DRAFT FOR EXTERNAL REVIEW
Del Schalock

PROSPECTUS*

Connecting Teaching, Teacher Preparation And Student Learning: Education's Equivalent In Theory Development And Research To Biology's Genome Agenda

Contents

Page

*** This document is still in preparation. Please do not distribute nor cite until preparation is final.**

Western Oregon University Theory Initiative
Connecting Teaching, Teacher Preparation, and K-12 Student Learning

Background

Twenty years ago the quality of education in the United States, particularly in the upper grades, had fallen to such low regard that a National Commission on Excellence in Education declared the nation to be at risk.[1] Dropout rates were high; SAT scores were falling; and test score comparisons with other developed nations frequently found US students at the bottom.[2]

Fueling the concern created by this picture of mediocrity getting worse was its occurrence following two decades of unprecedented investment in education by both federal and state governments, a major downturn in the national economy, and a growing challenge from other nations to the scientific and technological supremacy held by the United States since World War II. From the 1950's through the 1970's spending on schools and colleges had increased from $11 billion to $200 billion per year, and education's percentage share of the gross national product increased from 3.4 to 6.8 percent.[3]

In the 20 years following release of the *Nation At Risk* report efforts to improve the nation's schools have proceeded at a pace and level of intensity never before experienced in the history of American education. Wave after wave of blueprints for change flowed from Congress, federal and state offices, and independent study groups to state and local education agencies. Change (restructuring, choice, vouchers, takeovers, new accountabilities, new standards for learning and school personnel, charter schools) was the order of the day.

Amidst all this, as the fundamental work of schools, teaching and learning continued with as much stability and purpose as teachers and school administrators could provide.

Although the quality of educational performance showed improvement during these years of turmoil, levels of achievement were still sufficiently different among various groups of students, and sufficiently disappointing overall, that by the turn of the century a dramatically different approach to schooling than practiced during most of the twentieth century was placed into law. This was formalized with passage of the No Child Left Behind Act of 2001.[4]

This new approach to schooling did not appear ready-made, nor as a plan quickly assembled to meet the problems within an educational system that had defied resolution for nearly half a century. Educational innovation and research had

progressed steadily through the 1960's and 1970's. These were accelerated in response to the At Risk report, and took on new forms in the 1980's and 1990's. This was the case for both the organization and operation of schools, and the preparation of school personnel.

By the time Congress began work on what evolved into the No Child Left Behind legislation, prototypes of the approach to schooling called for in the legislation had already been tested and were being implemented in several states.[5] Agreement around the approach to schooling, however, was much clearer than the approach to the enhancement of school personnel that accompanied the legislation.

At the time the legislation was being written everyone agreed that "highly qualified" teachers would be needed to implement the model of schooling that was taking shape, particularly if *all* students were to achieve the high standards for learning it called for. Sharp divisions existed, however, as to what a highly qualified teacher meant, and what kind (and how much) preparation such qualifications required.[6] A brief sketch of school improvement efforts pursued from the 1960's through the 1990's that led to the model of schooling adopted in the No Child Left Behind Act of 2001 is provided in an attachment to the accompanying INVITATION to join us in this theory development effort. A parallel sketch of teacher enhancement efforts during these years that led to the prominent, though less definitive role, of highly qualified teachers in the Act is provided in a second attachment to the invitation.

Problem Addressed

The nature of and connections between teacher work and student work within the context of this new standards-based, accountability driven approach to schooling are vastly different than they were in the norm-referenced, textbook-based, sorting-and-grading approach to schooling that most of today's practicing educators and teacher educators encountered in their school experience. It follows that the preparation of teachers to work in such schools will also need to differ from what it has been in the past.

Identifying and delineating connections that need to be drawn between teaching, teacher preparation and K-12 learning within the context of today's standards-based, accountability driven schools is the central problem we intend to address. For maximum impact on practice as well as research, we propose to pursue this task through the lens of theory building. Simultaneously, however, we will assemble theory related measures and test theory related propositions through a network of teacher preparation institutions working cooperatively to shape and test the theoretical work in progress.

The demands of NCLB, NCATE 2000 standards for the accreditation of teacher preparation programs, and the requirements of many state teacher licensing policies have been crafted on the assumption that such connections do (or should, and will) exist. The work undertaken through this initiative is aimed at making these connections explicit, and providing the wherewithal needed to translate them into both research and practice. It is in this respect that the task resembles the genome agenda within the biological sciences.

What We Propose To Do

Our aim is to bring as much order and understanding as current knowledge permits to the complex set of connections we aim to pursue. Our desire to do so stems from the view that many of the pressures confronting teacher education and the nation's schools, especially the enhancement of learning, can be resolved productively only if we have more useful knowledge around these connections than currently exists. Bringing order and understanding to these three interdependent dimensions of the effective schools puzzle would represent a significant step forward in this regard.

As Floden puts it in his recent chapter on research on the effects of teaching, "The connections between teaching and learning would be easier to demonstrate if an empirically supported theory of teaching, connected to learning, were in hand…… A theory of teaching is a worthy goal…" (p 14).[7] So too, we would add, *is a theory of teacher development and licensing that connects teaching and learning within the context of a standards-orientation to schooling.*

Importance of the Work Proposed

After more than 30 years of work in effective schools research it is now clear that an effective school, as defined by the learning progress of its students, depends ultimately on the effectiveness of its teachers.[8] Academic learning occurs primarily in classrooms, and teachers manage classrooms. Without teachers who are able to help each of their students reach the high standards for learning now expected of *all* students, a school will never be successful in meeting these expectations.

This is not to say that other aspects of schooling are unimportant in helping students progress in their learning. Well crafted curricula, adequate resources, and needed time for learning, all aligned with the outcomes (standards) desired for learning, also are essential for student success in today's schools. So are assessment systems that inform and support the work of both teachers and students, and schools that are structured and managed as contexts for high performance learning.

All such elements that support the work of students and teachers in a standards-based school are necessary for students to succeed within such schools, but they are not sufficient. Effective teachers make them so, for it is only through the sensitive and accomplished adaptations of content, method, time and assistance by teachers to accommodate the immediate learning needs of each student in each of their classrooms that students can be successful learners in a standards-based school.

The standards set for learning in today's schools define the successive bars to be reached by students as they progress in their learning, and standards-linked assessments indicate where students stand at a particular point in time with respect to a particular bar, *but it is each student that needs to reach each bar* and the main job of teachers is to help each student in each classroom make steady progress toward each bar that lies immediately ahead.

Compared to schooling in the 20th century this is a new world for everyone involved. For schools (and students, and teachers) to be successful within this world the connections between teaching, teacher preparation, and the kind and level of learning expected of K-12 students need to be fully understood by all who are engaged in the teaching/learning process. The business of schooling, and particularly the business of teaching and learning in schools, cannot be the same as we enter the 21st century as it was in the 20th century. Nor can the business of teacher preparation and licensure, nor the business of teacher support and continued professional development. It is toward the changes needed to accommodate the demands that now exist on all these fronts that the work we propose is directed.

Magnitude of the Work Proposed

The magnitude of the task to be undertaken is as large as it is important. Connecting teaching, teacher preparation and K-12 learning in a standards-based school environment involves a long chain of conceptual and procedural connections, and these simply are not to be found in existing literature. Pods of related knowledge and fragments of related theory exist around these connections, but the task of integrating and extending these bits and pieces into a meaningful whole is large in scope, complex in design, and demanding of conceptual and methodological connections across numerous disciplines.

The task is made harder, and probably larger, by the fact that the differences in approach to schooling in the century past and the century ahead are sufficiently great as to call into question the utility of the knowledge and theory generated around teaching and learning in 20th century schools for thinking about teaching and learning in the schools of today. In many respects the model of schooling on which most of our current knowledge and theory about teaching and learning rests is antithetical to the model of schooling enshrined in the No Child Left Behind legislation, and its generalizability to the new model will need to be treated as suspect until similarities and differences

between the old and new are more fully understood. This is not to say that existing knowledge and theory are irrelevant to the task at hand, but it is to say that it cannot be accepted uncritically nor expected to remain unmodified. As limited and misleading as our existing knowledge and theory base might be, however, it is necessarily the place where the work we propose must begin.

Strategy To Be Followed

The strategy we have chosen to follow in pursuing our aim *is engaging in the process of theory building as this occurs within a maturing science*. A remarkable book just published on theory building in the social sciences (Shoemaker, Tankard and Lasorsa, 2004) [9], will be used as a guide to our efforts.

The word *theory* comes from the Greek *theoria* which means "a looking at". According to Shoemaker and her colleagues theory building within a maturing science involves carefully prescribed ways, and a carefully prescribed sequence of "looking at" the field(s) one wishes to theorize about. In combination these are designed to lead to a set of statements (a theory) that lays out "… one's understanding of how something works" (pg 5).

Shoemaker et al describe six steps that need to be followed in the theory building process. We plan to follow these steps, but before engaging in them we think it essential to clarify the shifts in schooling that underlie the theory building effort. We think of these as *ground-laying tasks* that clarify the paradigms governing a standards orientation to schooling, with particular attention given to the work of students and teachers within such schools.

Ground-Laying Tasks

At present we see four interdependent lines of paradigm clarifying as a basis for understanding the demands of a standards orientation to schooling on K-12 students, teachers, and teacher educators:

1. The essential features of a standards-based, accountability driven approach to schooling in contrast to the norm referenced, textbook-based, sorting-and-grading approach to schooling that dominated the 20th century;
2. The work of students within such schools;
3. The work of teachers within such schools;
4. The array of meaningful and defensible indicators of a teacher's impact on student learning within such schools, and accompanying measures thereof.

In essence these paradigm shifts represent a new knowledge base for teachers, teacher educators, school administrators, and education policy makers. They need to be understood as fully as possible for related theory building to proceed on sound footing.[10]

Sequencing Theory Building Tasks

Once the paradigm shifts that have occurred within and among these dimensions of schooling within the past decade have been described, and tentatively agreed to, the steps traditionally pursued in theory building will be undertaken. According to Shoemaker and her colleagues these consist of

1. Concept mapping;
2. Defining conceptually (in sentences), and grounding theoretically (through currently available theory), all concepts included in a map;
3. Defining operationally (through measures or measurement methodologies), and grounding empirically (through currently available research), all concepts defined conceptually in a map;
4. Developing propositions (hypotheses), path diagrams and related conceptual models to articulate theoretically expected linkages among variables within and across concept maps that can be defined both conceptually and operationally;
5. Conducting research that tests hypotheses developed in Step 4; and
6. Reflecting upon, refining and extending all the above on the basis of findings and experience gained through Step 5.

To acknowledge the dependence of theory development in teacher preparation and licensure on the nature of teaching and learning in the schools, we will attend first to theory building tasks *at the level of schooling*. As progress is made on Steps 1 through 4 in theory development around standards-based teaching and learning, we will then move to theory building around the preparation and licensing of teachers to work within standards-based schools. How we anticipate this sequencing to lay out in time and practice is discussed later in the proposed plan of work.

School Level Theory Building, Steps 1 through 4

STEP I: CONCEPT MAPPING. This involves identifying, sorting, relating, and organizing concepts (constructs) within the various literatures pertaining to teaching and the academic learning of students in Kindergarten through grade 12 *as they pertain within the new paradigms underlying today's schools*. As a point of departure in this process we plan to organize existing concepts around six (6) broad domains:

a) *Learning* in a standards-based classroom;

b) *Teaching* in a standards-based classroom;

c) *Factors within home and family environments* that influence classroom teaching and learning;

d) *Factors within classrooms and schools* that influence classroom teaching and learning;

e) *Factors within school districts and communities* that influence classroom teaching and learning; and

f) *Factors at the state and national level that influence* classroom teaching and learning.

This proposed organization to SCHOOL LEVEL conceptual work is illustrated schematically in Figure 1.

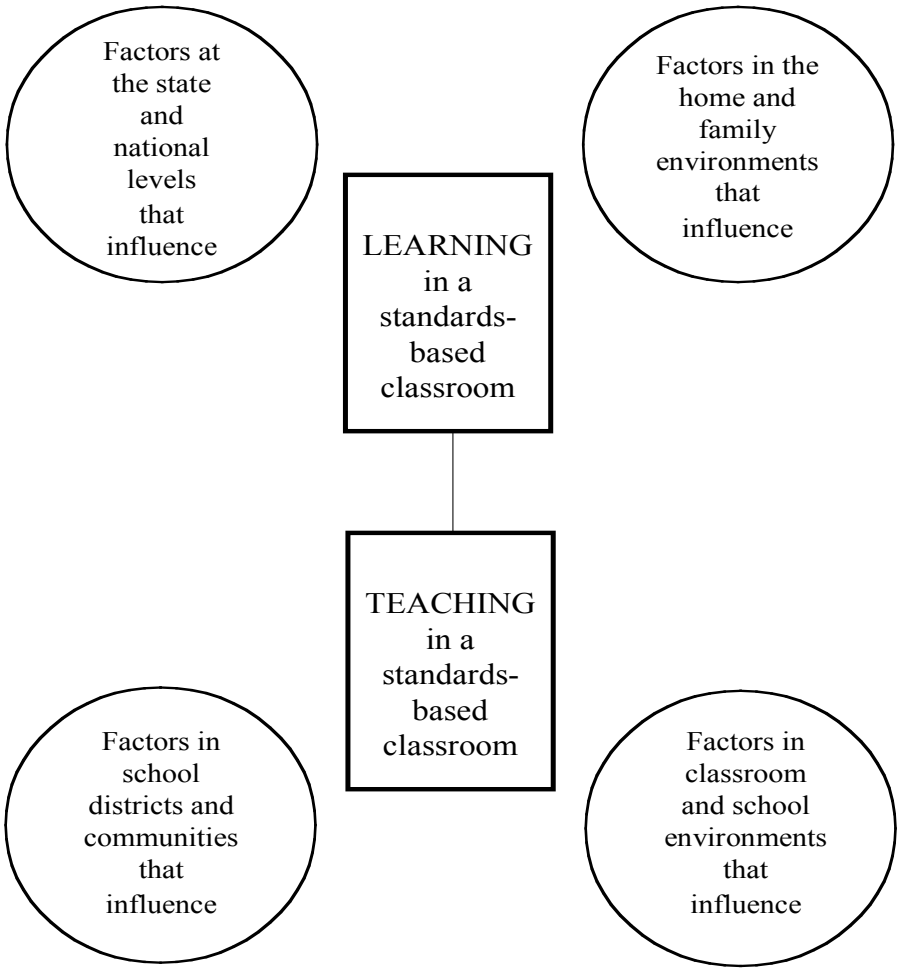
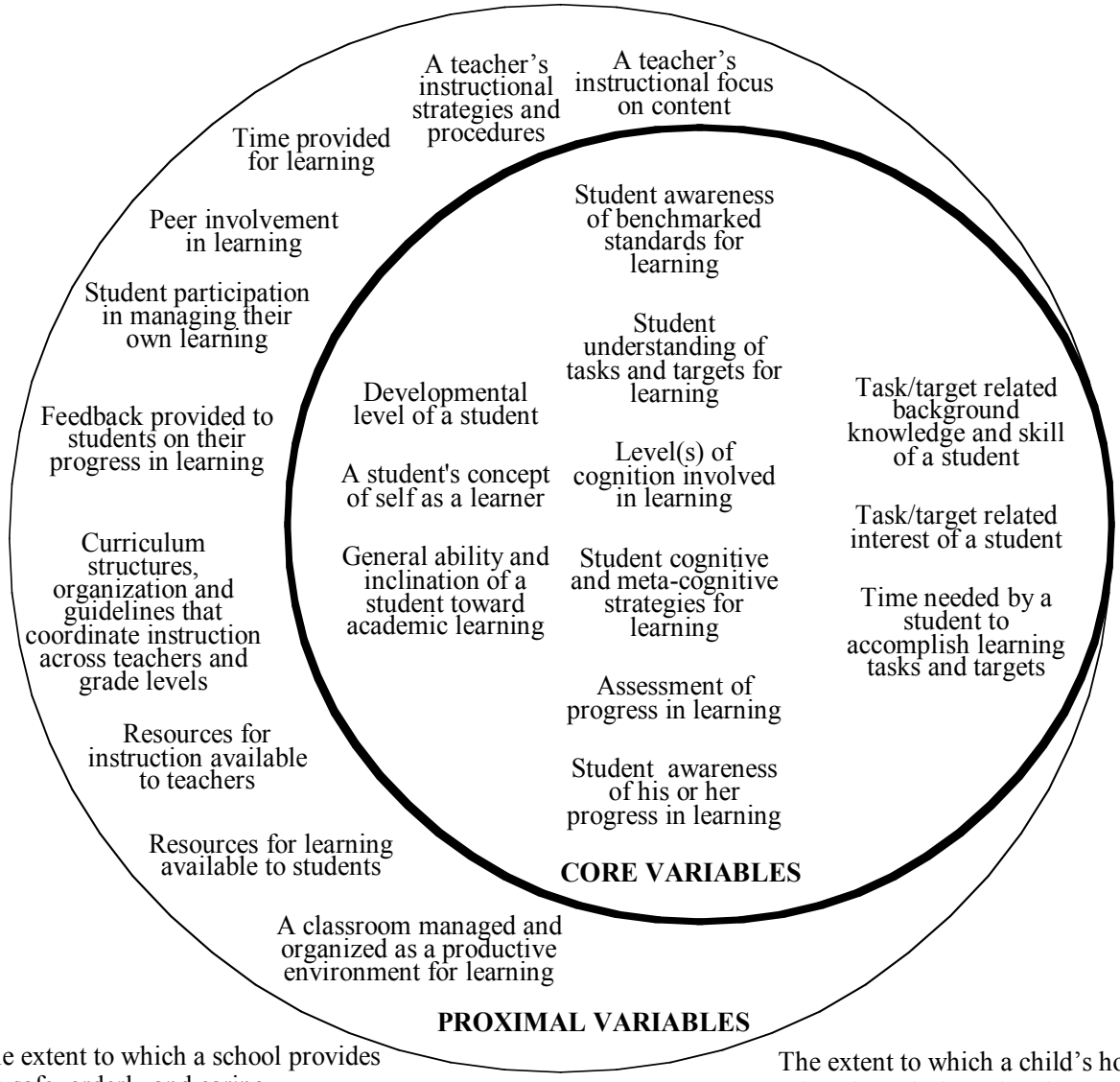


Figure 1. Domains to be addressed in theory development at the level of SCHOOLING. Theory develometn will involve identifying and conneting variables *within* each domain and across domains.

Within each of the domains shown in Figure 1 concepts will be classified as *core, proximal, contextual* or *peripheral*.[11] Given these distinctions an illustration of the form a concept map might take is provided as Exhibit A on the next page.

Exhibit A. An Illustrative Concept Map

Learning in a Standards-Based, Accountability Driven School Environment



The extent to which a school provides
- a safe, orderly and caring environment for learning
- a culture stressing and supporting academic learning
- resources for students to draw upon in their learning

CONTEXTUAL VARIABLES

The extent to which a child's home
- is safe, orderly and caring
- stresses and supports academic learning
- provides resources for academic learning

PERIPHERAL VARIABLES

- State policy and resources supportive of all the above
- The culture, organization and resources of a school district supportive of all the above
- The culture and organization of a community as a sponsor of academic learning

STEP II: FROM CONCEPTS TO DEFINITIONS. As concept maps take shape the process of firming definitions of key concepts within each map, within the context of a standards-based school environment, needs to begin. According to Shoemaker et al this process involves

a) identifying the concepts (constructs) that represent continuous variables, or those that can be transformed into dimensions (categorical variables converted to continua);
b) defining these variables both conceptually (in sentences) and operationally (how they can be measured); and
c) articulating the linkages expected among these variables using visual as well as other forms of symbolic or mathematical models, and the rationale for these linkages.

The successful completion of these tasks within a particular domain lays the foundations needed for the methodological and empirical work that is to follow in investigating the connections across and among domains.

STEP III: FROM DEFINITIONS TO MEASURES. Before empirical work can begin, and theoretical work tested, defensible (reliable, valid) measures for the variables of interest need to be identified. These can be measures which already exist, or measures newly established to support a particular line of inquiry, but for work within a science to progress strong measures must be available for each of the variables of interest.

The general lack of such measures in education and teacher education currently is a major impediment to the theory-development initiative being proposed. By contrast, reasonably strong measures exist in many of the "parent disciplines" upon which education and teacher education draw, though these measures typically are not widely known nor easily accessed by educators.

To overcome these limitations we are proposing that a major thrust of the initiative center on the collection and organization of defensible measures that currently exist for all of the key variables identified within each concept map developed within the initiative. To make these more easily available to both researchers and practitioners, we also are proposing to make these available through the initiative as CATALOGUES OF PROMISING MEASURES that accompany each concept map.

STEP IV: FROM CONCEPTS AND MEASURES TO PROPOSITIONS AND HYPOTHESES. As work progresses on Steps I through III attention will be given to developing hypotheses, path diagrams and related conceptual models to articulate theoretically expected linkages among variables within and across the domains of understanding to be addressed within the initiative. Step 4 is the first that engages in what many consider to be a theory building enterprise, that of hypothesis formulation, but, as Shoemaker and her colleagues make clear, there is much that must precede this step for it to be productive and cumulative. The work outlined in STEPS I through III

conveys the nature and magnitude of what this entails, and suggests how critical this work is to making STEPS IV through VI in the theory building process productive.

School Level Theory Building, Steps V and VI

While the four steps thus far outlined stop short of the full complement of steps involved in theory building, they lay the foundations needed for the empirical, additive and refinement/correctional steps most frequently associated with the "doing" of science. The added steps projected for the initiative, but more importantly following completion of the four steps thus far outlined, involve

STEP V: CONDUCTING RESEARCH THAT TESTS HYPOTHESES DEVELOPED IN STEP IV; and

STEP VI: REFLECTING UPON, REFINING, AND EXTENDING ALL OF THE ABOVE.

In combination, steps I through VI constitute the many and varied dimensions of a "scientific" endeavor. Reflecting upon the adequacy and appropriateness of Steps I through V as a whole, recording modifications needed anywhere along the way, and reporting these "findings" in venues that permit others interested in similar lines of inquiry to build upon findings reported, are the "stuff" from which knowledge and understanding grow. Reporting venues for these various activities need to include one or more Catalogues of Measures, and one or more Compendia of Related Theory Development.

We are presuming that nearly all who are involved in helping with Steps I through IV will be engaged simultaneously and cooperatively, but independently, in Steps V and VI. In so doing many more educators and teacher educators than might otherwise be involved will contribute to the empirical testing and subsequent refinement/enhancement of the conceptual and methodological underpinnings being developed collectively through Steps I through IV.

In combination, and in endlessly repeated cycles, these six steps represent the essence of "the scientific method." As argued by Shoemaker, Tankard and Lasorsa

> "The goal of science is to produce and test theories. As we pointed out earlier, the major difference between science and other ways of knowing is that science constantly questions itself. Science tries explicitly to state its theories, to pose them in formal ways using precise statements so that it is clear what they are saying, to test them, and to confirm, modify, or discard them. Science is the ongoing business of coming up with new ideas and finding ways to challenge them. This notion of testing and revising is what separates scientific theories from the informality that characterize informal theories." (p6)

Theory Building Around Teacher Preparation, Licensing, and Early Career Support

Since theory building around teacher preparation, licensing, and early career support must anchor to the model of schooling in which teachers are expected to work, theory building in this arena needs to follow theory building around the six domains of theory selected for attention at the school level (see the bottom of page 6 and top of page 7). This does not mean that theory building around teacher preparation and support needs to wait until theory development at the school level is complete, but some degree of lag time needs to occur between the two. In this regard, we think theory work on the teacher preparation and support side of the initiative can begin in year two (see the plan of work that follows for details).

As we currently view the task, theory building around teacher preparation and support must draw heavily upon theory development at the school level. As this has been outlined in preceding pages, this means that it will draw directly, and hierarchically, upon theory work pursued within the domains of

- ✓ *learning* in a standards-based classroom;
- ✓ *teaching* in a standards-based classroom;
- ✓ *home and family influence* on teaching and learning
- ✓ *classroom and school influence* on teaching and learning;
- ✓ *district and community influence* on teaching and learning; and
- ✓ *state and national influence* on teaching and learning.

This is only part of the equation, however, for theory building at the level of teacher preparation and early career support also will need to draw upon what is known about adult learning, stages in the professional development of teachers, the role of colleagues and administrators in facilitating the professional development of teachers, etc.

As a point of departure in this aspect of the initiative we are proposing that we organize theory building efforts around two relatively distinct but obviously interdependent levels of preparation, licensing and early career support:

LEVEL I. Preservice preparation and initial licensing (Concept Map 7); and

LEVEL II. Early career support, continued professional development, and second stage licensing (Concept Map 8).

Each will involve the six steps reviewed previously in the theory development process, and both levels of work will proceed simultaneously.

Within this context the central issues confronting theory development for the INITIAL preparation and licensing of teachers are the breadth and depth of learning needed around school level Domains 1 through 6, how this knowledge and related set of skills are best developed by prospective teachers, and the level of proficiency to be demonstrated around both understanding and application as a condition of initial licensing. The central issues to be addressed in theory development for the SUPPORT AND CONTINUED PROFESSINAL DEVELOPMENT OF EARLY CAREER teachers are the *extended* breadth and depth of learning about school level Domains 1 through 6 needed to ensure productive job performance, how this knowledge and related set of skills are best developed while engaged in full time teaching, and the level of proficiency to be demonstrated around both understanding and application as a condition of CONTINUING (or second-stage) licensing.

Considerable attention is given to the subtleties, complexities, and demands on theory building at each of these levels of preparation and support in the accompanying INVITATION TO PARTICIPATE in the initiative (see pages 37 through 49). Several concrete recommendations for the enhancement of both theory and practice in pursuing the connections across teaching, teacher preparation, and K-12 learning being called for also are provided in these pages. We urge anyone considering involvement in the initiative to study these twelve pages carefully before signing on to the work proposed.

Plan of Work

Overview

Our plan for accomplishing all the above is to involve a wide range of educators, teacher educators, and representatives from related social sciences in helping develop, respond to, clarify, extend, or replace working drafts of "theory-in-progress" documents Western Oregon faculty will assume responsibility for preparing.

If funds permit, the core of this process will take place through face-to-face work sessions scheduled twice or three times a year, in consultation with a national advisory panel selected for their expertise about related matters. If funds for face-to-face work sessions are not available the process will be carried out through regular mail, email, video conferencing and other available means for low-cost exchange with interested others around the theory-in-progress documents, supplemented by a Western Oregon University hosted work session once a year. Publications reflecting progress made in the endeavor will follow at appropriate junctures.

Participants

Anyone who is actively engaged in policy research, analysis, or program design and implementation that explicitly aims to connect teaching, teacher preparation and K-

12 learning, and who wishes to work cooperatively in pursuing the theory development initiative described in these pages.

Leadership

Within what we hope to be a large and functionally connected set of colleagues working to advance a commonly shared agenda, we are expecting leadership to come from three sources:

1) A set of LEAD INSTITUTIONS who employ teacher work sampling as a means of connecting teaching, teacher preparation and K-12 learning under markedly different conditions of preparation and licensing, e.g., undergraduate and post-baccalaureate preservice programs, preservice internship and professional development school programs, induction and early career support programs, and who volunteer to serve in this leadership role;
2) Faculty or graduate students within TEACHERS FOR A NEW ERA INSTITUTIONS who wish to participate in the initiative as supportive to the obligation of their institution to engage in follow-up research on the contribution of their graduates to the learning of the students they teach, and who pledge to participate regularly and throughout the life of the initiative; and
3) Members of the AACTE RESEARCH AND INFORMATION COMMITTEE who will facilitate communication, planning, reporting and review of work underway within the initiative as part of a broader research agenda pursued by the Association.

Faculty at Western Oregon University will coordinate activities across these various groups, and serve generally as facilitators and agent s of primary responsibility for the collaborative effort. If external funds are obtained to support the effort, a National Advisory Panel will be added to the leadership (and quality assurance) network described above.

Procedures

In consultation with representatives from the teacher preparation institutions, licensing agencies, and related professional associations that have volunteered to serve as lead institutions in the initiative,[12] faculty at Western Oregon University will prepare drafts of all documents called for in the work plan adopted (see below) and submit these for review and recommendation for refinement by all who are participating in the endeavor. Western Oregon faculty also will assume responsibility for carrying the refinements needed in succeeding drafts of each document to an acceptable level of completion. We anticipate the review and refinement process to occur through the following venues:

- ✓ electronically facilitated exchange, on an "as needed" basis, among all institutions and agencies serving in a leadership role within the initiative;
- ✓ electronically facilitated exchange with interested faculty from one or more TNE institutions, or through other means organized by Academy for

Educational Development personnel serving in a support role to TNE institutions;

- ✓ periodic critique sessions organized and managed, on an invitational basis, by the AACTE Research and Information Committee as part of its larger research agenda;
- ✓ requests for individual reviews and critiques of all emerging documents directed to all others indicating a desire to participate in the initiative; and
- ✓ annual summer work sessions in Oregon, hosted by Western Oregon University, where participants in all the above can work face-to-face for an extended period of time in document review and refinement, and in planning around the initiative generally.

Tasks and Timelines

Given the multi-dimensional and phased nature of the work proposed, effectively orchestrating the tasks and participants involved will be critical to its success. The flow of work outlined in Figure 1 for the first two years of the endeavor provides a starting point for this orchestration. The projections shown undoubtedly will need to be refined as work progresses, but in working on the tasks outlined the aim is to have sufficient clarity after two years of work to know a) whether the initiative, as conceived, is doable, and b) if it is, the time and resources needed for its completion are available. It is our intent that a long-term GO/NO GO decision with respect to the initiative will be made at that time. We carry the expectation, however, that the yield from work accomplished in the first two years of work outlined will represent a substantial contribution to the field even if the decision is made after two years of work not to proceed further.