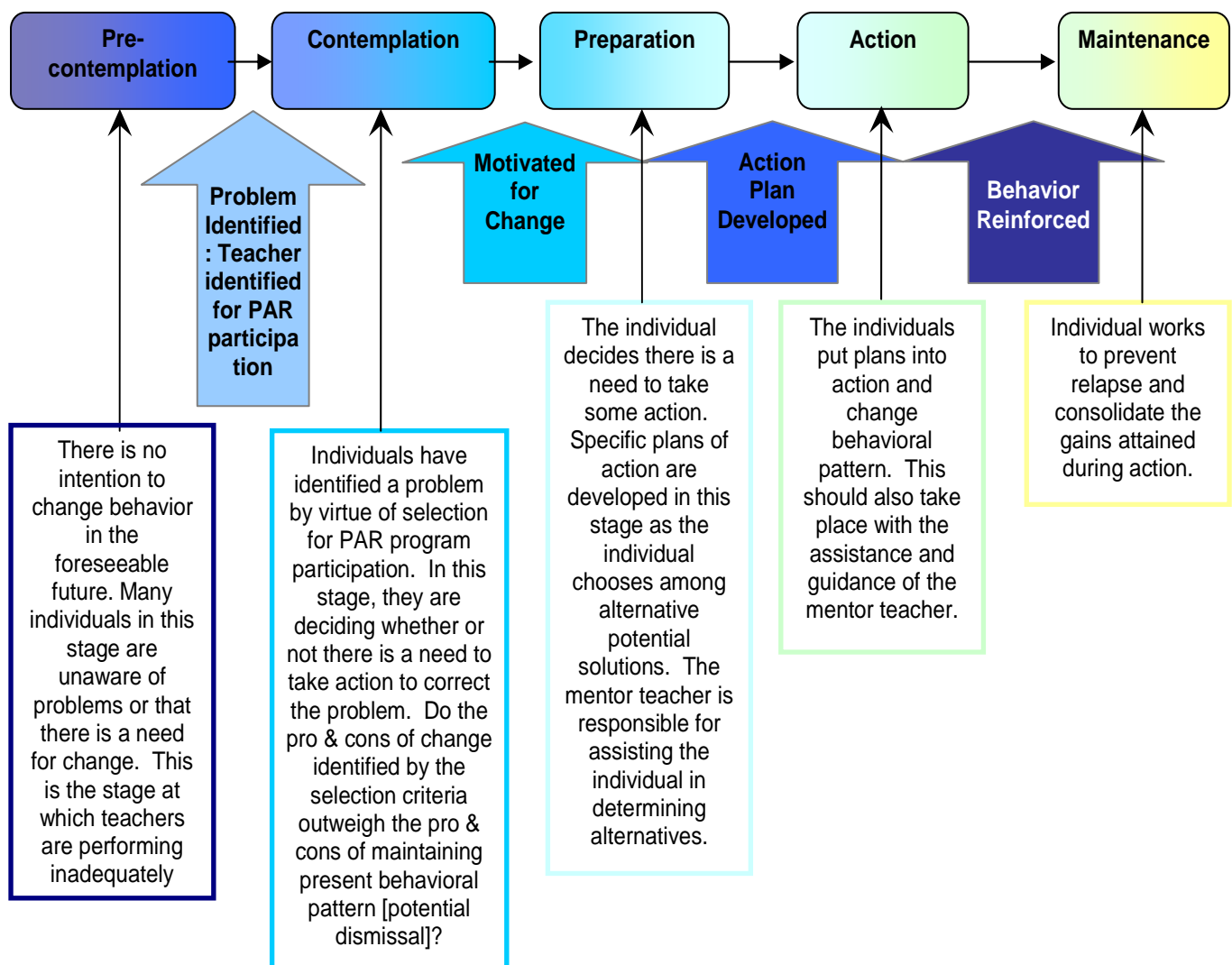
of change, which emphasizes time as an important factor within a process of change. "The model describes how people modify a problem behavior or acquire a positive behavior…It is a model that focuses on the decision-making of the individual." (Prochaska et al, 1994) It is applied primarily to health sustaining behaviors such as smoking cessation and weight loss.

The value, however, of applying it in the educational arena cannot be misunderstood. Because this model is based on stages of change, it can be particularly useful in conjunction with the peer review process, which is not an isolated event but rather a sustained process carried out in the context of an ongoing working relationship between the mentor teacher and participant teacher. "The stage construct is the key organizing construct of the model. It is important in part because it represents the temporal dimension. Change implies phenomena occurring over time." (Prochaska et al, 1994) There are five stages proposed within this model, all reviewed briefly below. These stages are illustrated in Figure 5. (Scholl, 2002b; Prochaska, 1994)

- **Precontemplation**: This stage is one of inaction. Individuals in precontemplation are unaware that aspects of their behavior are problematic. There is no intent or motivation for a shift in behavior; it is characterized by unawareness. Teachers in precontemplation may believe that student performance gaps are due to factors unconnected to their behavior, for example, or may be ignorant of gaps at all.

- **Contemplation**: In this stage, there is intent to change. People are aware of the pros associated with behavioral change but acutely aware of the cons as well. "This balance between the costs and benefits of changing can produce profound ambivalence that can keep people stuck in this stage for long periods of time." (Prochaska, 1994) A teacher in this

FIGURE 5
The Transtheoretical Model of Change

Pre-contemplation → Contemplation → Preparation → Action → Maintenance

Problem Identified: Teacher identified for PAR participation

Motivated for Change

Action Plan Developed

Behavior Reinforced

There is no intention to change behavior in the foreseeable future. Many individuals in this stage are unaware of problems or that there is a need for change. This is the stage at which teachers are performing inadequately

Individuals have identified a problem by virtue of selection for PAR program participation. In this stage, they are deciding whether or not there is a need to take action to correct the problem. Do the pro & cons of change identified by the selection criteria outweigh the pro & cons of maintaining present behavioral pattern [potential dismissal]?

The individual decides there is a need to take some action. Specific plans of action are developed in this stage as the individual chooses among alternative potential solutions. The mentor teacher is responsible for assisting the individual in determining alternatives.

The individuals put plans into action and change behavioral pattern. This should also take place with the assistance and guidance of the mentor teacher.

Individual works to prevent relapse and consolidate the gains attained during action.

phase is likely to understand that things are not as they should be and may be weighing potential options such as seeking professional counseling or professional development opportunities such as conference or seminar participation.

- **Preparation**: In this stage, intent to change has become an immediate goal. A plan of action has been developed. Teachers are likely to have established an idea of areas in need of improvement and mechanisms with which to do so.

- **Action**: At this point, individuals have engaged in some kind of change according to a set criterion. People are in the process of attaining set goals, in other words. A teacher in the action stage has made a change in the structure of classroom routine, perhaps, or altered use of curriculum materials to better express concepts and ideas. This stage alone, however, does not constitute actual behavioral change. It requires a final step.

- **Maintenance**: In this stage, individuals have implemented a successful shift in approach or methodology and are working to continue the results. People are focused on continuing a new pattern of behavior. In this stage, teachers have seen the successful application of new methods and continue to adapt them to be responsive to the conditions of the classroom.

The transtheoretical model can be useful as a theoretical basis for districts and their unions when designing a peer assistance and review program. The next section will develop this concept further. Consider, however, that before undertaking any change in the manner of evaluating and developing teachers, all stakeholders should thoughtfully analyze gaps in current systems as well as the desired goals for any new system. Because any change in an evaluation system can have implications for teacher employment status and compensation, the assessment of the system itself is of increased importance.

ANALYSIS OF PEER ASSISTANCE AND REVIEW PROGRAMS

The preceding section addressed specific and general components of teacher performance that are important to consider in the construction of peer assistance review systems. Analysis of these factors as they relate to the design of PAR programs follows. Preliminary conclusions from this data suggest that when school districts and teacher representatives construct PAR systems as a means to correct teacher behaviors in the classroom, the process should be informed by a greater understanding of the theoretical framework behind behavioral change.

The Role of Standards

To judge the overwhelming reliance on standards in our evolving educational system is not the purpose of this paper. Rather, by accepting that national and local mandates in the form of performance standards are currently important, they can be incorporated into school improvement schemes such as PAR programs.

Research on standards suggests that they are most effective when translated into personal goals. Several factors seem particularly applicable to the development of peer assistance and review programs. First and foremost, the translation process should be participative. Within the relationship between the consulting teacher and the participant teacher, there should be mutual discussion and the development of a shared understanding of the external expectations for performance—the standard—and how the teacher's performance matches the standard. From this shared understanding, goals should be set. The goals themselves should be challenging. The outcomes—whether or not goals are met—should be matched with rewards and punishments that are of importance to teachers. The review component is useful in this context, providing the potentially serious consequence of job loss as a possibility should participants fail to meet goals. The opposite is also true; successful attainment of goals and completion of the PAR process results in a positive recommendation for continued employment.

The relationship between standards and high commitment to goals is somewhat more complicated when addressing the authority figure responsible for their promulgation. The standards mandated by NCLB and the current presidential administration seriously lack credibility in the eyes of many educators, school districts and a vocal bipartisan group of legislators. (Dillon, 2004, p.

A12) One can then predict that commitment to goals that are drawn from these standards will be very low, as the authority figures responsible for them lack the appearance of legitimacy, are not physically present at schools in which they are being implemented, and are significantly viewed as untrustworthy. The pressure to fulfill the standards, however, is very great. Funding for schools is contingent on meeting these standards; this motivation may outweigh any other, although some states may choose to follow Utah's example and opt out of the law's requirements and forgo federal funding. (Lynn, 2004, p. A10) Within the peer assistance and review process, however, there may be somewhat more flexibility in the application of these principles. The research suggests that conditions such as physical presence, legitimacy, and trustworthiness are crucial; the financial incentives associated with these standards, however, may outweigh other motivations.

Mentor teachers are generally those with reputations for excellence in the classroom. They are also teachers who have been selected by a joint committee of district and union representatives. Mentor teachers are experienced teachers who are either full-time educators themselves or those who have been released from classroom duty but who will return on completion of their consulting term. This lends credibility to their position of "fellow teacher" by assuring that they will not immediately take on administrative roles by virtue of their role in PAR processes. (Gallagher, Lanier & Kerchner, 1993, p. 162) If it is true that commitment to goals increases when those assigning them are viewed as legitimately skilled, supportive, and trustworthy, consulting and mentor teachers should be selected according to criteria that address these characteristics. Methods of selection to accomplish this would carry this paper far beyond its intended purposes. PAR program designers should consider, however, that the credibility of its consulting teachers will have a major impact on the commitment of participant teachers to the goals of the program.

The Role of Professional Development Standards

Professional development is the focus of myriad researchers and consultants who advocate investing resources into the growth of internal organizational members. Emphasis on learning organizations of which training and development are an integral part has become a cornerstone of best practices in human resource management. (For example, Battersby, 1999) Development practices that are specific to the education profession have been subject to the same debate in recent years. Once again, it is the restructuring of education and the focus on student achievement gaps that has led to increased interest in teacher professional development (TPD). The need for training both early in a teacher's career and throughout her professional life has been noted. "In the case of teachers, nearly all are confident and highly optimistic when they first enter the classroom. But within a relatively short time the unforeseen physical and emotional demands of teaching take their toll (Jackson, 1968; Pajack & Blase, 1989). During their first two years of teaching, most teachers experience a severe decline in their hopefulness and enthusiasm. They become increasingly pessimistic about their impact on students and more cynical about the effectiveness of the educational process…" (Guskey, 1995, p. 114). At the same time, it has also been noted that teacher professional development as it has traditionally been practiced lacks a coherent focus and strong theoretical frame on which to develop practices.

> Professional development is defined too narrowly and becomes artificially detached from 'real-time' learning. It becomes the workshop, or possibly the ongoing series of professional development sessions. In either case, it fails to have a cumulative impact. At best, it serves to support the implementation of specific innovations, but it lacks any integration with the day-to-day life of teachers. Professional development becomes reified as episodic events that occur as an appendage outside the normal workday. (Fullan, 1995, p. 253)

These arguments provide ample support for the case for change. Peer assistance and review answers many of the critiques and embodies many of the proposed solutions of current professional development practice.

To draw upon several of the professional development principles addressed in the first section will better inform the design and implementation of peer assistance and review

processes. As has been previously discussed, the change process must, at its core, thoughtfully analyze the role of performance standards and goals which then drives development. "Too often new teaching strategies, curricular approaches, or organizational designs, pursued as goals in and of themselves, have diverted attention from the school's central goal." (Hawley & Valli, 1999, p. 139). As applied to PAR systems, this has two implications. First and foremost, selection of participant teachers should be driven by observable and measurable gaps in teacher performance. Criteria for selection should include whether or not teachers are helping students achieve learning goals and reaching expected standards. A second implication is that within the mentor relationship, both parties should maintain a focus on those specific standards of achievement not being met and implementing mechanisms through which teachers can improve their teaching in those areas.

A second design guideline stems from the principle of teacher involvement in learning opportunity development. Simply put, teachers will be more engaged in the change process when their input is considered. "If teachers are denied input into their own professional development, they are likely to become cynical and detached from school improvement efforts and to reject what they experience as imposition." (Hawley & Valli, 1999, p. 139) Because PAR programs are participative in nature, this principle is fully met within the relationship between participant and consulting teacher.

One of the most important principles identified is that TPD should be continuous, ongoing, and supported with feedback, follow-up and external resources. (Hawley & Valli, 1999, p. 141-142) Learning is not an isolated event; teacher improvement cannot be expected overnight. Commitment to the development of a workforce means that human and capital resources must be available throughout the change process. A PAR program cannot be expected to yield immediate results for each teacher. The timeframe selected for participation is key; an entire year or more may be needed to develop the necessary skills and behaviors expected of adequately performing teachers especially given criticism of teacher preparation in colleges and universities.

The assumption, held by instructors and learners at the university as well as by teachers, field supervisors, and learners in classrooms, is that knowledge is acquired in coursework and applied in practice…Student teachers [however] are often in the end most influenced by what they see their cooperating teachers do or by their own memories from school. The effect of teacher education is often small. Although they collect ideas, learn theories, and develop some strategies, beginning teachers often report that their professional preparation was of little use or practicality. (Lampert & Ball, 1999, p. 38-39)

This speaks to the importance of the relationship between consulting and mentor teachers. Working together on a continual basis, rather than in sporadic bursts is thus critical. Based on this design principle, PAR designers should consider how much time consulting teachers should be instructed to spend with participant teachers, and allot the financial and other resources necessary for release time, development activities, and the purchase of supplemental materials.

While PAR designers should pay attention to other principles from the New Consensus Model of Professional Development, these three appear to be particularly relevant to peer assistance and review programs.

The Role of Teacher Knowledge

Components of teacher knowledge were discussed at length in a previous section. Research demonstrates that teacher knowledge has not been a primary focus of change interventions. Substantial evidence now exists that behavior cannot be changed unless gaps in knowledge are first filled.

Selection into peer assistance and review programs. If subject matter, pedagogical, pedagogical content, and contextual knowledge are fundamental to teaching, it follows that their improvement will fundamentally improve teacher performance. Trying to get a teacher to offer constructive feedback on an essay, however, will accomplish little unless the teacher understands why feedback is important to student learning. For any change process to be successful, the specific area which is to be changed must first be properly identified. As such, the selection component of PAR programs must be carefully

thought-out and implemented. Based on teacher knowledge research, it is clear that evaluation of all four components of teacher knowledge should first occur for all teachers in order to determine whether or not they require peer assistance.

Observation by peers and principals is insufficient in identifying the knowledge gap for under-performing teachers. While the selection

or her job, an effective review process will truly begin only with a proper evaluation of behavior and knowledge. PAR designers should therefore consider developing an evaluation and assessment mechanism with a strong knowledge component as a requirement for selection. The assessment should measure whether or

FIGURE 6
Peer Assistance and Review as an Inducement System

Intrinsic Process Motivation	Participant teachers may be motivated to change behavior if they enjoy the working relationship with their mentor teachers. Mentor teachers need to select mechanisms for reaching goals that the other party would perceive as entertaining. This is where PAR programs are weakest.
Instrumental Motivation	The review component of PAR systems serves as a reward or punishment. Those individuals motivated by the receipt of rewards or the withholding of expected benefits may be persuaded to improve performance by the possibility that they will be removed from the classroom if the intervention is unsuccessful. PAR designers may also consider a financial reward for successful completion of a PAR program.
External Self Concept-Based Motivation	Selection for participation in a PAR program may carry with it a stigma of failure to adequately perform. Those teachers that value status may be influenced by a desire to be perceived as capable and competent by their peers and thus seek to improve that status by improving their performance. The teacher may also seek validation from superiors and supervisors and strive to improve in order to increase standing accorded by principals or senior teachers. Successful completion, for example, could be rewarded by means of a public acknowledgement of accomplishment or other mechanism of external validation.
Internal Self Concept-Based Motivation	Those motivated by a desire to meet internal goals and standards will likely respond to evidence that they are currently under-performing. It is particularly important for whom motivation is based on internal self-concept to internalize the performance standards and expectations of the district.
Goal Internalization	Individuals who are motivated by the desire to meet standards set by group of which one is part and belief in organizational values are those closest to the moral purpose model. Individuals will likely strive to improve performance when presented with information that their students are not achieving educational goals. It may be that selection into the PAR program is enough to motivate them to improve.

process may begin for some teachers by the observation from colleagues and supervisors that students are not performing well or that the teacher has struggled in carrying out various aspects of his

not a teacher has a sufficient understanding of each of the four components of teacher knowledge.

It has also been observed that traditional evaluation processes as currently employed in many districts are insufficient. The implementation of peer review should be taken with the intent to improve all evaluation processes within a school district. This increases the likelihood that under-performing teachers will be identified. A district or school-wide evaluation process, one that is not just used for teachers suspected of having difficulty, is also more likely to be perceived as legitimate. The credibility of a performance evaluation process is greatly enhanced when all stakeholders—those evaluating and being evaluated—believe that it is universally fair. (Greenberg, 1986; Edwards, 1989)

This matter is critical. Performance improvement and change will not occur if the area in need of improvement has been improperly identified. Because there is considerable evidence that teacher knowledge plays a crucial role in classroom performance, the incorporation of a knowledge-based assessment into a PAR system is an important design principle. It is also worth noting that once knowledge gaps are identified, the professional development principles previously reviewed should be brought into play within the mentor relationship.

The Role of Motivation

Much has been written about the "moral purpose" of teaching. "Teaching at its core is a moral enterprise. It is about making a difference in the lives of students—all students regardless of class, gender, and ethnicity." (Fullan, 1995, p. 253) Fullan goes on to state: "The moral purpose of the teacher is the building block for change." (p. 255) Statements like these reflect a belief that teachers enter into and continue in the education profession from a higher sense of purpose. It suggests that they are driven by a need to make a difference, to serve noble goals, and are motivated by socially-responsible ideals. I believe this is often the case. It is not, however, a reasonable framework on which to propose change. One cannot get teachers to change simply by appealing to their moral purpose. A more useful approach is to couple motivational sources with workplace inducement systems to yield desired results. "Inducement systems can be designed to elicit desired employee behavior based on particular

sources of motivation." (Leonard et al, 1999, p. 993) In this case, a peer assistance and review program is considered a workplace inducement system. Figure 6 proposes ways in which districts can use knowledge of all sources of motivation in designing PAR programs.

Motivational factors may be important theoretical considerations for PAR designers. As the table indicates, individuals with different sources of motivation can still be persuaded to change their behavior if the PAR program incorporates consequences that are personally relevant. Guidelines therefore include making PAR programs as enjoyable as possible; incorporating employment consequences into the structure; using feedback and comparative mechanisms for measuring improvement and offering validation; constructing PAR goals and standards congruent with those of the district and school; and demonstrating the connection between selection for the PAR program and failure to meet key organizational goals and expectations. By including inducements that address all sources of motivation, peer assistance and review systems may thus be successful in motivating many or all teachers with different motivational needs. The application and evaluation of these proposals would be a compelling area for further research.

The Role of the Transtheoretical Model of Behavioral Change. The variables and factors discussed in preceding sections take on a theoretical coherence when examined within the context of behavioral change models. I believe that the question posed at the start of this paper, whether or not peer assistance and review programs can be structured in such a way as to initiate, sustain, and reinforce desired changes in classroom behavior among participating teachers is best answered on a case by case basis. That is, districts themselves should use the transtheoretical model of change as represented in this paper as a means to evaluate their own peer assistance and review systems. Given the guidelines proposed with respect to performance standards, professional development, teacher knowledge, and motivation, does a peer assistance and review system accomplish its goal of improved teacher performance? Does it, in fact, allow change to be maintained once it has begun? Do the relationships formed between participant and

mentor teachers initiate a professional development process that is sustainable? The model can be extremely useful as a basis for evaluation, but should be tailored to the decisions made by district designers.

The use of the transtheoretical model serves as a mechanism of meta-analysis of the myriad processes incorporated into a peer assessment and review system. Stakeholders should examine their PAR system within each stage. Does it identify teachers in precontemplation? Does the selection mechanism move teachers into the contemplation stage? Does the initiation of the mentor relationship progress through the preparation stage by providing an actionable plan for teachers to improve performance? Do mentor teachers provide sufficient guidance for active improvement? Are the resources and support available to sustain change once it has begun? The use of the transtheoretical model is fundamentally important as a mechanism for evaluating this process.

CONCLUSIONS

This paper has presented a series of guidelines on peer assistance and review systems. Because impetus for the reform of the educational system is strong and the call for teacher accountability is pervasive within the reform movement, there is considerable research to be done on improvement mechanisms. A review of literature on performance standards, professional development, teacher knowledge, motivation, and behavioral change yields key observations about alternative improvement and evaluation systems.

Based on this research, the following guidelines are suggested for districts and educators designing peer assessment and review systems.

1. Performance standards mandated at the national, state, and local level should be jointly translated into goals for participant teachers. This joint process should be undertaken between mentor and participant teachers at the onset of the PAR program. Goals should be challenging and have substantive consequences.

2. Characteristics of mentor teachers selected for PAR programs should include appearance of legitimate skill,

supportiveness, and trustworthiness. Selection devices should be developed with these in mind.

3. Criteria for the selection of participant teachers should include measures of student learning and whether or not teacher practices facilitate achievement of standards.

4. Input from participant teachers should be used in selecting professional development activities and training within PAR programs.

5. Specific guidelines about the allocation of resources should be specified by PAR designers at the onset of the program. The amount of time, financial resources, and human resources devoted to PAR programs should reflect the district's degree of commitment to peer assistance and professional development.

6. An assessment and evaluation mechanism with a component measuring the four types of teacher knowledge—subject matter, pedagogical, pedagogical content, and contextual—should be developed as a selection tool for PAR participants.

7. Motivational inducements should be integrated into the PAR program.

8. Standard evaluation mechanisms should be developed to determine whether or not the intervention is effective. It is recommended that the stage-based model of changed discussed in this paper is used as a theoretical basis for such assessment tools.

These recommendations are not themselves conclusive. They are based on an integrated analysis of research on human behavior and information specific to the education profession. Districts who are serious about implementing nontraditional mechanisms for teacher professional development and evaluation should undertake a theoretical and practical review of PAR systems once they have established goals that are particular to the needs of their constituencies.

Unfortunately, it is improbable that all teachers will be reached successfully through the use of peer assistance and review. There will always be the case, as in every profession, of

teachers who don't care how they are performing or about the implications of their shortcomings. In such cases, most districts currently using PAR systems have demonstrated much more efficiency in removing these people from the classroom. It remains to be empirically verified whether or not the assistance component is as successful as the review component.

One thing is clear, however, in the examination of PAR systems. Those currently using them have voiced strong support for their continuation as a means to achieve two important goals. One is the absolute improvement of the education received by children. The other is the enhancement and increased perception of legitimacy of teachers as true professionals.

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