

American Institutes for Research

Academy for Educational Development

Aga Khan Foundation

CARE

Discovery Channel Global Education Fund

Education Development Center

Howard University

International Reading Association

The Joseph P. Kennedy, Jr. Foundation

Juárez and Associates, Inc.

Michigan State University

Sesame Workshop

Save the Children Federation, USA

University of Pittsburgh

World Education



USAID
FROM THE AMERICAN PEOPLE



*Quality of Education and Teacher Learning:
A Review of the Literature*



Produced by:

American Institutes for Research
under the EQUIP1 LWA

With:

Academy for Educational Development

U.S. Agency for International Development
Cooperative Agreement No. GDG-A-00-03-00006-00

***QUALITY OF EDUCATION AND TEACHER LEARNING:
A REVIEW OF THE LITERATURE***

by

Elizabeth Leu, Academy for Educational Development (AED)
Alison Price-Rom, Academy for Educational Development (AED)

INTRODUCTION

A vast literature has appeared on educational quality in recent years, examining factors that help improve education and proposing ways to promote better learning in schools. The issue of quality has become critical in many countries that are expanding enrolments rapidly to achieve *Education for All* by 2015. In countries with constrained resources, the successful effort to increase access to basic education has often led to declining quality of education. In a search for the factors that promote quality, countries' programs as well as the literature increasingly emphasize teachers, schools, and communities as the engines of quality, with teacher quality identified a primary focus.

This paper, developed for a study under the EQUIP1 Leader Award of teacher professional development and its relation to education quality in Namibia,¹ reviews a selection of the literature that places teachers at the center of creating educational quality. The paper summarizes two distinct but intersecting literature areas – the literature on quality of education, focusing on the role of teachers, schools, and communities, and the literature on teacher learning, focusing on localized professional development programs.

Although the two areas will be taken up separately, the review as a whole charts a course through the literature that emphasizes the following points: (i) the present discourse on educational quality identifies the engines of quality in processes at the local level and emphasizes the key role of teachers in facilitating quality; (ii) teacher professional development is critical in building teachers' capacity to improve student learning; and (iii) thoughtful approaches to teacher professional development can improve teachers' preparedness for improving educational quality.

A conceptual framework, derived from the review of the literature, displaying some of the complexities of the processes at the school level that lead to quality, is included in the final part of the paper. The perspective of the literature review is that programs designed to improve quality of teaching and learning will be more effective if they take into account continuous teacher learning and the complex process factors at the school level that help or hinder teacher quality.

EDUCATIONAL QUALITY: THE ROLE OF TEACHERS, SCHOOLS, AND COMMUNITIES

Educational quality in developing countries has become a topic of intense interest, primarily because of countries' efforts to maintain quality (or reverse the decline of quality) in the context of quantitative expansion of educational provision. Many countries are simultaneously implementing reforms based on more active approaches to teaching and learning, further challenging education systems and, especially, teachers. Within this context, three issues frame much of the present discussion of education quality: (i) exploring the meaning of educational quality in particular country contexts; (ii) locating the engines of quality in complex processes at

¹ USAID/EQUIP1, *Namibia Pilot Study of Teacher Professional Development, Quality in Education, Teaching, and Learning: Perceptions and Practice*, by Mariana Van Graan and Elizabeth Leu, forthcoming.

the school, classroom, and community levels; and (iii) recognizing and strengthening the key role of teachers in promoting quality.²

Exploring the Meaning of Quality of Education

Despite the prominence of “quality” as the motivating factor for educational planning, approaches to quality can vary widely. In much of the literature, “quality” is used in a detached way, assuming consensus both on what the term means and on the desirability of the various educational aims and approaches promoted under the banner of quality. Whether explicit or implicit, a vision of educational quality is always embedded within countries’ policies and programs. Harvey (1995) provides a useful framework for thinking about quality by outlining five goals for education that define the vision of quality within individual systems. Education systems vary in emphasizing a single vision or, more commonly, a mixture of the five goals:

- Education quality as *exceptionality*: excellence is the vision that drives education, quality education is education that is exemplary, schools should maximize the pursuit of the highest potential in individual students.
- Education quality as *consistency*: equality is the vision that drives education, quality requires equitable experiences, schools and classrooms should provide students with consistent experiences across the system.
- Education quality as *fitness-for-purpose*: refinement and perfection in specific subject areas is the vision that shapes the system, quality is seen as preparing students for specific roles, instructional specialization is emphasized.
- Education quality as *value for money*: education reflects reasonable correspondence to individual and societal investments, quality is interpreted as the extent to which the system delivers value for money.
- Education quality as *transformative potential*: social or personal change is the vision that drives education, quality education is a catalyst for positive changes in individuals and society, education promotes social change (Kubow and Fossum 2003, pp. 125–126).

Emphasizing the fluid nature of education quality, Adams (1993, pp. 12-13) identifies multiple co-existing definitions of quality as concepts-in-use with the following characteristics:

- Quality has multiple meanings.
- Quality may reflect individual values and interpretations.
- Quality is multidimensional; it may subsume equity and efficiency concerns.
- Quality is dynamic; it changes over time and by context.
- Quality may be assessed by either quantitative or qualitative measures.
- Goals of quality may conflict with efficiency, equity, or other goals.
- Quality is grounded in values, cultures, and traditions: it may be specific to a given nation, province, community, school, parent, or individual student.
- Different stakeholder groups often have different definitions of quality; thus “winners” and “losers” may be associated with any particular definition.

² Parts of the literature review on quality of education are drawn from Elizabeth Leu. 2005. *The Role of Teachers, Schools, and Communities in Quality Education: A Review of the Literature*. Washington DC: Academy for Educational Development.

The 2005 *EFA Monitoring Report: The Quality Imperative* points out that “agreement about the objectives and aims of education will frame any discussion of quality and that such agreement embodies moral, political, and epistemological issues that are frequently invisible or ignored” (UNESCO 2004, p. 37). The report further emphasizes that different notions of quality are associated with different educational traditions and approaches:

- The humanist approach, one of the precursors of constructivism, focuses on learners constructing their own meanings and integrating theory and practice as a basis for social action. Quality within this tradition is interpreted as the extent to which learners translate learning into social action.
- The behaviorist approach, heading in another direction, assumes that students must be led and their behavior controlled to specific ends, with quality measured in precise, incremental learning terms.
- Critical approaches, on the other hand, focus on inequality in access to and outcomes of education and on education’s role in legitimizing and reproducing existing social structures. Quality education within this tradition is seen as prompting social change, encouraging critical analysis of social power relations, and ensuring that learners participate actively in the design of their learning experience.
- Indigenous approaches to quality reject mainstream education imported from the centers of power, assure relevance to local content, and include the knowledge of the whole community (UNESCO 2004, pp. 32–35).

Whatever the broader vision of quality, most countries’ policies define two key elements as the basis of quality: students’ cognitive development and social/creative/ emotional development. Cognitive development is a major explicit objective of virtually all education systems. The degree to which systems achieve this is used as the major indicator of their quality, although there is wide disagreement on what to measure as cognitive achievement and how to measure it. The second key policy element, learners’ social, creative, and emotional development, is almost never evaluated or measured in a significant way (UNESCO 2004, p. 29).

The EFA report uses a framework for understanding, monitoring, and improving education quality that identifies five dimensions associated with quality. The framework provides a means for organizing and understanding the different variables contributing to education quality, encompassing access, teaching and learning processes, and outcomes influenced by the context and inputs available:

- Learner characteristics affect quality and include aptitude, school readiness, and perseverance.
- Context, which significantly affects quality, includes socioeconomic and cultural conditions, labor market factors, public resources for education, the philosophical perspectives of teacher and learner, parental support, and time available for schooling and homework.
- Enabling inputs are critical to quality and include teaching and learning materials, physical infrastructure, human resources, especially teachers, but also principals, supervisors, and school governance.
- Teaching and learning approaches are central to quality. They include learning time, teaching methods, assessment, feedback, incentives, and class size.

- Outcomes, which signal overall quality, include literacy, numeracy, and life skills - creative and emotional skills, values, and social benefits (UNESCO 2004, pp. 35–37).

Building Gender Equity into the Definition of Quality

Much of the literature includes equity as an essential factor of quality, taking the stance that no system of education can claim to be of good quality if it serves different groups in a society in significantly different ways (UNESCO 2004). This perspective on quality corresponds to “consistency,” the second of Harvey’s (1995) five competing conceptions of education quality through which education must provide for equivalent educational experiences for all. Equity concerns arise in relation to groups defined by socioeconomic status, location and proximity to schools, special needs, health status, religion, and gender.

In many countries, females are among the most underserved groups (Assie-Lumumba and Sutton 2004; Bah-Diallo 1997; UNESCO 2003; UNESO 2004). The arguments for educating girls are well known and will not be repeated here. An extensive literature has emphasized the economic and social benefits of educating girls and women and an equally extensive literature outlines successful strategies that might be adopted to encourage girls’ participation and success in education.

The argument less frequently made is that quality is an important gender issue in and of itself, since poor quality education can have a disproportionately negative effect on girls. For example, in overcrowded and under-resourced classrooms, with teachers who are poorly prepared or simply overwhelmed by circumstances, boys’ traditionally assertive coping skills enable them to gain and keep teachers’ attention, while girls, who are taught to be demure and often lack confidence, are silenced (Leu 2002).

Poorly implemented active learning approaches can exacerbate this. Group work is the most frequently practiced form of active learning; girls can become peripheral within groups requiring good communication skills as well as in other forms of active learning which require confidence and assertiveness. They become marginalized in their own classrooms, mirroring the status they often have within their own societies and cultures. To be marginalized by classroom dynamics in this way adds up to diminished access to whatever learning is taking place. This, in turn, leads to ever-dropping participation, confidence, and achievement and is one factor leading to higher dropout and lower achievement rates for girls (Leu 2002; Mukudi 2002; Parkerson 2004).

Locating the Engines of Quality at the School Level

Although the statement that schools are at the center of educational quality seems obvious, it is only recently that policy makers and program implementers have started seriously looking beyond input and output models of what constitutes quality, now focusing more seriously on process at the local level and “daily school experience” as the engines of quality (USAID/EQUIP2 2006; Verspoor 2006). Recent trends have brought the discussion of educational quality closer to the local level, emphasizing the role of schools, teachers, school leadership, community members, and students in defining and creating quality. The existing literature, as well as the present study, suggests that schools and teachers, in the context of a strong and comprehensive system of support and supervision; flexible policies; efficient administration; and community involvement; should be emphasized in policies and programs intended to help improve educational quality (Adams et al. 1993; Cummings 1997; Dalin 1994; LeCzel and Liman 2003; Nielsen 1997; Nielsen and Beykont 1997; Nielsen and Cummings 1997;

Prouty and Tegegn 2000; Schwille et al. 1992; Tatto 1997; USAID/EQUIP2 2006; Verspoor 2006; Williams 1997).

The increasing emphasis on educational quality at the local level was traced in an article by Muskin (1999) that gives an overview of three conceptual focal points. The first two have been prominent for decades. The third, which locates the critical engines of quality in the school and community, emerged in the 1990s and is now prominent in the literature.

- One way of looking at quality, prevalent in both the research literature and reports of program implementation, concerns the relationship between different “inputs” and a measure of student performance, or “output.” The outputs are usually students’ results on achievement tests, assessments, or end-of-cycle examinations. The inputs include a wide variety of factors: infrastructure and resources, quality of school environment, textbooks, teacher preparation, teacher salaries, supervision, attitudes and incentives, school climate, curriculum, students’ physical well-being, and family and socioeconomic context. This approach attempts to identify the inputs most highly associated with desired quality outputs, but it is relatively silent on the processes at the school, classroom, and community levels through which inputs are used to create outputs (Fuller 1986; Lockheed and Verspoor 1991; Muskin 1999).
- Another way of looking at quality involves measuring the efficiency of the system. Educational efficiency is measured internally by the rates of completion, dropout, and repetition. Efficiency is also measured externally by looking at the outcomes of education or the productivity of school leavers. This is measured according to, for example, wages or agricultural yields associated with an individual’s or a community’s level of schooling. This literature has a long history, primarily in educational economics, and has often used quantity of education as a proxy for quality. Studies of efficiency provide necessary information for planners, but this approach has relatively little explanatory power about what creates school quality without an accompanying analysis of the dynamics among the myriad school process factors that encourage students to stay in school and gain valuable knowledge and attitudes while there (Cobbe 1990; Lockheed and Hannushek 1988; Lockheed and Komenan 1989; Muskin 1999; Windham 1986).
- A more recently developed way of looking at quality focuses on the content, context, and relevance of education. This approach to quality focuses on process within the school and classroom and relationships between the school and the surrounding community. Greater attention is given to the ways in which inputs interact at the school level to shape quality of learning, defined as the elements of knowledge and character that a society values in young people (Carnoy and de Moura Castro 1995; Carron and Chau 1996; Craig 1995; Muskin 1999; Muskin and Aregay 1999; Prouty and Tegegn 2000; UNICEF 2000; World Bank 1994).

The argument for the last approach is not new. A chorus of voices arose in the early and mid 1990s that urged policy makers, program designers and implementers to focus more on the local level in the pursuit of quality. In 1992, Shaeffer emphasized that planners and managers should concern themselves with larger issues than the narrow focus on inputs and outputs in formal education systems. He notes the importance of incorporating lessons from a school’s surrounding cultural environment as well as linking with non-formal education programs.

They [planners and managers] will need to understand better the links between schooling and its social and cultural environment, the kind of socialization and informal learning provided to children both before school entry and outside of the classroom, and ways to develop more literate and supportive environments in the family and the community surrounding the school. Thus, for example, they will need to link more closely the educational activities of the school with the more non-formal, frequently more innovative and non-governmental education programs often available for mothers, out-of-school youth, and adult learners. (Shaeffer 1992, p. 2)

In 1995, Adams described an increasing interest in quality at the school and community level, tracing shifting points of focus over the years that follow the same pattern as the three points outlined above (Adams et al. 1995). Adams states that educational quality was once defined almost exclusively in terms of student achievement and the “manipulable” school inputs that can influence student output or achievement. An increasing emphasis on in-school factors, he says, has shifted the focus to the complex combinations of inputs, processes, and outputs associated with improved patterns of learning. The issue of *process* at the classroom and school level has become increasingly the center of attention in terms of achieving quality.

A 2000 study of the USAID-funded BESO Community Schools Activities Program (CSAP), in Ethiopia, offers an example of changing community attitudes toward and involvement in creating quality.

Evidence indicates that CSAP schools have made a conceptual leap in their understanding of what contributes to improved quality. Although CSAP parents still maintained the common perception that a “better performing school” is determined by improvements in the physical plant or increased enrollments, school committee members’ thinking was evolving to include changes like improved teacher skills, improved relationships and emotional climate between teachers and students and students with students, and increases in study time for students through decreased workload and formation of student study groups. (Prouty and Tegegn 2000, p. 6)

The emerging importance of the local level as the focus for education quality is closely related to simultaneous trends toward decentralization of decision making in education to the local level, including increased community involvement in school financial, curriculum, and personnel decisions. Decentralization has been a response to growing democracy in many countries and the strengthening of civil society. In the education sector it is, in part, a response to the relative ineffectiveness of top-down policies, centralized attempts at “expert-driven” educational reform, and the notoriously weak link between policy and practice (Farrell in Anderson 2002; p. 252). The argument has been made that school-based teacher professional development programs that empower teachers at the local level are the vanguard and a model of successful decentralization (Prouty and Leu 2005, unpublished presentation).

The Key Role of Teachers in Promoting Quality

Good basic education is the result of the interaction of multiple factors, the most important of which is increasingly recognized to be quality teachers and teaching (ADEA 2004; ADEA 2005; Anderson 2002; Boyle et al. 2003; Craig et al. 1998; Lewin and Stuart 2003; UNESCO 2004; UNESCO 2006; UNICEF 2000; USAID 2002; USAID/EQUIP1 2004; Verspoor 2006). The 2005 EFA report captures this trend in the following:

What goes on in the classroom, and the impact of the teacher and teaching, has been identified in numerous studies as *the* crucial variable for improving learning outcomes. The way teachers teach is of critical concern in any reform designed to improve quality. (UNESCO 2004, p. 152)

Teacher quality, teacher learning, and teacher improvement, therefore, are becoming the foci of researchers, policy makers, program designers, implementers, and evaluators. This section traces the growing emphasis on teachers in education quality, while the following section reviews the literature on teacher learning – how teachers learn, change, and improve practice.

New views on the nature of learning and the locus of authority and responsibility for education have combined to alter how teachers are regarded and how teacher support programs are designed and carried out (Craig et al. 1998; Hopkins 2001; UNESCO 2004, p. 108). At the same time that more authority and responsibility have devolved to local levels, there has been a strong trend toward the devolution to teachers of authority and responsibility for their practice (Ginsburg and Schubert 2001). Recent trends in the United States and elsewhere, however, suggest an increase in accountability for teachers, but not an increase in authority: teachers are losing decision-making authority in the classroom, as high-stakes testing requires that they follow more prescriptive approaches to instruction.

In both developing and industrialized countries, teachers in the past were treated as semiskilled workers unable to make responsible decisions about their practice. They were required to follow instructional prescriptions and highly scripted and rigid teaching procedures. For their professional development, teachers received information on how to improve from “experts” in centralized workshops with little follow-up support at the school level (Craig et al. 1998; Schon and McDonald 1998).

This approach was always inappropriate, but is even more so in the present curriculum reform environment in which constructivist, active-learning principles are advocated. Many school systems are starting to advocate active-learning approaches for teachers as well and significant changes are taking place. If teachers are to become reflective practitioners who use active-learning approaches in their classrooms, where students learn through problem solving, critical dialogue, inquiry, and the use of higher-order thinking skills, teachers must learn and improve in professional development programs that not only advocate but also use and model these methods (Boyle et al. 2003; Craig et al. 1998; Darling-Hammond and McLaughlin 1995; Gidey 2002; LeCzel and Liman 2003; Leu et al. 2005; Lieberman 1995; UNESCO 2004, pp. 161–168; USAID/EQUIP1 2004a; USAID/EQUIP1 2004b; USAID/EQUIP2 2005; Zeichner and Noffke 2001).

The emphasis on teacher empowerment has grown from a variety of roots. One is the literature of the “reflective practitioner” and the conceptually and operationally related tradition of “action research” (Boud et al. 1985; du Plessis et al. 2002; Hiebert et al. 2002; Kemmis 1994; Riding et

al. 1995; Schon 1983). The idea of reflective practice assumes that teachers are professionals capable of reflecting on the school and classroom situation and, thus, capable of making a large number of instructional and classroom management decisions. Even in circumstances where the level of teacher preparation is low, this perspective rejects the notion that teachers must work according to rigid prescriptions, incapable of independent decision making. Although some challenge the notion that teachers in developing countries, with minimal preparation and minimal resources, can reflect on practice and make informed choices (Knamiller et al. 1999), the more widely held view is that the idea of “the teacher as professional” has reliably led to better teacher performance (Boyle et al. 2003; Craig et al. 1998; Hiebert et al. 2002; Schon and McDonald 1998; Verspoor 2006).

Action research is also closely related to teacher empowerment and has become an important component of what is considered good teacher development. Action or participatory research refers to teachers individually or in groups gathering and analyzing information in order to problem solve at the school level. In addition to mobilizing teachers to study and reflect on their practice, action research advances the professionalization of teachers by helping them develop and validate their knowledge (Hopkins 2002; Kemmis 1994). Action research often begins, in a teacher’s practice, as school-based studies that are part of a preservice teacher education program and continue as part of school-based teacher professional development programs.

Although dialogue at national, district, school, and community levels should determine the qualities that a specific education system seeks in good teachers, a list of generally held perspectives on good teachers would include many of the following:

- Sufficient knowledge of subject matter to teach with confidence;
- Knowledge and skills in a range of appropriate and varied teaching methodologies;
- Fluency in the language of instruction;
- Knowledge of, sensitivity to, and interest in young learners;
- Ability to reflect on teaching practice and children’s responses;
- Ability to modify teaching/learning approaches as a result of reflection;
- Ability to create and sustain an effective learning environment;
- Understanding of the curriculum and its purposes, particularly when reform programs and new paradigms of teaching and learning are introduced;
- General professionalism, good morale, and dedication to the goals of teaching;
- Ability to communicate effectively;
- Ability to communicate enthusiasm for learning to students;
- Interest in students as individuals, sense of caring and responsibility for helping them learn and become good people, and a sense of compassion;
- Good character, sense of ethics, and personal discipline;
- Ability to work with others and to build good relationships within the school and community (Chesterfield and Rubio 1997; Craig et al. 1998; Darling-Hammond and McLaughlin 1995; Fenstermacher and Richardson 2000; Fredriksson 2004; Heneveld and Craig 1996; Lieberman 1995; Tatto 2000; UNESCO 2004; USAID/EQUIP1 2004b).

These teacher qualities thrive only in a positive and supportive environment. Although the qualities listed above are needed in each individual teacher, teaching (like learning) is not practiced most effectively as an individual activity. The teacher is always functioning as part of a social network, either with his or her students or within the school community. Excellence at the

school level means more than an individual excellent teacher or even a collection of excellent teachers. A strong school community and strong school leadership are of overriding importance in bringing teachers together as a community of learning at the school level (Fredriksson 2004; USAID/EQUIP1 2004b).

The literature indicates that a positive policy environment and adequate support for growth are essential for creating and sustaining teacher quality (Fredriksson 2004; Mulkeen et al. 2005). The research literature also strongly indicates that ongoing, relevant professional development activities are necessary for a teaching force to be effective (Craig et al. 1998, p. 13; Dalin 1994; USAID/EQUIP2 2006; Verspoor 2004). Adequate time and resources are needed for programs in which staff members have a say in the content of activities and in which new skills can be learned, practiced, reflected upon, and improved over time. An iterative teacher learning process of this kind involving all teachers takes place most effectively at the school level, in clusters of nearby schools working together, or sometimes in some more centralized settings as long as strong follow-up and continuing support is available at the school or cluster level (du Plessis et al. 2002; USAID/EQUIP1 2004a; USAID/EQUIP1 2004c).

Active Learning and Quality

An important issue to include in this literature review is the increasing number of references in the literature on education quality to difficulties experienced in the implementation of constructivist ideas and active-learning approaches. This issue is especially pertinent in countries that have adopted constructivist-based reforms in curriculum and instruction at the same time that they are undergoing very rapid expansion to meet the 2015 goals of Education for All. When quantity of education is expanding rapidly and quality of education is declining, which is the situation many countries face, it can be difficult to locate where the quality problem lies. Is the problem the new constructivist-based paradigm of teaching and learning, is the problem the rapid expansion with overcrowded and under-resourced classes, both, or something else? One thing that we know is that, with expansion and reform taking place at the same time, a severe burden falls on teachers to be flexible and reject traditional models and to internalize and practice new approaches - often within the context of conceptual confusion about the reforms and minimal understanding of them, especially at the community level (Alexander 2000; UNESCO 2004).

The issue invites several areas of investigation:

- One is the cultural appropriateness of the paradigm itself which, upon initial implementation in many countries, was often not thoroughly considered (Alexander 2000; NIED 2003).
- Another is the way in which active learning has been understood and implemented within a system, that is, whether the substance or the form (e.g., group work) is being practiced.
- A third is the consistency of application within a system – for example, whether syllabi, textbooks, teacher education, and examinations are all aligned in the same way with the new paradigm.
- Lastly, there is the question of teacher preparation. Have teachers been prepared to understand as well as to practice a wide range of implementation strategies appropriate for active learning?

Teachers are often the focus of criticism for the problems that emerge with active learning, but more frequently the problem may lie within the areas outlined above. Teachers, often with little preparation themselves, are struggling to implement elements of a new paradigm that may be

contradictory, and are attempting to do so in classes that are over-crowded and under-resourced, classes in which quality would probably drop no matter what the paradigm of teaching and learning in use.

An approach to the challenge of active learning is to move in the direction of a more “distributed learning” model which combines different teaching and learning styles and mixes teacher-centered with student-centered learning, without losing the valuable conceptual dimension of active learning. The recent EFA report on education quality takes up this issue:

In the spectrum between traditional chalk-and-talk teaching and open-ended instruction, some educators advocate structured teaching, a combination of direct instruction, guided practice, and independent learning.....Discovery-based pedagogies have proved extremely difficult to implement on a national scale. Moreover, their success relies heavily on appropriate levels of physical resources, strong support and well-motivated, enthusiastic teachers....With an approach to structured teaching that leaves space for individual discovery, good teachers can create a child-centered environment even in adverse circumstances. (UNESCO 2004, pp. 153-154)

Many systems find themselves pulling back from earlier, more open-ended or less structured forms of active and discovery learning. Teachers are now being asked to balance between direct instruction and a more discovery-based form of open-ended teaching and learning (NIED 2003, p. 29; UNESCO 2004, pp. 153-154). The challenge for education policy is to clarify a meaning of active learning, ensure that all parts of the education system interpret and practice it in the same way, and make sure that teachers are engaged in the process so that they develop a deep conceptual understanding of active learning, not just disembodied knowledge of a few active-learning methods or teaching strategies. Dialogue and clarity on these issues is imperative for quality.

EDUCATIONAL QUALITY: THE ROLE OF TEACHER LEARNING

In the developing world, donor-funded projects are frequently aimed at school-level reforms. Such projects may focus on decentralizing administrative structures and increasing the involvement of local community members in school governance and support, with the aim being to empower principals, teachers, and the community to work together to improve the quality of education provided to the children.

The Rationale for Teacher Development

As previously noted, the research literature on education quality demonstrates that there is a strong link between teacher professional development and quality. This is mainly because reforms leading to improved quality in preservice and inservice teacher education cannot succeed unless they are backed by on-going professional development and continuous teacher learning at the school level. Teacher professional development ensures that theories acquired in initial preparation can be successfully implemented in practice. Quality inservice professional development, backed by a supportive school community of practice, is essential to ensuring that reforms in teaching and learning reach the classroom, are correctly implemented in the classroom, and are sustained. This part of the literature review supports the important role that teacher learning plays in making the connection between theory and practice, and in improving education

quality, by recognizing and supporting the role of teachers as professionals capable of making sound decisions regarding classroom instruction and student learning.

In the present curriculum reform environment in many countries, constructivist, active learning principles are advocated at the policy level, and many education systems now seek to match this with teacher learning and professional development, by raising the status of teaching as a profession through better teacher induction³ and monitoring (Leu 2005, p. 20; Zeichner 2003). The rationale for this is clear: Whether undergoing centralization or decentralization, the global knowledge base is continually expanding and changing the nature of classroom instruction such that there is an ever-increasing demand to move beyond rote learning and teacher-directed instruction to more active, student-centered approaches to learning.

Teachers as Active Subjects of Reform

Today problems of practice in the classroom are complex, and cannot be satisfied by codified knowledge, prescriptive practice, and inflexible rules of conduct. Instead, new norms for teaching should be accompanied by teachers' embracing a professional standard that incorporates continual learning, reflection, and concern with the multiple effects of one's actions on others as fundamental aspects of their professional role. Teachers must demonstrate active ownership of their practice, and of the reforms that influence changes in that practice:

Unless teachers are actively involved in policy formulation, and feel a sense of 'ownership' of reform, it is unlikely that substantial changes will be successfully implemented...One of the main challenges for policy makers facing the demands of a knowledge society is how to sustain teacher quality and ensure all teachers continue to engage in effective modes of ongoing professional learning. (Santiago and McKenzie 2006, p. 9)

International and US-based scholars of teacher learning have long supported the view that successful school reform is best achieved through the development of the capacity of teachers and schools as inquiring, collaborative organizations, rather than through the imposition of a state-mandated curriculum from above (Craig et al. 1998; Darling-Hammond 1993; Lieberman and Miller 1990). Teachers and schools thereby become the engaged subjects, rather than the objects of policy changes and reform (Lieberman and Miller 1990).

Scholars in the field of teacher education argue for teacher professional development to foster the knowledge, expertise, skills, and attitudes needed for optimal teaching, and maintain that these cannot be fully developed in preservice teacher education programs alone. When teachers are involved in making decisions about changes that affect them, enjoy being around children, have the skills to impart appropriate knowledge and manage their classrooms, and understand their role in the community, they are usually highly motivated and their students' achievement tends to improve. Thus teacher education should not end with the receipt of a diploma or teaching certificate, but must constitute life-long learning through continued learning and socialization, supervised internships and continuing education requirements as the primary vehicles for developing effective learner-centered approaches to teaching (Craig et al. 1998; Darling-Hammond 2006; Darling-Hammond and Bransford 2005).

³ Induction programs are designed to provide new teachers with special guidance and supervisory support in performing their roles in classrooms, schools, and communities.

There is presently widespread agreement that classrooms and schools, which provide opportunities for inquiry, experimentation, reflection, and dialogue, are powerful contexts where student learning takes place (Borko 2004, p. 4; Darling-Hammond 1998, p. 2). Given this, how should designers of professional development programs structure opportunities for professional discourse and learning among teachers that parallel this social constructivist view of learning, fostering analysis and dialogue among teachers (Darling-Hammond 1998, p. 3)?

Communities of Practice: The Cornerstone of Teacher Development

Studies in both domestic and international contexts support the view that continuous teacher development is one of the keys to raising learner achievement. Professional development of teachers can lead to improving educational quality, especially if the entire school community is involved in shaping and supporting such programs. A 2002 study of teacher education reform projects in East Africa outlines factors that contribute to teacher professional development (Anderson 2002). In this study, the author maintains that teacher development activities are a cornerstone of all the projects he reviewed, and stresses the importance of inservice learning aimed at improving teachers' instructional practices. The inservice learning that proved most successful in many of the case studies involved access to teacher-centered and school-based workshops; in-class coaching by consultants, supervisors, or peers; team planning and problem-solving by collegial work groups; action research; teacher inter-visitation; and professional study groups. The East Africa study further documents that teachers' learning needs were supported by efforts to promote teacher leadership at district and school levels. Teacher learning of new methods was supported by in-school coaching by external consultants, while teacher resource centers at the district, school cluster, or school level provided further support to teachers through the provision of workshops, consultants, and libraries.

Similarly, a study of recruitment, retention, and retraining of secondary school teachers in Sub-Saharan Africa demonstrated that strategies to improve the conditions for teachers that resulted in a more motivated teacher corps included creating learning communities among teachers to discuss teaching and learning issues; having experienced teachers mentor newer teachers; and improving the classroom environment by providing adequate curriculum, books, and materials (Mulkeen et al. 2005). The strategies inherent in the approaches outlined above emphasize building teachers' capacity to decide independently how to apply instructional strategies to targeted subject matter, content, and student needs, elements central to teacher empowerment.

International studies are well supported by the literature on teacher development in US schools. Little (1998) found that the norms of collegiality and experimentation in schools were most responsible for the development of teacher leaders and for fostering teacher professionalism. When teachers and principals observed each other in classrooms, had time to talk about what they were doing, and worked to find solutions for commonly defined problems, the life of a teacher in the schools was transformed to one in which there was shared ownership of issues, a willingness to consider alternative explanations, and a desire to work together as colleagues (Little 1988).

The capacity of teachers to develop and improve throughout their careers may depend to a large extent on the development of schools as more collaborative organizations, or "communities of practice" in which teachers work together and develop shared membership in a group that accommodates and supports their pursuit of continuous inquiry into practice. For this reason, it is critically important to develop a community for preparing teachers, within and beyond the

university or teacher preparation institution (Darling-Hammond and Bransford 2005; Lieberman 1995). Furthermore, since teachers are more likely to stay in schools where they feel they can succeed, research stresses the importance of professional supports and redesigned schools to build learning opportunities for teachers and stronger relations between students and teachers that promote trust, motivation, commitment, and collective efficacy (Bryk and Schneider 2002; Darling-Hammond 1997).

Teachers as Adaptive Experts in the Reform Process

We have established that helping teachers learn and teach more effectively requires that they develop the ability to think like teachers, that they translate what they have learned in both preservice and inservice teacher development programs into practice, and that they best do this within the context of a collaborative, collegial school community. However, teachers' daily routines in all countries and contexts are full. Teachers deal with large groups of students, juggle multiple tasks, and have little time to reflect and implement innovations (Hatch 2006). In the developing world, teachers with minimal preparation and 70 to 100 or more students may find that active learning methods are difficult, if not impossible, to apply (Alexander 2000, pp. 314-319; Mulkeen et al. 2005; Sweetser 1999; UNESCO 2004). Introducing reform into such classroom contexts often involves teachers re-thinking existing routines, ideas, practices, and theories.

Thus, in their professional development, teachers need to acquire the capacity to consider and implement and make room for such changes. The combined processes of efficiency and innovation are assumed to be "complementary at a global level, and they are complementary when appropriate levels of efficiency make room for innovation" (Darling-Hammond and Bransford 2005, p. 363). In other words, teachers need to develop practices and routines that will not inhibit them, but instead free them up by providing flexibility and room for experimentation and innovation in the classroom. They become, in Darling-Hammond's words, "adaptive experts."

In addition to appropriate levels of efficiency and flexibility in their routines, teachers need to have a deep understanding of their subject matter, as well as a deep theoretical foundation, which will enable them to adapt and modify their instruction when teaching is not working well. Adaptive expertise means that teachers must have the ability to learn from other practitioners. This implies that more traditional schooling climates, where teachers isolate themselves in their classrooms and work independently of their colleagues are not conducive to teachers, and novice teachers in particular, seeking feedback from their peers (Darling-Hammond and Bransford 2005). It is therefore imperative that teachers work in teams, and that school administrators work to create a climate in which feedback is welcomed and teachers are encouraged to share their experiences, both good and bad. It is equally important that the school community and administration support teacher development through flexibility in scheduling and staff release time.

Action Research and Professional Development Schools

Hatch explores further the use of teacher research as a means of fostering a climate of trust and a mechanism for communication among teachers through his study of teachers involved in the Carnegie Foundation for the Advancement of Teaching project on teacher research (Hatch 2006). In his examination of the outcomes of the project, Hatch noted that documenting and reflecting on practice is not only a powerful prompt for improvement by individual teachers; it is a context for

building scholarly communities about teaching and learning. Teachers who take time to reflect on and examine their teaching practice may make improvements in their own classroom approaches by revealing misconceptions or disconnects between training and practice. In the right school environment, some teachers may seek out colleagues in their efforts to solve instructional problems and draw them into a more formalized process of research and inquiry. Teacher research may lead to improved instructional practices across the school and eventual changes in school or even district policies and therefore encompasses both teacher development at the school level, and education reform at the local policy level (Hatch 2006, pp. 15 – 30).

Another approach to the development of communities of practice among teachers is the Professional Development School (PDS). Professional development schools have emerged in recent years as promising models for connecting school reform and the reform of teacher education, by providing a context for rethinking and reinventing schools for the purpose of building and sustaining the best educational practices, inducting preservice teachers into the profession, and providing continuing professional development to inservice teachers (Lieberman and Miller 1990). In a profile of such schools, a series of case studies in the United States demonstrates the importance of the linkage between professional development schools and teacher preparation programs at universities. These programs allow school and university educators to engage jointly in research and rethinking of practice, thus creating an opportunity for the profession to expand its knowledge base by “putting research into practice and practice into research” (Darling-Hammond 2005, pp. 1-27).

The PDS offers new structures for deepening and sharing knowledge for teaching and developing shared forms for learner-centered practice that enable teachers to become responsible for setting and reaching professional standards. As we have noted, the complexity of learner-centered education is such that it is difficult to implement, especially for novice teachers or experienced teachers who are new to student-centered learning, an issue central to the present study. The PDS provides teachers with much needed support in implementing knowledge of practice acquired in professional development, through on-going monitoring and feed-back from mentors and colleagues. Finally, the PDS can foster an environment that emphasizes collaboration and team teaching in schools, and promotes shared decision making in teams within schools and between schools and universities.

School Accountability

An alternative approach to school reform centers on the notion of accountability and systems to support accountability. Elmore (2002) views school improvement as something that goes together with strong internal accountability. This implies that the individual teacher’s sense of responsibility, the organization’s expectations about what constitutes quality of teaching and learning, and good student performance must be turned into systematic means or processes by which teachers account for what they do. This brings to the fore questions such as: How do we think about teachers’ performance? How frequently do we observe teachers, how do we judge what we observe, and who observes and judges? How do we analyze performance data? The schools in which these issues are aligned have very powerful approaches to the improvement of teaching and learning.

A Rationale for Active Learning

The question that we need to explore, then, is what constitutes the kind of practice that we want in classrooms, practice that has the potential not only to improve student performance, but also to

create the processes that enable students to learn useful knowledge, skills, and attitudes and allow them to solve authentic problems, not only in the learning situation, but also in their real lives.

Research indicates that learners perform better when teachers organize more hands-on learning, emphasizing higher-order thinking skills (Bransford et al. in Darling-Hammond and Bransford 2005, p. 27). In science, for example, learning theory suggests that certain kinds of questions support strategic thinking on the part of students, particularly questions that ask students to develop hypotheses, make comparisons, analyze and synthesize data, evaluate possible solutions, and make judgments about what they have found. Students taught in this way not only perform better on tests, but also retain much more of what they have learned (Bransford et al. in Darling-Hammond and Bransford 2005, pp. 28-29).

Within the active-learning model, there is general agreement on many elements of effective teaching, such as: conceptual learning that goes beyond memorization, the use of cooperative learning through which students construct knowledge together, the ability to communicate independently, students' original work used to demonstrate learning (often displayed in classrooms), minimal teacher lecturing or direct transmission of factual knowledge, multiple small group activities that engage students in discovery learning or problem-solving, and frequent student questions and discussions. However, these generally agreed-upon elements can present a problem if they are interpreted as the form and not the substance of teaching. For instance, some of the above examples (group work in particular) can exist in classrooms that focus on repetition of factual information rather than the encouragement and use of higher-order thinking skills. This is a common problem in the implementation of active learning as identified in the present study as well as in the literature (Bransford et al. in Darling-Hammond and Bransford 2005).

Translating Theory into Instructional Practice

We have considered a variety of strategies and programs that need to be considered when we try to change teachers' practice and provide professional development opportunities. In addition, Darling-Hammond (1998, pp. 4-5) suggested the following professional development strategies based on a social constructivist approach to teacher learning that have succeeded in improving teaching, and that correspond nicely to the strategies detailed above:

- Experiential, engaging teachers in concrete tasks of teaching, assessment, and observation;
- Grounded in participants' questions, inquiry, and experimentation;
- Collaborative, involving sharing of knowledge among educators;
- Connected to and derived from teachers' work as well as examination of subject matter and teaching methods;
- Sustained and intensive, supported by modeling, coaching, and problem solving around specific problems of practice; and
- Connected to other aspects of school change.

The above strongly suggests a way forward in terms of inservice teacher development in many countries. Countries that rely on episodic and centralized cascade models without adequate school-level follow-up, may consider introducing policies of continuous professional development (CPD). Continuous, localized, or school-based professional development is ongoing and takes place frequently, including all teachers, at the school or cluster level; it is contextualized within real-life questions, problems, and scenarios in real classrooms in a school;

and it allows colleagues to collaborate, share knowledge, and reflect on solutions to these questions through teacher research .

Discussions among teachers that support critical examination of teaching would appear to be rare in many countries, despite policies that promote reflective practice. There is often little time or encouragement for this process, it often is not integrated into professional development programs, and teachers can even find it threatening unless it is well understood and structured. Borko (2004) suggests that such conversations, or the development of communities of practice, must occur if teachers are to explore collectively ways of improving their teaching and support one another as they work to transform their practice.

A CONCEPTUAL FRAMEWORK FOR TEACHER DEVELOPMENT

The conceptual framework for teacher development, outlined below, is drawn from the literature. The first part displays some aspects of the relationships between teacher learning and teacher practice discussed in the literature review. The second part hypothesizes further relationships between teacher practice and student learning that are not taken up directly in this review. The framework displays the possibilities and complexities of achieving educational quality, emphasizing teaching quality that leads to quality student learning. The framework assumes that the following relationships influence teachers' practice and student learning and serve as a way of thinking about the achievement of education quality:

- Teachers' opportunities to learn are critical, but they do not translate directly into good practice. Translating opportunity to learn into good practice depends on the nature of process at the school level and a variety of mediating factors. The most important may be whether teachers participate in professional development that is comprehensive and continuous throughout their professional lives. The nature of professional development, continuous or not, must connect with a whole-school improvement program, while the personal characteristics of the teacher provide a critical mediating factor as do a wide variety of conditions at the school level. Opportunities to learn, therefore, combine with mediating factors to shape practice. A teacher's opportunity to reflect on practice, to develop skills that allow for flexibility, and willingness to implement new practices are also essential in determining the nature of practice.
- Practice is not static. Ideally it will change and improve as teachers gain new knowledge and skills, deeper understanding of their students, and increasing confidence and status throughout the years of their practice. This kind of learning and change takes place through experience supported by ongoing professional development. Without this combination, practice may be static or, worse, influenced only by outdated instructional methods.
- A teacher's practice, no matter how excellent, does not translate directly into student learning. Even the best practice is filtered through a range of further mediating factors relating to student characteristics.

Despite the range of mediating factors that stand as help or hindrance between teacher learning and student learning, teachers' opportunities to learn and change are critical in the process, the element that has the strongest impact on quality of student learning. As suggested in the literature

review, school-based teacher learning based on communities of practice may be the key in many countries to helping teachers translate the theories acquired through professional development into classroom practice. The following is a visual display of these relationships, emphasizing the role of process and mediating factors:

Teachers' opportunities to learn establish the basis of their practice

- Teachers' practices, as established by a variety of learning opportunities, are further shaped by *mediating factors* at the school, classroom, and community levels:

Teacher characteristics

- teachers' initial preservice learning experiences
- teachers' ongoing learning opportunities
- teachers' understanding of reform ideas
- teachers' commitment to change
- teachers' effort to implement new methods
- teachers' knowledge of subject matter
- teachers' motivation, morale, professional identity
- teachers' prior notions and experiences of teaching
- teachers' interest in children and in teaching
- teacher's professional identity

Enabling policies

- widespread understanding and support of policies and reforms
- community involvement in determining education policy
- provision of adequate resources for schools
- adequate teacher conditions of service, feedback, incentives
- relevance and clarity of the curriculum
- relevance of teaching methods prescribed by policy and applicability to the curriculum, class size, age group, etc.
- relevance of examinations in examining what policies prescribe

School characteristics

- nature of school leadership and school governance
- nature of school climate
- supportive leadership and supervision
- team work among teachers, communities of practice
- physical condition of the school, class size
- availability of learning materials and other resources for teachers
- nature of decision-making at the school level (participatory or top down)

Community and cultural characteristics

- community perspectives on the role/purpose of education (why they are sending their children to school)
- nature of the local or national job market
- socio-economic status of the community
- level of community support and involvement in the school
- level of community understanding and support of reform initiatives

- appropriateness of reform ideas and approaches, understanding of reforms
 - community attitudes towards teachers
- ▶ These factors, and many others, combine in complex ways, to shape a teacher's practice

Teaching practices, as mediated by the above, are further mediated by student characteristics

- Teaching practices, no matter how excellent and well supported by the above, combine with further *mediating factors* in the form of students' readiness to learn:
 - students' readiness for school and perseverance
 - abilities, motivation, and prior school experience
 - students' time spent on learning in school and out of school
 - students' gender and embedded traditional gender characteristics and roles
 - students' socio-economic status
 - students' and communities' attitudes toward education
 - students' reasons for being in school
 - students' and their parents' perceptions of the benefits of education, availability of jobs, impact of local role models
 - students' health and nutrition status
 - demands on students for labor in the family, household, community
- ▶ These student characteristics combine with teacher characteristics to influence student learning :

Student learning (desired learning characteristics as defined within an education system)

CONCLUDING REMARKS

The literature reviewed in this EQUIP1 paper focuses on the meanings of and strategies for improving educational quality in an environment of quantitative expansion and a paradigm shift. At the same time that under-resourced systems of education are expanding rapidly, new, social constructivist paradigms of teaching and learning are being introduced, putting extreme pressure on teachers and other stakeholders in their efforts to improve educational quality.

In looking for the most promising entry points to support the growth of quality in systems or schools, most systems are increasingly emphasizing decentralized locations - schools and communities - and local actors - teachers, principals, and community members - as the engines of both quality and accountability. As part of the emphasis on local factors, processes at the local level - school, teacher, and classroom processes - have emerged as the places to look to understand how quality grows. This review has traced these trends in the literature and focused on the role of teachers and continuing teacher learning as a critical entry point for encouraging the growth of quality.

This review underscores the fact that it is important for teacher learning to parallel the new paradigms of learning that are at the foundation of many countries' education reforms. Teachers are seen no longer as passive recipients of instructional formulas to be repeated mindlessly in their practice. Within a system that supports coherent change and with well-structured access to new ideas, teachers are seen as active subjects of their own changing practice, adaptive experts who form communities of practice to share ideas and analyze and improve practice. They, like their students, become empowered learners.

Finally, teacher learning, of whatever kind, is always embedded within a context. Teacher learning is influenced by complex mediating factors at the local level as suggested in the conceptual framework above. In order for appropriate teacher learning to translate into good practice and good student learning, a variety of factors that either help or hinder this process must be positively mobilized at the local level. This is why a form of continuous teacher learning that is nested within a whole-school improvement program is promising. Complex as it is, looking to the local level, understanding the complications of process, and encompassing these factors in programs to encourage quality, will enable policy makers and program planners to design and implement more promising programs to create quality.

REFERENCES

- Adams, Don. 1993. *Defining Educational Quality*. Arlington, VA: Institute for International Research and University of Pittsburgh, USAID, Improving Educational Quality Project.
- Adams, Don, T. Clayton, M. Rakotamanana, and Y. Wang. 1993. *Implementing Change in Educational Quality*. Arlington VA: Institute for International Research and University of Pittsburgh, USAID, Improving Educational Quality Project.
- Adams, Don, M. Ginsberg, Y. Wang, and J. Sylvester. 1995. *Improving Educational Quality: A New Approach*. Arlington VA: Institute for International Research and University of Pittsburgh, USAID, Improving Educational Quality Project.
- ADEA (Association for the Development of Education in Africa). 2004. *ADEA Newsletter* 16 (1).
- ADEA (Association for the Development of Education in Africa). 2005. *The Challenge of Learning: Improving the Quality of Basic Education in Sub-Saharan Africa*. Paris: ADEA.
- Alexander, Robin. 2000. *Culture and Pedagogy*. Malden, MA: Blackwell Publishing.
- Anderson, Stephen E., ed. 2002. *Improving Schools through Teacher Development: Case Studies of the Aga Khan Foundation Projects in East Africa*. Lisse, The Netherlands: Swets and Zeitlinger.
- Assie-Lumumba, N'Dri and Margaret Sutton. 2004. "Global Trends in Comparative Research on Gender and Education." *Comparative Education Review* 48 (4): 345–52.
- Bah-Diallo, Aicha. 1997. *Basic Education in Africa*. Paris: UNESCO.
- Borko, H. 2004. "Professional Development and Teaching Learning: Mapping the Terrain." *Educational Researcher* 33 (8): 3-15.
- Boud, David, Rosemary Keogh, and David Walker. 1985. *Reflection: Turning Experience into Learning*. London: Kogan Page.
- Boyle, Bill, David While, and Trudy Boyle. 2003. "A Longitudinal Study of Teacher Change: What Makes Professional Development Effective?" Working Paper No. 1. Manchester: University of Manchester, Institute for Political and Economic Governance.
- Bransford, J., L. Darling-Hammond, and P. LePage. 2005. "Introduction." In Linda Darling-Hammond and J. Bransford, eds. *Preparing Teachers for a Changing World: What Teachers Should Learn to Be Able to Do*. San Francisco: Jossey-Bass.
- Bransford, J., S. Derry, D. Berliner, K. Hammerness, with Kelly Lyn Beckett. 2005. In Linda Darling-Hammond and John Bransford. eds. *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able To Do*. San Francisco: Jossey-Bass.

- Bryk T. and B. Schneider. 2002. *Trust in Schools: A Core Resource for Improvement*. New York: Russell Sage.
- Carnoy, Martin and C. de Moura Castro. 1995. "Improving Education in Latin America: Where to Now?" Washington, DC: Inter-American Development Bank.
- Carron, Gabriel and Ta Ngoc Chau. 1996. *The Quality of Primary Schools in Different Development Contexts*. Paris: UNESCO, IIEP.
- Chesterfield, Ray and F. E. Rubio. 1997. *Impact Study of the BEST Teacher Effectiveness in Guatemala Primary Education*. Washington, DC: USAID.
- Cobbe, S. 1990. *Education Indicators for Policy Purposes in Indonesia*. Jakarta: Ministry of Education and Culture.
- Craig, Helen. 1995. "Improving the Quality of Education in the Pacific: Policy and Planning Focus on the School." Paper presented at the Comparative and International Education Society Conference, Boston.
- Craig, Helen J., Richard J. Kraft, and Joy du Plessis. 1998. *Teacher Development: Making an Impact*, Washington, DC: ABEL Clearinghouse for Basic Education, AED; Human Development Network, The World Bank.
- Cummings, William K. 1997. "Management Initiatives for Reaching the Periphery." In H. Dean Nielsen and William K. Cummings, eds. *Quality Education for All: Community-Oriented Approaches*. New York: Garland.
- Dalin, Per. 1994. *How Schools Improve*. New York and London: Cassell.
- Darling-Hammond, Linda. 1993. "Reframing the School Reform Agenda: Developing Capacity for School Transformation." *Phi Delta Kappan* (June 1993): 753-761.
- Darling-Hammond, Linda. 1997. *The Right to Learn*. San Francisco: Jossey-Bass.
- Darling-Hammond, Linda. 1998. "Teacher Learning That Supports Student Learning." *Educational Leadership*, 55 (5). Retrieved October 22, 2005, from http://www.ascd.org/ed_topics/e1199802_darlinghammond.html.
- Darling-Hammond, Linda. 2005. *Professional Development Schools: Schools for Developing a Profession*. New York: Teachers College Press.
- Darling-Hammond, Linda. 2006. *Powerful Teacher Education: Lessons from Exemplary Programs*. San Francisco: Jossey-Bass.
- Darling-Hammond, Linda and J. Bransford, eds. 2005. *Preparing Teachers for a Changing World: What Teachers Should Learn to Be Able to Do*. San Francisco: Jossey-Bass.

- Darling-Hammond, Linda and Milbrey W. McLaughlin. 1995. "Policies That Support Professional Development in Era of Reform." *Phi Delta Kappan* (April 1995): 597–604.
- du Plessis, Joy, Mona Habib, Haddy Sey, Barbara Gardner, Andrea Baranick, and Andrea Rugh. 2002. *In My Classroom: A Guide to Reflective Practice*. Washington, DC: USAID and American Institutes for Research (AIR).
- Elmore, R. F. 2002. "The Limits of 'Change.'" *Harvard Education Letter*. January/February 2002. Retrieved January 19, 2006 from <http://www.edletter.org/past/issues/2002-jf/limitsofchange.shtml>.
- Farrell, Joseph P. 2002. "The Aga Khan Foundation Experience Compared with Emerging Alternatives to Formal Schooling." In Stephen E. Anderson. ed. 2002. *Improving Schools through Teacher Development: Case Studies of the Aga Khan Foundation Projects in East Africa*. Lisse, The Netherlands: Swets and Zeitlinger.
- Fenstermacher, Gary D. and Virginia Richardson. 2000. "On Making Determinations of Quality in Teaching." Washington, DC: Board on International Comparative Studies in Education of the National Academies, National Research Council.
- Fredriksson, Ulf. 2004. "Quality Education: The Key Role of Teachers." Working Paper No. 14. Brussels: Education International.
- Fuller, Bruce. 1986. *Raising School Quality in Developing Countries: What Investments Boost Learning*. Washington, DC: The World Bank.
- Gidey, Maekelech. 2002. "Preparing More and Better Teachers: A New Vision of Teacher Development in Ethiopia." Paper presented at the Comparative and International Education Society Annual Conference in Orlando.
- Ginsburg, Mark B. and Jane Schubert. 2001. "Choices: Improving Educational Quality: Conceptual Issues, the Ideal IEQ Approach, and the IEQ Experience." Washington, DC: USAID, Improving Educational Quality Project.
- Harvey, L. 1995. Editorial. *Quality in Higher Education*. 1 (1): 5–12.
- Hatch, Thomas. 2006. *Into the Classroom: Developing the Scholarship of Teaching and Learning*. San Francisco: The Carnegie Foundation for the Advancement of Teaching.
- Heneveld, Ward and Helen Craig. 1996. *Schools Count: World Bank Project Designs and the Quality of Primary Education in Sub-Saharan Africa*. Washington, DC: The World Bank.
- Hiebert, James, Ronald Gallimore, and James W. Stigler. 2002. "A Knowledge Base for the Teaching Profession: What Would It Look Like and How Can We Get One?" *Educational Researcher*. 31 (5): 3–15.
- Hopkins, David. 2001. *School Improvement for Real*. London and New York: Routledge Falmer.

- Hopkins, David. 2002. *A Teacher's Guide to Classroom Research*. Maidenhead and Philadelphia: Open University Press.
- Knamiller, Gary, Genevieve Fairhurst, William Gibbs, Pankaj Jain, David Khatete, Geoff Welford, and Patrick Weigand. 1999. "The Effectiveness of Teacher Resource Centre Strategy." London: Department for International Development (DFID).
- Kemmis, S. 1994. "Action Research." *The International Encyclopedia of Education*. 2nd edition. T. Husen and T. N. Postlethwaite, eds. New York: Elsevier Science: 42–48.
- Kubow, Patricia K. and Paul R. Fossum. 2003. *Comparative Education: Exploring Issues in International Context*. Upper Saddle River NJ: Merrill Prentice Hall.
- LeCzel, Donna Kay and Muhammed Liman. 2003. "School Self-Assessment in Namibia: An Adaptation of Critical Inquiry." Paper presented at Comparative and International Education Society Annual Conference in Salt Lake City.
- Leu, Elizabeth. 2002. "Increasing Girls' Participation in Education: The Role of Curriculum and Teacher Development." Paper presented at Comparative and International Education Society Annual Conference in Orlando.
- Leu, Elizabeth. 2005. *The Role of Teachers, Schools, and Communities in Quality Education: A Review of the Literature*. Washington, DC: AED, Global Education Center.
- Leu, Elizabeth, Francy Hays, Donna Kay LeCzel, and Barbara O'Grady. 2005. *Quality Teaching: Building a Flexible and Dynamic Approach*. Washington, DC: AED, Global Education Center.
- Lewin, Keith M. and Janet S. Stuart. 2003. "Research Teacher Education: New Perspectives on Practice, Performance and Policy." MUSTER Synthesis Report. Sussex UK: University of Sussex and Department for International Development (DFID) Educational Papers.
- Lieberman, Ann and Lynne Miller. 1990. "Teacher Development in Professional Practice Schools." *Teachers College Record*. New York: Teachers College Press: 1-9.
- Lieberman, Ann. 1995. "Practices That Support Teacher Development: Transforming Conceptions of Professional Learning." *Phi Delta Kappan* (April 1995): 591–96.
- Little, Judith Warren. 1988. "Assessing the Prospects for Teacher Leadership." In *Building a Professional Culture in Schools*, A. Lieberman, ed. New York: Teachers College Press: 78-106.
- Lockheed, Marlaine and E. Hannushek. 1988. "Improving Educational Efficiency in Developing Countries: What Do We Know?" *Compare* 18 (1): 21–37.

- Lockheed, Marlaine and A. Komenan. 1989. "Teaching Quality and Student Achievement in Africa: The Case of Nigeria and Swaziland." *Teaching and Teacher Education* 5: 93–113.
- Lockheed, Marlaine and Adriaan Verspoor. 1991. *Improving Primary Education in Developing Countries*. New York: Oxford University Press.
- Mukudi, Edith. 2002. "Gender and Education in Africa." *Comparative Education Review* 46 (2).
- Mulkeen, Aidan, David W. Chapman, and Joan G. DeJaeghere. 2005. *Recruiting, Retaining, and Retraining Secondary School Teachers and Principals in Sub-Saharan Africa*. Washington, DC: AED Global Education Center Working Paper Series and The World Bank AFTHD Working Paper Series.
- Muskin, Joshua A. 1999. "Including Local Priorities to Assess School Quality: The Case of Save the Children Community Schools in Mali." *Comparative Education Review* 43 (1): 36–63.
- Muskin, Joshua and Miressa Aregay. 1999. "Community Participation as a Strategy to Improve School Quality, Access and Demand: Testing the Hypothesis." Paper presented at the Comparative and International Education Society Conference, Toronto.
- NIED (National Institute for Educational Development). 2003. *Learner-centred Education in the Namibian Context: A Conceptual Framework*. Okahandja: NIED.
- Nielsen, H. Dean. 1997. "The Last Frontiers of Education for All: A Close-up of Schools in the Periphery." In *Quality Education for All: Community-Oriented Approaches*, H. Dean Nielsen and William K. Cummings, eds. New York: Garland.
- Nielsen, H. Dean and Zeynep F. Beykont. 1997. "Reaching the Periphery: Toward a Community-Oriented Education." In *Quality Education for All: Community-Oriented Approaches*, H. Dean Nielsen and William K. Cummings, eds. New York: Garland.
- Nielsen, H. Dean and William K. Cummings eds. 1997. *Quality Education for All: Community-Oriented Approaches*. New York: Garland.
- Parkerson, Annette Hatcher. 2004. "Time for a Change: Rethinking the Development of Women and Girls." *Educational Researcher* 33 (6): 29–34.
- Prouty, Robert and Elizabeth Leu. *Teacher Development and Decentralization: The Power of Localizing Teacher Professional Development*. Unpublished presentation on August 8, 2005, Washington, DC: USAID Training Workshop, Moving from Access to Relevance.
- Prouty, Diane and Wako Tegegn. 2000. "This School Is Ours. We Own It: A Report on the Stocktaking Exercise of the BESO Community Schools Activity Program." Addis Ababa: World Learning Inc.

- Riding, Phil, Sue Fowell, and Phil Levy. 1995. "An Action Research Approach to Curriculum Development." *Information Research* 1 (1).
- Santiago, Paulo and Phillip McKenzie. 2006. "OECD Teacher Policy Review: Attracting, Developing and Retaining Effective Teachers." Paper presented to the Annual Meeting of the American Educational Research Association, San Francisco.
- Shaeffer, Sheldon. 1992. Educational Quality Redefined. *Forum for Advancing Basic Education and Literacy (ABEL)*. 1 (3): 1-2.
- Schon, Donald. 1983. *The Reflective Practitioner: How Professions Think in Action*. New York: Basic Books.
- Schon, Donald and J. McDonald. 1998. *Doing What You Mean to Do in School Reform*. Providence: Brown University Press.
- Schwille, J., T. O. Eisemon, F. Ukobizoba, R. Prouty, J. Lawrence, J. Ndayikeza, and D. Kana. 1992. "Facing Up to the Dilemmas of Quality." *Forum for Advancing Basic Education and Literacy*. 1 (3): 7-8.
- Sweetser Anne T. 1999. "Lessons from the BRAC Non-formal Primary Education Program." Washington, DC: USAID/ABEL Clearinghouse for Educational Development.
- Tatto, Maria Teresa. 1997. "Teachers Working in the Periphery: Addressing Persistent Policy Issues." In *Quality Education for All: Community-Oriented Approaches*, H. Dean Nielsen and William K. Cummings, eds. New York: Garland.
- Tatto, Maria Teresa. 2000. "Teacher Quality and Development: Empirical Indicators and Methodological Issues in the Comparative Literature." Washington, DC: Board on International Comparative Studies in Education of the National Academies, National Research Council.
- UNICEF. 2000. "Defining Quality in Education." Working Paper Series. New York: UNICEF.
- UNESCO. 2003. *EFA Global Monitoring Report 2004: Gender and Education for All – The Leap to Equality*. Paris: UNESCO.
- UNESCO. 2004. *EFA Global Monitoring Report 2005: Education for All - The Quality Imperative*. Paris: UNESCO.
- UNESCO. 2006. *Teachers and Educational Quality: Monitoring Global Needs for 2015*. Montreal: UNESCO Institute for Statistics.
- USAID. 2002. *Progress in Education, USAID 2000–2002*. Washington DC: USAID.
- USAID/EQUIP1. 2004a. "The Patterns and Purposes of School-based and Cluster Teacher Professional Development Programs." Washington, DC: EQUIP1 Program.

- USAID/EQUIP1. 2004b. "Developing a Positive Environment for Teacher Quality." Washington, DC: EQUIP1 Program.
- USAID/EQUIP1. 2004c. "School- and Cluster-based Teacher Professional Development: Bringing Teacher Learning to Schools." Washington, DC: EQUIP1 Program.
- USAID/EQUIP2. 2005. "From Policy to Practice: The Teacher's Role in Policy Implementation in Namibia." Washington, DC: EQUIP2 Program.
- USAID/EQUIP2. 2006. "Stakeholder Collaboration: An Imperative for Education Quality." Washington, DC: EQUIP2 Program.
- Van Graan, Mariana and Elizabeth Leu. (forthcoming). *Namibia Pilot Study of Teacher Professional Development, Quality in Education, Teaching, and Learning: Perceptions and Practice*. Washington, DC: USAID/EQUIP1 Program.
- Verspoor, Adriaan. 2004. "The Quest for Quality: Towards a Learning Community." *ADEA Newsletter* 16 (1): 5-8.
- Verspoor, Adriaan. 2006. "Schools at the Center of Quality." *ADEA Newsletter*, Special Issue – Biennale 2006: 3-6.
- Williams, James H. 1997. "Improving School-Community Relations in the Periphery." In *Quality Education for All: Community-Oriented Approaches*, H. Dean Nielsen and William K. Cummings, eds. New York: Garland.
- Windham, Douglas. 1986. *Indicators of Educational Effectiveness and Efficiency*. Tallahassee: Florida State University, USAID, IEES (Improving the Efficiency of Educational Systems) Project.
- World Bank. 1994. "Educational Quality: Defining What's Important." *Findings: Africa Region 16*. Washington, DC: The World Bank.
- Zeichner, K. M., and S. E. Noffke. 2001. "Practitioner Research." In *Handbook of Research on Teaching*, 4th ed., V. Richardson, ed. Washington, DC: American Educational Research Association.
- Zeichner, Kenneth. 2003. "The Adequacies and Inadequacies of Three Current Strategies to Recruit, Prepare and Retain the Best Teachers for All Students." In *Teachers College Record*. New York: Columbia University Teachers College.