TEACHERS AS LIFELONG REFLECTIVE SCHOLARS

William P. Dunlap, Ph. D.*
(University of Wisconsin Eau Claire)

Summary

Teachers must be Lifelong Reflective Scholars in order to be effective classroom teachers in this increasingly fast, complex, change-oriented society in which they are teaching. Developing Lifelong Reflective Scholars require teacher educators to have approach the professional development of teachers in a systematic manner that is research and performance based. A conceptual framework including cornerstones, standards and supportive research, conceptual evolution of a teacher, and a set of common beliefs have been presented that assist in developing teachers as Lifelong Reflective Scholars. All of this must be integrated by people who are enthusiastic about teaching and learning and who have the dedication and personal characteristics to be teachers.

Key words: Lifelong Reflective Scholar, Professional Teacher Standards

Pre-service education of teachers and the continued in-service of teachers has been changing for the last forty years as educators learn more about how children learn and how teachers should be teaching. With the advent of the standards and testing movement in teacher education, change in teacher education programs has increased at an even more rapid pace. Instead of just reacting to the standards and testing movement and other pressures for changes in teacher education, educators need to approach the changes in teacher education in a systematic fashion and base the changes on a well conceived course of action that is supported by research on the teaching and learning process. A place to start is with a "concept of a teacher" which is supported by research and which includes the expectations of what teachers should know and able to do. The next step in the process is to identify a "conceptual framework" for a teacher education program that will develop a teacher as described by the "concept of a teacher." The "conceptual framework" establishes programmatic parameters within which standards for teacher education programs can be identified and utilized. These standards specify the knowledge, skills, and disposition that a teacher should have.

Concept of a Teacher

The concept of a teacher as a Lifelong Reflective Scholar has been derived from research and analysis of the roles of teachers in the teaching and learning environment and has evolved from previous concepts of a teacher.

Calderhead's (1995) description of "teachers as clinicians" opens with the conceptualization of teaching as a form of problem solving and decision-making. The perspective of teachers as clinicians has generated research that investigates the decision making of teachers, focusing particularly on how teachers use information about students to tailor instruction to meet individual needs. This research has added to knowledge of teachers' planning and interactive thinking. Overall this points to the complexity of teachers' cognitions, to the problem solving attached to their planning, and to the deeply contextualized nature of their teaching.

Hoyle (1995) suggests that the "teacher as professional" provides a framework for the knowledge and skill base that underpins professional practice.

Hollingsworth (1995) describes the "teacher as a researcher" identifying three interrelated areas as foci for teacher researchers: (a) curriculum improvement, which builds on action research and which extends into collaborative research models that include teachers and academics; (b) professional and structural critiques that include teacher preparation and professionalism; and (c) societal reform that encompasses epistemological critique and problem of gender.
Sarason, Davidson, and Blatt (1962) introduced the teacher as a psychological observer-diagnostician-tactician. Implicit in this concept is that teachers' knowledge involves not only strategies but also content and how teachers' knowledge develops and the extent to which teachers understand the development of their own knowledge makes all the difference to children's learning.

Anderson and Mitchenor's (1994) state that teacher education curriculum moves from subject matter preparation to the changing nature of professional knowledge. They found a transition from the image of a teacher as a technical expert to a reflective practitioner. They cite the work of Schon (1983, 1987), Russell (1989) and Doyle (1990a). Schon's view of knowledge-in-action suggests that student teaching can be a setting where prospective teachers identify what they already know and what they need to learn; hence this leads to the development of a reflective practitioner.

The concept of a teacher as a Lifelong Reflective Scholar incorporates elements from these previous concepts of a teacher. A Life-long Reflective Scholar is a leader and a decision-maker who integrates a knowledge, skill, and disposition base with information about students to design and deliver instruction to meet individual needs. Furthermore, a Life-long Reflective Scholar constantly strives to improve curricula and the teaching/learning process and to understand and develop their own knowledge, skill, and disposition of teaching and learning.

**Conceptual Framework**

The graphic below serves to provide a visual representation of the conceptual framework for teacher education programs for both pre-service teacher preparation and professional development for experienced teachers to develop Lifelong Reflective Scholars. The preparation and continued support of teachers has four cornerstones which are Discovery, Integration, Application, and Reflection. These cornerstones for teacher education programs are integrated through collaborative activities drawing upon personal experiences, universities experiences, fieldwork experiences, and community experiences. The larger circles represent increasing levels of experience and sophistication that assist active members of the teaching and learning community to develop and mature as teachers. Professional development activities enable teachers to become proficient as reflective practitioners and to progress as lifelong reflective scholars.
Programmatic Cornerstones

The graphic below provides the next level of detail for the conceptual framework and serves to describes the four cornerstones for teacher education programs—Discovery, Application, Integration, and Reflection.

Discovery: Teachers prepared today enter the profession in an ever changing world. Teachers work to develop, refine, and maintain excellence in educational practice through ongoing discovery and learning. They draw meaning from experiences in general education, subject matter content, and professional courses that contribute to their development as effective teachers.

Teachers use justifiable, appropriate instructional methodologies, grounded in the knowledge about the capacity of all students to learn and in the desire to help them develop to their fullest potential. They can discuss stages of development from childhood through adolescence, utilize this knowledge and apply it to develop appropriate instruction for students. They can discuss and use a variety of instructional methodologies and address their implications for teaching. They learn about students and
teaching both inside and outside the classroom. Teachers can demonstrate knowledge of the discipline to be taught by meeting specific performance criteria. They are able to make connections among theories applicable to their respective field(s), the research base that underlies the theories, and current practice. Teachers understand how media and technology are used effectively as a tool of inquiry to support and enhance learning, and they understand how technology changes teaching and learning, including the contexts in which learning may occur.

Teacher education programs should be designed around a set of constructivist’s principles that emphasize the interaction of learners in building understanding and making sense of their social, historical, and physical world. These interactions start from experiences designed to challenge the learner’s existing knowledge and understanding and culminate in new knowledge that has been created and synthesized.

**Application:** Teaching requires the integration of the knowledge and concepts acquired through the Discovery process. The knowledge and understanding of technology, creating learning experiences, assessment and evaluation, communication with developing learners, instructional methodologies, and decision making are applied within the classroom setting. Through the reflective process, teachers refine their knowledge and understandings. Developing teachers have early, frequent, and multiple opportunities to apply their knowledge and understandings in a variety of instructional environments.

**Integration:** Integration describes the process that facilitates changes or learning by teachers. Integration is a dynamic process that represents how form, styles, and order of learning occur. It is reflected in the emerging, merging, and re-emerging changes that occur through planned and unplanned learning activities that are grounded in Discovery, Application, and Reflection. Teachers must constantly integrate their knowledge of information literacy, diversity, theory and practice, and personal philosophy with knowledge of subject matter, instructional methodologies, and children to develop, establish, and maintain an environment conducive to teaching and learning.

These opportunities for integration of knowledge and understandings are distributed across teacher education programs. Each change represents learning and leads to ever expanding and deeper discoveries. This reflects the teachers’ progress from pre-service education to becoming a “master teacher” and characterizes the approach that teachers will take toward the identification and solution of teaching/learning problems throughout their career. Each new discovery is greater than the sum of its parts. This active learning process leads to an inquisitive and motivated life-long reflective scholar.

**Reflection:** Reflection is the art and science of self-monitoring the effectiveness of educational practices. Through careful thought and analysis, the teacher engages in a continuous process of thoughtful inquiry to identify problems of professional practice, employ informal and formal knowledge of best practices to construct and implement solutions to those problems, gather information, and evaluate the success of the solution strategies. Reflection includes both formal and informal actions, conscious analysis and non-conscious habits of mind. Reflection enhances professional efficacy and provides a mechanism for balancing Discovery, Application, and Integration.

Reflection involves the thoughtful, honest examination of instructional practice, human interactions, experiences, and personal belief systems. Implicit within the reflection process are the disposition to and responsibility to examine ones professional practices and knowledge base.

Reflection provides the groundwork for the scholarship of teaching. It requires continual analysis of the complexities of teaching and learning and the ability to bring them forward into professional conversation and debate. Reflection leads around to the Discovery cornerstone and forms a continuous cycle in the development of a Lifelong Reflective Scholar.

Thus, the four cornerstones—Discovery, Application, Integration, and Reflection—mutually reinforce each other and serve to develop Lifelong Reflective Scholars in the teaching profession.

**Standards and Performance Base**

Standards, sitting within a conceptual framework, provide direction for incorporating the science of teaching with the art of teaching. Standards provide the bases for identifying the knowledge, skills, and dispositions that
teachers need to be truly effective in the classroom. These standards need to be based upon research into the teaching and learning process. The 10 Wisconsin Teaching Standards are supported by research and provide a strong foundation for identifying the knowledge, skills, and dispositions that teachers need to be Lifelong Reflective Scholars.

**Standard #1.** The teacher understands the central concepts, tools of inquiry, and structures of the disciplines she or he teaches and can create learning experiences that make these aspects of subject matter meaningful for pupils.

Knowledge of subject matter serves as part of the foundation for planning and creating learning experiences for students as evidenced by the research cited. Jones (1992) concludes that effective teaching and learning are dependent upon the teacher’s formulation of learning goals that are appropriate to the students. Clark and Yinger (1977) support the notion that clear learning goals are directly related to effective teaching and positive classroom behavior. Peterson, Marx, and Clark (1978) also link the formulation of clear learning goals with teachers’ understanding of connections between the content that was learned previously, the current content, and the content that remains to be learned in the future. Jones (1992) concludes that a logical ordering of content to be taught enhances student achievement and engagement. While the knowledge that teachers hold about the subjects and children they teach is important, how the teachers’ knowledge is transformed to help students learn is just as significant. Students tend to increase their achievement levels when they understand how facts, concepts, and principles are interrelated (Smith, 1985; Van Pattern, Chao and Reigeluth, 1986). The materials, learning activities, and teaching methods must be appropriate to the students’ abilities and needs (Osborn, Jones, and Stein, 1985; Taylor and Valentine, 1985).

**Standard #2.** The teacher understands how children with broad ranges of ability learn and provides instruction that supports their intellectual, social, and personal development.

Teachers must integrate their knowledge of how children develop and learn with their knowledge of subject matter to plan and teach lessons. According to Sykes and Bird (1992) becoming familiar with and building on students’ existing knowledge and experiences are the cornerstone of effective teaching practices for students of all backgrounds. Students from a wide variety of cultural backgrounds can learn about and profit from the culture of the classroom by building on students’ cultural resources (Villegas, 1992). Reynolds (1992) indicates that “competent teachers create lessons that enable students to connect what they know to new information” (p.10). The U.S. Department of Education report, *What Works*, (1987) found that among the most important characteristics of effective schools is high teacher expectations for student achievement. The same report indicated that increases in student achievement are related to questioning that requires students to apply, analyze, synthesize, and evaluate information instead of simply recalling facts. Similarly this report found that the amount of time students spend actively engaged in learning is positively related to achievement and that the amount of time available for learning is related to the instructional and management skills of the classroom teacher.

**Standard #3.** The teacher understands how pupils differ in their approaches to learning and the barriers that impede learning and can adapt instruction to meet the diverse needs of pupils, including those with disabilities and exceptionalities.

Teachers must become knowledgeable of their students’ prior experiences and diverse needs so that the students may be effectively taught. Becoming familiar with, and building on, students’ existing knowledge and experiences is the cornerstone of effective teaching practice for students of all backgrounds (Sykes and Bird, 1992). Research indicates that effective teachers prepare appropriate instructional materials and plan learning activities that will engage students and assist them in achieving the established learning goals (Clark and Yinger, 1979; Emmer, Sanford, Clements and Martin, 1982; Evertson, Anderson, Anderson and Brophy, 1980; McCutcheon, 1980; Peterson et al., 1978). Jones (1992) states that high and appropriate teacher expectations are an important component of both effective schools and effective teaching research. Ellett (1990) states that “In teaching students to think, the teacher deliberately structures and uses teaching methods and learning tasks that actively involve students in ample opportunities to develop concepts and skills generating, structuring, transferring, and restructuring knowledge” (p. 47). Effective teachers plan, organize, and carry out
lessons so that maximum time is spent on instruction (Anderson, 1986; Emans and Milburn, 1989; Emmer, Evetson, and Anderson, 1980; Evetson and Emmer, 1982; Gage, 1978; Ysseldyke et al., 1987).

Standard #4. The teacher understands and uses a variety of instructional strategies, including the use of technology, to encourage children's development of critical thinking, problem solving, and performance skills.

Teachers must apply a variety of instructional strategies to meet the needs of students and their learning styles. Research indicates that effective teachers prepare appropriate instructional materials and plan learning activities that will engage students and assist them in achieving the established learning goals (Clark and Yinger, 1979; Emmer, Sanford, Clements and Martin, 1982; Evetson, Anderson, Anderson and Brophy, 1980; McCutcheon, 1980; Peterson et al., 1978). Ellett (1990) states that there is a large amount of literature in teaching higher order thinking skills and no particular set of tasks or specific strategies can be prescribed for each context in which teachers function (p.47). Hence a variety of instructional strategies must be used to teach development of thinking skills.

Standard #5. The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.

Teachers' knowledge of classroom management processes is crucial for creating an environment conducive to learning. Keith, Tormatzky, and Pettigrew (1974), Rosenshine (1971), and Walberg, Schiller, and Haetel (1979) believe that teacher enthusiasm and positive climate in the classroom are correlated with high student achievement. Positive morale and interest in the subject matter are related to the establishment of a rapport with students (Fraser, 1986; Waertel, Walberg, and Haetel, 1981; Moors, 1979). Herman and Tramontana (1971) found that establishing clear guidelines for student behavior leads to less disruptive behavior in the classroom and increased student learning. Doyle (1986) reported that, "Obviously the tasks of promoting learning and order are closely intertwined: Some minimal level of orderliness is necessary for instruction to occur and lessons must be sufficiently well constructed to capture and sustain student attention" (p.395). Evetson (1989) provides a comprehensive overview of research supporting the importance of physical factors in the classroom on student learning and minimizing student misbehavior. Goss and Ingersoll (1981) have shown that well-arranged classrooms contribute positively to student engagement with learning tasks.

Standard #6. The teacher uses effective verbal and non-verbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.

Teaching is an act of communicating. The teacher must communicate with students in such a way that they will understand the subject matter and how to use the information. Shulman (1987) states that "...the key to distinguishing the knowledge base of teaching lies at the intersection of content and pedagogy, in the capacity of a teacher to transform the content knowledge he or she possesses into forms that are pedagogically powerful and yet adaptive to the variations in ability and background presented by the students" (p.15). Rosenshine and Stevens (1986) found that in presenting new material it is most effective to "...proceed in small steps and provide practice on one step before adding another. The learner does not have to process too much at one time and can concentrate his/her somewhat limited attention to processing manageable size pieces of information or skill" (p.378).

Standard #7. The teacher organizes and plans systematic instruction based upon knowledge of subject matter, pupils, the community, and curriculum goals.

Teachers must integrate their knowledge of subject matter, students, curriculum goals, and instructional strategies to plan and teach a variety of lessons that will meet the diverse needs of their students. According to Sykes and Bird (1992) becoming familiar and building on students' existing knowledge and experiences is the cornerstone of effective teaching practice for students of all backgrounds. Shulman (1987) states, "To advance the aims of organized schooling, materials and structures for teaching and learning are created. These include: Curricula with their scopes and sequences; tests, teaching materials, teaching activities,..." (p.9). Research indicates that effective teachers prepare appropriate instructional materials and plan learning activities that will engage students and assist them in achieving the established learning goals (Clark and Yinger, 1979; Emmer, Sanford, Clements and
Martin, 1982; Evertson, Anderson, Anderson and Brophy, 1980; McCutcheon, 1980; Peterson et al., 1978).

**Standard #8.** The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social and physical development of the pupil.

Assessment and evaluation are essential to the teaching and learning process as they provide feedback to students about their mastery of the subject matter and feedback to teachers about their students and about their instructional processes. Effective teachers plan for the evaluation of student progress in relationship to the stated learning goals, and effective teachers are consistent in evaluating students’ progress and design the evaluations so that they can be used for feedback to students (Brophy and Good, 1986; Porter and Brophy, 1987, 1988; Reynolds, 1992; Rosenshine, 1987; Zigmond et al., 1986). Peterson, et al. (1978) suggest that planning appropriate evaluation strategies can foster effective teaching and learning. Effective teachers monitor student progress in mastering the defined learning goals (Brophy and Good, 1986; Gage, 1978; Good and Grouws, 1975). Sanford and Evertson (1980) and Emmer (1982) report that appropriate monitoring of student progress is related to increase student achievement. Shulman (1987) provides a broad view of student evaluation that illustrates the need for both the ongoing, informal evaluation and the more formal techniques. Shulman says: "This process includes the on-line checking for understanding and misunderstanding that a teacher must employ while teaching interactively, as well as the more formal testing and evaluation that teachers do to provide feedback and grades"(p.18-19).

**Standard #9.** The teacher is a reflective practitioner who continually evaluates the effects of his or her choices and actions on pupils, parents, professionals in the learning community and others and who actively seeks out opportunities to grow professionally.

The key to improving the teaching and learning process is for teachers to constantly self-evaluate their teaching or in other words to be reflective practitioners. Jones (1992) and Reynolds (1992) indicate that there exists in the educational research literature considerable support for the effective teacher's ability to reflect on the extent to which instructional goals were met in order to fine tune teaching.

Zeichner and Tabachnick (1991) supports teacher reflection for the improvement of instruction. Smylie (1988) and Stein and Wang (1988) cite a sense of efficacy as a critical factor in the development of teacher's reflectivity and effectiveness. Jones (1992) cites the links established in the process-product research literature between the teacher's efficacy and student learning. Jones (1992) and Cruickshank (1990) indicate that in general, student learning is enhanced when teachers work at parent involvement. Jones (1992) also notes that minority children often experience discontinuity between their home and school experiences and that teachers need to be in communication with parents as an important avenue to learning for these students.

**Standard #10.** The teacher fosters relationships with school colleagues, parents, and agencies in the larger community to support pupil learning and well-being and acts with integrity fairness and in an ethical manner.

Education of students is based with a community setting. Teachers must work with students, colleagues, administrators, parents, and other stakeholders to effectively teach their students. U. S. Department of Education's What works: Research about teaching and learning (1987): "Students benefit academically when their teachers share ideas, cooperate in activities, and assist one another's intellectual growth..." Good instruction flourishes when teachers collaborate... (p.80). Little (1992) addresses the issue of equity in the classroom and its relationship to teacher collaborations by noting that the most promising of these efforts engage teachers collectively in studying classroom practices in ways that sometimes lead to more systemic changes at the school level (p.2), and thus lead to broader impacts on learning as well as to changes for individual students. Ross and Regan (1993) and Schoen (1987) indicate that collaborating with colleagues in reflective activities also enhances teacher effectiveness.

Significant portion of the research base discussed above was taken from:


**Common Beliefs about Teacher Education across Levels of Teaching**
The concept of a teacher as a *Lifelong Reflective Scholar*, the Conceptual Framework, and the 10 Wisconsin Teaching Standards apply to pre-service teacher education programs and professional development programs for elementary school teachers, middle level school teachers, and high school teachers. In addition to what has been discussed there are a set of common beliefs that apply across elementary, middle, and high school teacher education that assist in developing *Lifelong Reflective Scholars* in elementary, middle, and high schools. These common beliefs are:

1. **Teacher Education should be based upon a liberal arts and science foundation:**

   Teachers' practical knowledge is anchored in classroom situations and includes the practical dilemmas teachers encounter in teaching. This practical knowledge is based on the personal understandings that teachers have of the practical circumstances in which they work and classroom knowledge that is situated in classroom events. Five broad domains of practical knowledge are self, milieu of teaching, subject matter, curriculum development, and instruction (Carter, 1990). A teacher develops these five broad domains through studies in the liberal arts and sciences. Pedagogical content knowledge involves both what teachers know about their subject matter and how that knowledge is translated into classroom curricular events (Carter, 1990). Cochran and Jones (1998) ascribe the term "subject matter knowledge" to Schwab (1978) and identify four components of the concept:

   - content knowledge—the facts and concepts of the subject matter
   - substantive knowledge—the explanatory structures or paradigms of the field
   - syntactic knowledge—the methods and processes by which new knowledge in the field is generated
   - beliefs about the subject matter—learners' and teachers' feelings about various aspects of the subject matter.

2. **Teacher education should be based upon in-depth knowledge of subject matter as indicated by a minor (elementary/middle school) or a major/minor (middle/high school):**

   Shulman (1987a) has done research on teachers' knowledge and has developed seven categories of teachers' knowledge linked to the development of a knowledge base for teaching. These categories are: (a) content knowledge, (b) general pedagogical knowledge, (c) curriculum knowledge, (d) pedagogical content knowledge, (e) knowledge of learners and their characteristics, (f) knowledge of educational contexts, and (g) knowledge of educational ends, purposes, and values. He defines pedagogical knowledge as "that special amalgam of content and pedagogy that is uniquely the province of the teacher, their own special form of professional understanding" (p.8). Shulman (1986) has conducted research on the relationship between subject matter knowledge and pedagogical knowledge. Teachers reflect on the subject matter and find ways to adapt it, represent it, and tailor it to the needs of learners.

3. **Teacher education should include early and frequent observing and teaching experiences in the schools:**

   Peck and Tucker (1973) advocate the "active involvement of pre-service teachers in the teaching act as early as possible in their training" (p.955). Learning through experience, which is highlighted by Schoen's view of knowledge-in-action which suggests that student teaching can be a setting where prospective teachers identify what they already know and what they need to learn. Schon (1983, 1987) talks about the importance of learning through experience, which may be called knowledge-in-action. Borko and Putnam (1996) list features that contribute to successful learning opportunities for teachers which are: (1) addressing teachers' existing knowledge and beliefs about teaching, learners, learning, and subject matter, (2) providing teachers with sustained opportunities to deepen and expand their knowledge of subject matter, (3) treating teachers as learners in a manner consistent with the program's vision of how teachers should treat students as learners, (4) grounding teachers' learning and reflection in classroom practice, and (5) offering ample time and support for
reflection, collaboration, and continued learning (pp.700-701).

4. Teacher education should be performance-based:
Peck and Tucker (1973) also indicate that teacher education can no longer remain satisfied with ineffectual lectures and fuzzy or unplanned practical experiences, rather teacher education should move to a performance-based method of appraising teaching (p.971). Doyle (1990b) argues that one can find codifiable knowledge in teaching practices, content, and classroom enactment.

5. Teacher education should be based upon collaboration among children, classroom teachers, and faculty in pedagogy and subject matter content:
Carter (1990) identifies three approaches and accompanying research programs that influence learning to teach: information processing, practical knowledge, and pedagogical content knowledge. Grossman (1995) considers the domains of teacher knowledge, the forms that knowledge takes, and its relation to classroom practice. She presents six domains of teacher knowledge: (a) knowledge of content, (b) knowledge of learners and learning, (c) knowledge of general pedagogy, (d) knowledge of curriculum, (e) knowledge of context (classroom), and (f) knowledge of self. Knowledge of self affects the process of learning to teach (Britzman, 1986), the negotiation of classroom situations and reflection upon practice (Lampert, 1985), and the teachers' understanding of their practice (Munby, 1986). Munby, Russell, and Martin indicate that context is clearly important and, as the setting for teaching practice, schools will always play a major role in the professional development of teachers.

6. Teacher education should integrate subject matter content, pedagogy, and experience in the classroom as well as theory and practice:
Carter (1990) identifies three major categories of research: pedagogical content knowledge (Shulman, 1987a), practical knowledge (Connelly and Clandinin, 1986; Russell et al., 1988) and information processing and novice-expert stud-
ies (Peterson and Comeaux, 1987). Anderson and Mitchener's (1994, p.19) discussion of coherent, comprehensive approach to content knowledge, constructivist approaches to teaching and learning, and a reflective disposition to educating teachers.

7. Teacher education should strive to develop reflective practitioner:
Anderson and Mitchener (1994), cite the work of Schon (1983, 1987), Russell (1989) and Doyle (1990a), indicate that image of the teacher as a technical expert has made a transition to the teacher as a reflective practitioner. Borko & Putnam (1996) have indicated that "teachers must have the opportunity to learn and reflect about new instructional strategies and ideas in the context of their own practice" (p.603). Russell (1987) and Schon (1983) present an analysis of knowing-in-action (practical knowledge) and reflection-in-action (the process used by a professional to develop and test knowing-in-action) where thought and action are united and a new perspective on the relationship between research and practice. Grimmett and MacKinnon (1992) note that sensibility and reflectivity are essential features of teaching.

8. Teacher education should strive to produce lifelong learner/researcher:
Christensen (1996) cites Shulman model for the teaching knowledge base and continued learning as: (1) scholarship in the content disciplines, (2) educational materials and structures, (3) formal educational scholarship, and (4) the wisdom of experience. Grimmett and MacKinnon (1992) show that teachers' knowledge represents "accumulated wisdom derived from teachers' and practice-oriented researchers' understandings of meanings ascribed to the many problematic situations inherent in teaching" (p.428). Grossman (1995) identifies the interest in the practices of experienced teachers when she explains: "While teachers can acquire knowledge from a wide variety of sources, they also create new knowledge within the crucible of the classroom" (p.22).
Carter (1990) identified the highly domain-specific knowledge of expert teachers, the organization of that knowledge, and its tacit nature. Expert teachers possess richly elaborated knowledge about curriculum, classroom routines, and students that allows them to apply with dispatch what they know in particular cases.

NOTE

1) Visiting Scholar, Center for School Education Research, Hyogo University for Teacher Education, April-November, 2005

REFERENCES


TEACHERS AS LIFELONG REFLECTIVE SCHOLARS


Russell, T., Munby, H., Spafford, C., & Johnston, P.


