

STATE OF MINNESOTA
BOARD OF TEACHING

STATEMENT OF NEED AND REASONABLENESS

Concerning the Proposed Adoption of Rules Governing Teacher Education Curriculum, Minnesota Rules, Part 8700.2810; and Teacher Education Program Evaluation, Minnesota Rules, Part 8700.7710.

The statutory authority of the Board of Teaching to adopt the proposed rules is set forth in Minnesota Statutes, Sections 125.05, subd. 1 and 125.185, subd. 4.

RULES AS PROPOSED

These rules are needed to effect the statutory authority of the Board of Teaching to establish standards to implement a research based, results-oriented curriculum that focuses on the skills teachers need in order to be effective, and to implement new systems of teacher education program evaluation to assure program effectiveness based on proficiency of graduates in demonstrating attainment of program outcomes, as authorized by Minn. Stat. Section 125.185, subd. 4.

Legislative action in Minnesota to improve teacher education was guided by reports and recommendations from state agencies, education organizations, task forces, and business and community groups prior to and during the 1987 legislative session. For example, in January 1985, the Higher Education Coordinating Board adopted a staff report on state policies for teacher education. (Minnesota Higher Education Coordinating Board, Recommendations on State Policies for Teacher Education, January 17, 1985). As a result, the Board of Teaching and Higher Education Coordinating Board recommended that a task force be convened to define a teacher education curriculum for the future, an issue not addressed in previous studies by these agencies. (Board of Teaching, Initiatives for Teacher Education, February 15, 1985).

In response to these recommendations, and in recognition of the concern for teacher education issues common to both the Board of Teaching and the Higher Education Coordinating Board, the 1985 Legislature directed the two boards to appoint a task force. (Laws of Minnesota, 1985, First Special Session, Chapter 11, Section 3, Subdivision 2). The authorizing legislation specified that the task force include representatives of the Commissioner of Education, the Board of Teaching, the Higher Education Coordinating Board, teachers, school boards, school administrators, and teacher education students and faculty. The executive director of the Higher Education Coordinating Board and the executive

secretary of the Board of Teaching named 23 members. Membership was balanced to include a broad base of stakeholders representing urban, suburban, and rural schools, beginning and experienced teachers, elementary and secondary levels of instruction, different subject areas, policy boards, administrators, teacher education students and faculty.

Legislation directed the task force to study and recommend changes in teacher education programs to meet contemporary and anticipated teaching conditions, program outcomes, outcome measures for evaluation and approval of the programs to assure graduates are capable of being effective teachers, and other measures to meet educational needs. Specifically, the two boards charged the task force to:

- identify major trends in Minnesota's economic, social, and political environment that will affect expectations for learning in elementary and secondary schools,
- identify changes in staffing patterns, school organization and instructional methods that will affect the delivery of instruction and the skill expectations of teachers in Minnesota schools,
- examine the research on effective teaching to identify the knowledge and skills that distinguish excellence in teaching,
- recommend the generic knowledge, skills, and dispositions that should be learned by students seeking to become licensed teachers in Minnesota,
- recommend outcome measures of program effectiveness that should be used by the Board of Teaching to approve institutions seeking to prepare licensed teachers in Minnesota, and
- transmit its report and recommendations to the Board of Teaching and the Higher Education Coordinating Board by October 1, 1986.

The task force prepared and submitted to the two boards a report entitled Minnesota's Vision for Teacher Education: Stronger Standards, New Partnerships. The task force designed program outcomes for beginning teachers and outcome measures for evaluating programs to assure that graduates are effective teachers.

The report, with recommendations of each board, was submitted to the education committees of the legislature on January 1, 1987. As a result of the policy developed in the task force report and the recommendations of each Board, the 1987 Legislature directed the Board of Teaching to provide the leadership and adopt rules for the redesign of teacher education programs and to implement new systems of teacher education program evaluation.

The Board of Teaching then convened an ad hoc committee on teacher education rule revision composed of 9 teacher educators and 2 classroom teachers to develop rules based on the policy adopted by the Board of Teaching and the Higher Education Coordinating Board stated in the task force report Minnesota's Vision for Teacher Education: Stronger Standards, New Partnerships. A draft of the proposed rules was disseminated to interested agencies, organizations, and individuals for comment prior to publication of notice of the Board of Teaching's intent to adopt rules without a public hearing. Upon receiving more than 25 requests for hearing, the Board withdrew the rules for additional review by the Board. On February 16, 1990, the Board of Teaching adopted an order for public hearing.

Minnesota Rules, Part 8700.2810 Teacher Education Curriculum

This rule is needed to establish the standards to implement a research based, results-oriented curriculum that focuses on the skills teachers need in order to be effective, as authorized by Minn. Stat. Section 125.185, subd. 4.

This rule provides the context for the redesign of teacher education programs in Minnesota to meet contemporary and anticipated teaching conditions. It reflects the policy of the Board of Teaching, based on Minnesota's Vision for Teacher Education: Stronger Standards, New Partnerships. Much of the statement of need and reasonableness is excerpted from this document. Additional explication and rationale regarding the components of this proposed rule are stated in the Vision document.

This rule provides a framework for the development of more integrated and coherent programs. It focuses on essential program outcomes which must be acquired and demonstrated by all beginning teachers in order to be recommended for initial licensure to teach in a variety of learning environments in Minnesota. A program delivery system is stated which assures experiential activities in clinical and field settings throughout each preparation program. These program outcomes and processes provide the basis for a common professional education component for all teacher licensure programs, regardless of subject specialty or teaching level.

The Board of Teaching has statutory authority to set licensure standards and to approve teacher education programs. (Minn. Stat. Sections 125.05, subd. 1 and 125.185, subd. 4). The Board of Teaching takes this responsibility seriously and does not propose standards in an arbitrary or capricious manner. Since the granting of licenses permits licensed personnel to practice statewide, licenses must be based on standards adopted by the state and applied statewide. Teacher education programs must

reflect the state standards. Only then do candidates for licensure have assurance that the requirements are those that have been publicly determined to be both needed and reasonable. Through the rulemaking process, the collective wisdom of teacher educators, classroom teachers, and the lay public is involved in developing public policy for teacher education. Institutions cannot independently and arbitrarily impose different standards, for in so doing, institutions, not the Board of Teaching, will have, in effect, determined the standards and will have circumvented Minn. Stat. Section 125.185, subd. 4 and Minn. Stat. Chapter 14 without addressing need and reasonableness of the standards as required by the Administrative Procedures Act.

The Minnesota Association of Colleges for Teacher Education, an organization of all Minnesota colleges and universities approved by the Board of Teaching to prepare teachers, recognizes this statutory authority. In a position paper adopted on January 25, 1990, MACTE asserts the following: "MACTE strongly endorses the role of the Board of Teaching in Minnesota as the sole regulatory agency charged with processes for licensing teachers." (MACTE, Position Statement on Alternative Teacher Licensing Procedures for Minnesota, Statements of Support, 1-25-90).

Some may contend that the proposed rule cannot be implemented because of the fiscal impact on teacher education programs. While it is true that this rule requires a redesign of programs, the Board of Teaching believes that colleges and universities have an obligation to students to remain current in the content and delivery of instruction, whatever the field of study. Students enrolled in colleges and university programs of study have a right to expect up-to-date knowledge. Mission statements of colleges and universities also reflect this commitment.

Some may contend that the proposed rule cannot be implemented because of the fiscal impact related to a formal induction period; however, the rule as proposed does not require a formal induction period. While the Board of Teaching is studying the licensure structure, no determination has been made regarding a formal induction period. The redesign of teacher education programs proposed in this rule relates to dispositions, skills, and knowledge to be acquired by all beginning teachers, whether or not a formal induction period follows this preparation. Current rules of the Board of Teaching require involvement of school personnel, a series of pre-student teaching experiences in the schools and a student teaching experience as part of teacher preparation programs; therefore, relationships with school personnel currently exist.

Subp. 1 is needed to assure that teacher education programs are designed to prepare teachers who demonstrate knowledge of effective teaching behaviors that enhance student learning. The Board of Teaching takes seriously its responsibilities for providing leadership in teacher education. Current national and state reports regarding teacher preparation all suggest that a variety

of models for the preparation of teachers be explored. Some may contend that this rule will result in a state-mandated curriculum or structure for teacher education. The Board of Teaching does not believe that such a result should or will occur but, rather, that it is reasonable to encourage a variety of curricula and structures that provide flexibility and a diversity of models for the delivery of effective teacher education based on these common outcomes and processes.

A number of different models are currently being developed by approved teacher preparation institutions in Minnesota to be proposed to the Board of Teaching for approval that incorporate the outcomes of this proposed rule. Some examples include reflective models of teaching; themes of social advocacy, life span development and experiential learning; and the differentiated roles of teachers. These models are resulting in a variety of curricula and structures for teacher education among approved teacher preparation institutions which demonstrate that a state-mandated curriculum will not result from the adoption of this proposed rule.

Subp. 2 provides the framework for the design and implementation of research based, results-oriented teacher education programs. Some may contend that terminology related to "results-oriented" should be deleted. This terminology is stated in Minnesota statutes and has been used in the proposed rule for consistency with statutory language. This term is similar to "outcome based". The State Board of Education recently adopted rules for outcome based education in grades K-12 that specify the broad learner goals and program level learner outcomes. Currently, teacher preparation programs in 5 Minnesota state universities, the University of Minnesota, and 1 private institution in Minnesota are involved with 10 school district research and development sites to implement learner outcome based education. Laws of 1989, Chapter 329, Article 7, Section 21 require these sites to "establish and maintain an affiliation with a teacher preparation institution that incorporates a learner outcome-based system of education in training beginning teachers." Therefore, it is reasonable to expect that a "results-oriented" or "outcome-based" rule for the preparation of teachers can be implemented by colleges and universities.

It is also reasonable to expect that whatever dispositions, skills, and knowledge are essential for teachers are derived from an explicit conception of effective teachers and the role of teaching. A concept of effective teaching must address the personal nature of teaching, what teachers know about themselves, their learners, and the world about them. The concept should reflect an understanding of learning which incorporates instructional skills, recognition of the concepts of human development, and social interaction. These concepts of learners and teachers have been too infrequently realized within teacher education programs. Teacher education programs seldom use an ideally defined concept of a teacher as a basis for developing coherent,

integrated curriculum and structure (Howey, K. R. 1984. "The Next Generation of Teacher Education Programs." Paper prepared for the National Commission for Excellence in Teacher Education and Howey, K. R. and Zimpher N. 1986, New Curriculum Directions in the Education of Teachers, Curriculum and Teaching). Teacher education programs need to be better integrated and more coherent. Rarely are teacher education program decisions derived from theory and research. (Ryan, K. (Ed.). 1980. Biting the Apple: Accounts of First Year Teachers: New York: Longman). Programs are characterized by their lack of conceptual and programmatic coherence (Howey, K. R., Matthes, W. A., and Zimpher, N. L. 1985. Issues and Problems in Professional Development. Prepared as a resource for North Central Regional Educational Laboratory Long Range Program Planning and Development).

It is reasonable to expect that teacher educators will incorporate research findings on effective learning and teaching into teacher education curricula. Major research findings have contributed to the general knowledge of learning and teaching over the past 25 years. In March of 1989, the American Association of Colleges for Teacher Education released its Knowledge Base for the Beginning Teacher, which is the first in a series of AACTE state-of-the-art analyses of research, theory, and practice in the various domains of teaching and teacher education. In education, as in all other professions, the knowledge base is not entirely grounded in empirical evidence, rather, it reflects the collective judgments of respected members, scholars in underlying and related disciplines, persons served by the profession, and scholars building a base for practice (Shulman, L. S. and Sykes, G. 1986. Teaching as a Profession. Paper presented for Carnegie Task Force). Currently, four colleges and universities in Minnesota approved to prepare teachers are involved in a project to transform a portion of the state-of-the-art knowledge from the Knowledge Base research handbook into curriculum for teacher education programs in Minnesota. Also, in April of 1989, the Board of Teaching sponsored a workshop during which five instructional modules on teacher effectiveness were introduced which had been commissioned by the Board of Teaching. Most recently, in February of 1990, the Association of Teacher Educators released the Handbook of Research on Teacher Education which provides a synthesis and interpretation of educational research for teachers. Future teachers must be able to use the knowledge base to become better teachers and to contribute to the continual evolution of professional knowledge in education.

The need to include a knowledge base in teacher preparation programs is stated in the preface of the AACTE handbook on the Knowledge Base for the Beginning Teacher:

"The question "What is this book about?" can be answered at several levels. As the title suggests, the book is an attempt to define the knowledge that beginning teachers should possess and that is an adequate answer. At another level,

however, the book addresses one of the major problems in teacher education: the difference between the "state of the art" and the "state of practice."

In that sense, Knowledge Base for the Beginning Teacher (KBBT) takes much of its argument from a fascinating court case from the 1930s involving the T. J. Hooper, a tugboat. The T. J. Hooper and the ship it was guiding got into trouble in the Atlantic Ocean when a sudden storm blew up. The storm damaged the ship and caused injury and property loss to its clients, who promptly sued. At that time common practice among tugs was to get weather information via hand signals from shore. Although radio had been introduced it was not in common use. The T. J. Hooper did not use radio, but if it had, the tug master would have known of the danger and been able to take its client ship to shelter, thus avoiding damage to life, limb, and property.

The case turned on the question of T. J. Hooper's responsibility: was adherence to common practice (e.g., hand signals) enough or did the situation demand "state of the art" (radio)? The courts ruled that, when important matters are at stake, the legal obligation is to use the state of the art (Gilhool, 1982, pp. 19-21).

The T. J. Hooper case has been used effectively by educational authorities to demonstrate that in the United States, where schooling of the young is involved, schools must use state of the art techniques and materials. For example, courts have held that disabled students deserve a state of the art education. Simply using current practice as norm or standard is insufficient to meet the legal obligations imposed on the education establishment.

Our own practice-intellectual heritage in teacher education has developed in two directions. On one hand, many scholars and leaders have sought to develop a rational professional community and, over time, intellectual and ethical standards have evolved to guide members' action. Too often, however, this historical collection of ideals and principles is not demonstrated in present group life. For the most part the substance and structure of teacher education have been drawn from conventional wisdom. That which was common was assumed to be sufficient. As Bok has noted, one major reason for thinking a normative approach

would suffice is that many believe that teaching does not have "a firm core of professional knowledge on which to build a stable curriculum...[such as] medicine, with its base of scientific knowledge, or law, with its analytic methods..."(Bok, 1985-86, p.6).

The basic premise of this book is that teacher education has for too long been a normative enterprise, and it is now time to become a state of the art enterprise. Furthermore, it is proposed that the efforts for improvement should be led by professional educators, not in response to the courts but on their own initiative, based on their own convictions, and using the organizational structures of their profession. Teacher education can and should become more deliberate and rational.

This book seeks to demonstrate that teaching does have a distinctive knowledge base, that the knowledge is expressed in articulated understandings, skills, and judgments which are professional in character and which distinguish more productive teachers from less productive ones. This knowledge base is not, to borrow a phrase from Shulman (1987), "pedestrian" in character. It is not known by those who are simply well-educated people, who walk into the profession off the street. This knowledge base has been generated in research, broadly defined to include studies of teaching, group processes, adult learning, and studies of historical change; and in the tested practices of leading professionals, moral propositions, legal precedents, and more. A new and higher norm is now possible for teacher education, one which reflects the best that research and experience can offer. Because the business of teaching is of utmost importance, so too is teacher education of utmost importance, and for that reason we must strive to know and use the state of the art..." (Gardner, 1989. "Preface" in Reynolds (Ed.) Knowledge Base for the Beginning Teacher).

It is also reasonable to expect that programs will include regular and systematic experiential activities identified in Subp. 2.D. that relate to the acquisition of dispositions, skills, and knowledge. Research findings indicate that regardless of the results of field experience, the cooperating teacher has the most impact on the attitudes and behaviors of student teachers (Zeichner, K. 1981. "Reflective Teaching and Field-Based Experience in Teacher Education." Interchange, 12, 1-22). The most powerful process by which individuals acquire relevant knowledge and practices is by associating with models (Schlechty,

P. C., 1985. "A Framework for Evaluating Induction into Teaching." Journal of Teacher Education, January-February, 37-41). A major constraint in teacher preparation has been the lack of involvement by effective practicing teachers in substantive ways throughout the course of study in teacher education (Howey, K. R. 1984. "The Next Generation of Teacher Education Programs." Paper prepared for the National Commission for Excellence in Teacher Education; Howey K. R., Matthes, W. A., and Zimpher, N. L. 1985. Issues and Problems in Professional Development. Prepared as a resource for North Central Regional Educational Laboratory Long Range Program Planning and Development; Jones, D. W. 1986, "Successful Teacher Education Programs Depend Upon Cooperative Relationship Between Private/Public Schools and Colleges and Universities." Paper commissioned by the Coalition of Teacher Education Programs. University of Indiana). There has tended to be limited commitment to cooperative ventures, resulting in inadequate field experiences for teacher education students and little or no mutual exchange between teachers and teacher educators that would benefit instruction and research efforts. (Jones, A. H. and Barnes, C. P. 1984. "The California Consortium: A Case Study on Seeking Change in Teacher Education." Journal of Teacher Education, 36 (6), 5-10; Coker, H. 1985, Consortium for the Improvement of Teacher Education." Journal of Teacher Education, 36(2), 12-17; Jones, D. W. 1986. "Successful Teacher Education Programs Depend Upon Cooperative Relationship Between Private/Public Schools and Colleges and Universities." Paper commissioned by the Coalition of Teacher Education Programs. University of Indiana). Recent reports on teacher education suggest that professional laboratory experiences will be expected to play an increasingly significant role in teacher preparation. The design and implementation of an integrated model for field experience depends on expanding university involvement with teachers and administrators (Emans, R. 1983. "Implementing the Knowledge Base: Redesigning the Function of Cooperating Teachers and College Supervisors." Journal of Teacher Education, 34(3), 14-18). This requires bringing teacher education faculty and school personnel together to develop, implement, and sustain positive cooperative relationships in matters affecting contemporary teacher education (Jones, D. W. 1986. "Successful Teacher Education Programs Depend Upon Cooperative Relationship Between Private/Public Schools and Colleges and Universities." Paper commissioned by the Coalition of Teacher Education Programs. University of Indiana; Holmes Report, 1986. Tomorrow's Teachers: A Report of the Holmes Group). Therefore, it is reasonable to expect that future field experiences for teacher education students and beginning teachers will be designed to foster reflective criticism within students toward the nature of instruction, curriculum, and the purposes of education. Because this critical aspect of teacher preparation involves schools as well as teacher education institutions, there must be attention to restructuring and redesigning the collaborative relationship to provide more adequate field experiences. (Howey, K. R., Matthes, W. A., and Zimpher, N. L. 1985. Issues and Problems in Professional Development. Prepared as a resource

for North Central Regional Educational Laboratory Long Range Program Planning and Development). The curriculum of teacher education must provide for teacher education candidates to study learning and learning environments and to safely practice their developing skills. Providing field experiences at many levels for many persons in a single site will enrich the staffing for that site, to the benefit of pupils, staff of the site, teacher education students, and college-based faculty.

Subp. 3 defines the teacher education program outcomes. Currently, no comprehensive statement of program outcomes is used by teacher education institutions in Minnesota. The program outcomes stated in this proposed rule are based on the research on effectiveness in learning and teaching and are a product of a coherent and expanded concept of what teaching should be in the future. The program outcomes provide a framework for rethinking and redesigning teacher education programs in Minnesota.

It is reasonable to expect that the goals of teacher education programs are not limited to the acquisition of specific skills and knowledge, but include the promotion of certain professional dispositions, identified in Subp. 3.A. as well. Dispositions are seen through the patterns of actions in particular teaching contexts. They are defined as summaries of act frequencies or trends in behavior. They are habits of mind that are manifested by skillful behavior (Katz, L. G., Raths, J. D. 1985.

"Dispositions as Goals for Teacher Education." Teaching and Teacher Education, Vol. 1., No. 4, pp. 301-207). Effective teachers are intentionally disposed to act in particular ways that best facilitate learning and can explain their patterns of behavior (Green, T. F. 1964. "Teaching, Acting and Behaving." Harvard Education Review, 34 (4), 507-509). The frequency of particular actions within specified categories or circumstances determines that particular disposition (Katz, L. G. and Raths, J. D. 1985. "Dispositions as Goals for Teacher Education." Teaching and Teacher Education. Vol. 1, No. 4, pp. 301-307).

It is reasonable to expect that teacher education programs will be developed that integrate knowledge and understanding of handicapping conditions, multicultural education, and gender fairness throughout the curriculum. By June 1, 1990, all Minnesota school districts must develop a plan to assure multicultural and gender fair curriculum. By including these concepts in teacher education programs as well, beginning teachers will have gained multicultural, gender fair, inclusive perspectives in the delivery of curriculum that can be incorporated in their teaching.

The skills enumerated in Subp. 3.B. are essential to effective teaching. Effective teaching is more than the transmission of basic skills; it is the ability to release people to learn how to learn (Green, M. 1983. "Student Teaching as Human Project." In Student Teaching: Problems and Promising Practices. Eds. G. A. Griffin and S. Edwards. Austin, Texas: University of Texas at Austin, Research and Development Center for Teacher Education).

Teachers make multiple and continuous decisions in guiding effective, formal learning. Therefore, future teachers must acquire complex and elaborate teaching strategies. Teachers must have the skills to create environments that provoke students to ask questions and seek answers on their own. The identified skills in Subp. 3.B. are essential to effective teaching, and therefore, it is reasonable to expect that future teachers will possess these skills.

It is both necessary and reasonable to expect that beginning teachers possess and can demonstrate the intellectual skills enumerated in Subp. 3.B. (1), since teachers serve as models to students.

Successful learning depends upon teachers' knowledge of the students. Teachers must be able to analyze and interpret information about learning characteristics, attitudes, and backgrounds of each of their students. Therefore, it is both necessary and reasonable to expect that beginning teachers possess and can demonstrate the assessment skills enumerated in Subp. 3.B.(2).

A significant part of effective teaching consists of making judgments and decisions about what students have learned, should learn, and are learning (Clark, C.M. 1983. "Research on Teacher Planning: An Inventory of the Knowledge Base." In Essential Knowledge for Beginning Educators. Ed. D. Smith. Washington, D. C.: AACTE, ERIC Clearinghouse on Teacher Education). Teacher planning contributes to the content and quality of instruction (Smith E. L. and Sendelbach N. B. 1979. "Teacher Intentions for Science Instructions and Their Antecedents in Program Materials." Paper presented at the Annual Meeting of the American Educational Research Association, April 8-12, 1979, San Francisco; Clark, C. M. and Elmore, J. L. 1981 "Teacher Planning in the First Weeks of School." Research Series No. 56. East Lansing, Michigan: Michigan State University Institute for Research on Training). Additionally, planning influences the opportunity to learn, the instructional grouping, and overall focus of the learning environment processes (Clark, C.M. 1983. "Research on Teacher Planning: An Inventory of the Knowledge Base." In Essential Knowledge for Beginning Educators. Ed. D. Smith. Washington, D. C.: AACTE, ERIC Clearinghouse on Teacher Education). Planning shapes the broad outline of what is possible and is used to manage transitions by integrating information from one activity to another. Therefore, it is both necessary and reasonable to expect that beginning teachers possess and can demonstrate the planning skills enumerated in Subp. 3.B.(3).

Instruction involves the application of intentional acts aimed at promoting the learning of skills, knowledge and values (Hyman, R. T. 1974. Ways of Teaching. New York: J. B. Lippencott & Co.).

Achieving that goal requires balancing learning objectives, student characteristics, teaching strategies, and curriculum objectives. The teacher is responsible for blending these aspects of

teaching through careful judgment and decision making (Clark, C. M. and Joyce, B. R. 1981. "Teacher Decisionmaking and Teaching Effectiveness." In Flexibility for Teaching. Eds. B. R. Joyce, Brown, and L. Peck. New York: Longman). The decisions teachers make affect their behavior and the behavior of their students in both the long and short term. Instructional skills allow teachers to make effective decisions. Therefore, it is both necessary and reasonable to expect that beginning teachers possess and can demonstrate the instructional skills enumerated in Subp. 3.B.(4).

Environments that are conducive to productive learning and promote active learner participation not only require the instructional skills identified in Subp. 3.B.(4), but also require skills to manage the social behavior of the learners. Results of the best ecological studies provide excellent guidelines for classroom management and organization. Well documented correlates of effective teaching are a teacher's ability to effectively organize classrooms, foster a desirable socio-emotional climate, monitor student behavior and respond effectively to non- or counter-productive behaviors. Therefore, it is both necessary and reasonable to expect that beginning teachers possess and can demonstrate the classroom management skills enumerated in Subp. 3.B.(5).

Teachers and learning are reciprocal by nature; teaching influences learning and learning affects teaching. Therefore, evaluation must account for this interaction. It is both necessary and reasonable to expect that beginning teachers possess and can demonstrate the evaluation skills enumerated in Subp. 3.B.(6).

Education should not only respond to the changing needs of society but should also anticipate new structures in education. Future changes in staffing patterns, school organizations, and instructional methods will affect the roles of teachers and the skills needed. Teachers must be prepared to function in a variety of settings, adapt to change, and use their skills flexibly. They must be actively involved in the development of educational policy. Therefore, it is both necessary and reasonable to expect that beginning teachers possess and can demonstrate the change agent skills enumerated in Subp. 3.B. (7).

Subp. 3.C. specifies the knowledge necessary for effective teaching. It is reasonable to expect that future teachers will acquire this knowledge. Teaching has been described as "...an art informed by science." (Gage, N. 1985. "Hard Gains in the Soft Sciences: The Case for Pedagogy." Phi Delta Kappan). Thus, the education of teachers must reflect the combination of liberal education and the science of learning and teaching. Liberal arts education is concerned with comprehensive development of the mind in acquiring knowledge. The aim is to achieve knowledge and understanding of experience in many different ways. Prospective teachers must acquire not only information, but also knowledge of

complex conceptual schemes, of the arts, and of different types of reasoning and judgment (Hist, P. H. 1982. "Liberal Education and the Nature of Knowledge." in R. F. Dearden, P. H. Hist and R. S. Peters (eds.), Education and the Development of Reason. London, England. Roulledge and Kegan Paul). Liberal arts studies introduce the relationships among basic bodies of knowledge and the range of knowledge as a whole. Education in the core liberal arts disciplines is essential not only to effective teaching, but to more authentic professional status as well. The arts and other core disciplines must become more central to teacher education, more integrated with professional studies (Kneller, G. F. 1984. "The Proper Study of Education." In J. Denton, W. Peters, and T. Savage (Eds.), New Directions in Teacher Education: Foundations, Curriculum, Policy, pp. 13-24. College Station, Texas: Instructional Research Laboratory).

Future teachers must possess knowledge about people and cultures enumerated in Subp. 3.C. (1) and (2) in order to teach effectively. They must understand how knowledge changes and evolves over time (Subp. 3.C.(3)). They must possess knowledge that will apply in future learning and teaching environments; therefore, knowledge in a specific discipline in Subp. 3.C.(4) is necessary. Future teachers must learn how the acquisition of knowledge in Subp. 3.C. (5) relates to development of an individual's learning, thinking, feeling, and believing. They must learn to translate theory into practical learning application and to translate practice into theory. Future teachers must possess the knowledge enumerated in Subp. 3.C.(6) which provides them with the basis for making decisions about their students' communication and language. Subp. 3.C. (7) requires future teachers to learn methods of scientific inquiry that will provide them with a variety of problem solving strategies for addressing the difficulties and complexities of students' learning. They must learn to understand and value critical thinking and self-directed learning as intellectual habits of mind. They must learn scientific methodology and use it systematically to identify problems and create effective learning environments. Future teachers must be informed by the literature on learning and teaching (Subp. 3.C. (8) in order to implement effective teaching practices. Future teachers must also acquire knowledge of the change process enumerated in Subp. 3.C (9) as a foundation for the skills identified in Subp. 3.B. (7).

Some may contend that this emphasis on knowledge for beginning teachers will require curricular and faculty changes which may not relate to individual institutional mission and goals. However, the Board of Teaching currently requires that all persons preparing to be teachers in colleges and universities in Minnesota approved to prepare teachers complete a liberal arts or general education component equivalent to that of all persons receiving degrees, regardless of their majors. The proposed rule does not require an additional liberal arts core. The Board of Teaching believes that this requirement is necessary and reasonable to provide beginning teachers with the foundation

needed that allows them to know more as teachers and requires them to think broadly and reflectively about their teaching methods, and that this requirement can be met by institutions.

It is reasonable to expect that, upon completion of teacher education programs, beginning teachers will have attained the dispositions, skills, and knowledge sufficiently well to teach effectively in a variety of learning environments. Some may contend that they will not be able to assure that beginning teachers possess and can demonstrate the dispositions, skills, and knowledge enumerated in Subp. 3. However, current rules of the Board of Teaching require colleges and universities to recommend candidates for licensure. In so doing, colleges and universities must certify that applicants have completed an approved teacher education program and are prepared to teach in the fields and grade levels for which they are recommended for licensure. Minnesota Rules, Part 8700.7700, subp. 2.G. relating to teacher licensure program approval require colleges and universities to provide "a specific identification of the plans for assessing the performance of each person who is to be judged as having successfully completed the teacher licensure program." Therefore, this assurance is required under current licensure criteria and procedures.

Subp. 4 is needed to provide a reasonable period of time for institutions to redesign their teacher education programs to meet the requirements of this part. It also provides a reasonable period of time for comment to the Board of Teaching regarding implementation and possible revision.

Minnesota Rules, Part 8700.7710 Teacher Education Program Evaluation

The Board of Teaching has statutory authority to approve teacher education programs. (Minn. Stat. Section 125.185, subd. 4).

This rule is needed to establish the standards to implement new systems of teacher education program evaluation to assure program effectiveness based on proficiency of graduates in demonstrating attainment of program outcomes, as authorized by Minn. Stat. Section 125.185, subd. 4.

Future social, economic, and political trends demand reconsideration of education at all levels. Teacher education programs must produce highly educated, reflective teachers who can teach well in diverse and flexible learning environments. Schools must redesign structures and procedures to personalize learning through active student participation.

Future teacher preparation programs must demonstrate integrated, complementary, and cooperative relationships between liberal arts and education faculty, and between college-based and school-based faculty. Teachers must be educated in programs where they learn a wide range of knowledge and theory and are encouraged to explore new ideas. These programs must nurture and support divergent and innovative thinking. They must emphasize the need for asking many questions and seeking many answers in the practice of teaching. They must help future teachers develop a repertoire of teaching and learning strategies to apply in a variety of learning environments.

Subp. 1 is needed to set forth the criteria by which teacher education programs will be approved. The effectiveness of teacher education programs can be evaluated by 1) how well students acquire and demonstrate dispositions, skills, and knowledge, which is outcome data; 2) methods and procedures of program delivery, which is process data; and 3) resources available and used by the program, which is input data.

Historically, teacher education has been described and evaluated by resource criteria or input data such as the number of courses in pedagogy or philosophy of education, and the number of faculty and their degrees. Describing or measuring program resources provides no information about the results or consequences of the program for students, nor does it describe how the program is implemented. Defining, describing, and evaluating the results, or outcomes, of a program make it possible to judge whether the program produces teachers who effectively facilitate learning for students. Defining, describing, and evaluating the methods and procedures used also make judgments possible about the process of delivering teacher education. Current evidence suggests that teacher education should be characterized by program outcomes and process as well as input (Taylor, J. A. 1979. "A Better Way: Quality Assurance for Professional School Personnel." Unpublished paper).

Current Board of Teaching procedures for program evaluation focus primarily on input data. These procedures provide little or no information about the process of how programs deliver teacher education and the competence of candidates recommended for licensure.

Subp. 1. A.-L. sets forth new program evaluation standards which measure teacher education program outcomes, processes and inputs for granting program approval. It is reasonable to expect that standards will require that programs be designed and implemented to ensure that teacher education students acquire and can demonstrate dispositions, skills, and knowledge necessary for effective teaching that enhance student learning based on attainment of program outcomes.

Subp. 1. A. assures that program outcomes will be consistent with dispositions, skills, and knowledge. Teacher education programs need to be better integrated and more coherent. Programs are characterized by their lack of conceptual and programmatic coherence (Howey, K. R., Matthes, W. A., and Zimpher, N. L. 1985. Issues and Problems in Professional Development. Prepared as a resource for North Central Regional Educational Laboratory Long Range Program Planning and Development).

Subp. 1.B. assures that programs will be based on research, theory, and accepted practice. Major research findings have contributed to the general knowledge of learning and teaching over the past 25 years and need to be incorporated into teacher education curriculum. Yet, rarely are teacher education programs derived from theory and research: the program context is a camel, the product of a committee instead of a cohesive and coherent program (Ryan, K. (Ed.). 1980. Biting the Apple: Accounts of First Year Teacher. New York: Longman).

Subps. 1.C., D., and E. assure that programs will be grounded in the liberal arts. Liberal arts studies introduce the relationships among basic bodies of knowledge and the range of knowledge as a whole. The arts and other core disciplines must become more central to teacher education, more integrated with professional studies (Kneller, G. F. 1984. "The Proper Study of Education." In J. Denton, W. Peters, and T. Savage (Eds.), New Directions in Teacher Education: Foundations, Curriculum, Policy pp. 13-24. College Station, Texas: Instructional Research Laboratory).

Subp. 1.F. assures that programs will include a broad range of clinical and field experiences. One component of teacher education that traditionally has been considered valuable is field-based experience. (Goodman, J. 1985. "What Students Learn from Early Field Experiences: A Case Study and Critical Analysis." Journal of Teacher Education, December-January; Conant, J. 1983. The Education of American Teachers. New York: McGraw-Hill; Joyce, B., Yarger, S., Howey, K., Harbeck, K., and Kleiwin, T. 1977. Pre-Service Teacher Education. Palo Alto, California: Center for Educational Research, Stanford University).

Subp. 1.G. assures that programs will be developed and implemented through formal partnerships. A major constraint in teacher preparation is the lack of involvement by effective practicing teachers in substantive ways throughout the course of study in teacher education (Howey, K. R. 1984. "The Next Generation of Teacher Education Programs." Paper prepared for the National Commission for Excellence in Teacher Education; Howey, K. R., Matthes, W. A., and Zimpher, N. L. 1985. Issues and Problems in Professional Development. Prepared as a resource for North Central Regional Educational Laboratory Long Range Planning and Development; Jones, D. W. 1986. "Successful Teacher Education Programs Depend Upon Cooperative Relationship Between Private/Public Schools and Colleges and Universities." Paper commissioned by the Coalition of Teacher Education Programs.

University of Indiana). States that have begun to use cooperative partnerships for the delivery of teacher education report productive and positive experience for teacher education students (Jones, D. W. 1986. "Successful Teacher Education Programs Depend Upon Cooperative Relationship Between Private/Public Schools and Colleges and Universities." Paper commissioned by the Coalition of Teacher Education Programs. University of Indiana). This requires bringing teacher education faculty and school personnel together to develop, implement, and sustain positive cooperative relationships in matters affecting contemporary teacher education (Jones, 1986; Holmes Report, 1986, Tomorrow's Teachers: A Report of the Holmes Group).

Subps. 1.H. and I. assure that teacher education students will be evaluated throughout and upon completion of their preparation program. It is reasonable for teacher education students to receive regular and systematic evaluation which provides them with appropriate feedback regarding progress toward achievement of outcomes. Final overall assessment of ability to demonstrate outcomes provides a basis for licensure recommendation.

Subp. 1.J. assures that those involved in the education of future teachers demonstrate effective teaching. Educators within colleges and schools have used limited interactive instructional strategies. (Cross, K. P. and Beidler, P. 1986. "Taking Teaching Seriously." Paper presented at the American Association for Higher Education National Conference. Washington, D. C. March 12-15, 1986). For the most part, college and classroom learning behavior exemplifies that passive learner phenomenon (Katz, L. and Raths, J. D. 1982. "The Best Intention for Education of Teachers." Action in Teacher Education, 4(1), 8-16). If future teachers are to possess and demonstrate a variety of instructional strategies, it is reasonable to expect that faculty who provide instruction will be effective role models.

Subp. 1. K. assures that program evaluation will be used to improve the teacher education curriculum. Only then will the program be responsive to changes necessary to deliver relevant, quality teacher education.

Subp. 1. L. assures that teacher education faculty and cooperating school personnel will be involved in implementation and evaluation of a formal induction period, if required by the Board of Teaching in the future. The Board of Teaching continues to study the feasibility of requiring a formal induction period; however, no determination has been made at this time.

Subp. 2 provides a reasonable period of time for institutions to demonstrate progress toward compliance with this part. It also provides a reasonable period of time for comment to the Board of Teaching regarding implementation and possible revision.

FISCAL STATEMENTS

The Board of Teaching estimates that the proposed rules will not require an expenditure of public monies by all local bodies of an amount which exceeds \$100,000 in either of the two years immediately following adoption of the proposed rules.

SMALL BUSINESS

These proposed rules will not directly affect small business within the meaning of Minn. Stat. Section 14.115.