Minnesota Teacher Preparation Programs

A Component of the Teacher Preparation Project
Undertaken for the Minnesota Office of Higher Education

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Introduction

The goal of this study was to answer some key questions about the effectiveness of teacher preparation programs in Minnesota. Areas of focus were:

- Characteristics of students entering these programs
- Alignment of program curricula with both state learning standards and licensure requirements
- Identification of best practices in teacher preparation, and alignment of programs with these best practices

We found that the data required to properly answer these questions either does not currently exist or is not available in a uniform format. In addition, we learned that some of these questions presuppose structures and relationships in K-12 education that do not exist in Minnesota. Despite these challenges, much was learned about how to reformulate these questions so as to get to the ultimate goal: an evaluation of the effectiveness of the state's teacher education programs. But more than just a reformulation of the questions will be required; in addition, there needs to be data that will help provide clear answers. Fortunately, the Minnesota Department of Education, in partnership with the Office of Higher Education, Office of Enterprise Technology, Department of Employment and Economic Development, as well as the P-20 Education Partnership and the State Advisory Council on Early Childhood Education and Care, has very recently received funding to develop a longitudinal data system that is a key step in providing the needed data. In addition, the Board of Teaching is moving forward with a redesigned program approval system requiring uniform data from licensure programs, and thereby allowing for meaningful analysis of program characteristics.

Summary of Literature Review

A literature review was conducted to examine reports and analyses of best practices for improving student achievement by teacher preparation programs nationally. What follows is a description of the key findings of that review. The bibliography for this literature review is contained in the Appendix.

Key Findings

- It will not be surprising to anyone to learn that there is a vast and quickly growing body of literature on best practices for improving student achievement by teacher preparation programs. Moreover, it should not be surprising that there is no perfect consensus view presented by the scholars and scientists who have performed this research. This is, in large part, due to the fact that best practices are difficult to clearly articulate when the goals of teacher preparation are themselves neither straightforward nor universally agreed upon. While it may seem obvious that the goal of a teacher preparation program is to graduate teachers who then teach well, the difficulty arises when we try to be specific and concrete about what it means to teach well. And the problem is not completely solved by saying that to teach well is to improve student achievement, for then one has merely transformed the problem into giving an adequate and agreed upon account of student achievement.

- Given this complex context for establishing best practices, it is notable and encouraging that there is an emerging view that teacher preparation programs have indeed often fallen short in providing the best training for teachers, and that there are a reasonably small number of practices

that are being put in place in many programs that are critical to improving teacher preparation programs. One of these, and arguably the most important, is that programs train their students through a strongly enhanced focus on clinical practice. This is the process of learning to teach by teaching in a real classroom with expert guidance and feedback. Such clinical practice carefully integrates what the student teacher has learned about teaching and how students learn.

- Two of the most influential contemporary analyses of teacher preparation best practices are to be found in the work of Linda Darling-Hammond and her colleagues (in particular in her 2010 report), and the work of Arthur Levine as represented by his 2006 report. While there is broad agreement on some of the key components that constitute these best practices – as we shall see from the comments from Secretary Duncan below – there is of course no detailed set of recommendations that researchers have signed off on. Thus, we expand on the comments of Secretary Duncan by examining the recommendations of Darling-Hammond and Levine.

Remarks of Education Secretary Duncan

In October 2009, Secretary Arne Duncan delivered a speech "Teacher Preparation: Reforming the Uncertain Profession" at the Columbia Teachers College. He outlines what he takes to be the best practices as follows.

> In the end, I don't think the ingredients of a good teacher preparation are much of a mystery anymore. Our best programs are coherent, up-to-date, research-based, and provide students with subject mastery. They have a strong and substantial field-based program in local public schools that drives much of the course work in classroom management and student learning and prepares students to teach diverse pupils in high-needs settings. And these programs have a shared vision of what constitutes good teaching and best practices—including a single-minded focus on improving student learning and using data to inform instruction. (Duncan,

2009, retrieved from http://www2.ed.gov/news/speeches/2009/10/10222009.html)

His description of a "substantial field-based program in local public schools" is exactly what Darling-Hammond refers to as the "practice in practice" clinical component that is key to successful programs. As we shall see in the next section, most of the other elements of best practices that Duncan lists are prominent in Darling-Hammond's and Levine's work. The one element that Duncan adds is the use of data to inform instruction, however this item is implicit in their research, and most likely highlighted by Duncan for various policy reasons.

Best Practices in Teacher Preparation Programs

In her 2010 article "Teacher Education and the American Future", Linda Darling-Hammond presents a list of best practices in teacher preparation programs, drawing on her research and the emerging expert consensus in the field.

She cites with approval this list of what is essential for best practices from a study in New York City:

- Programs' careful oversight of the quality of student teaching experiences
- The match between the context of student teaching and candidates' later teaching assignments, in terms of grade levels, subject matter, and type of students
- The amount of coursework in reading and mathematics content and methods of teaching
- A focus in courses on helping candidates learn to use specific practices and tools that are then applied in their clinical experiences
- Candidates' opportunities to study the local district curriculum
- A capstone project (typically a portfolio of work done in classrooms with students)

- Programs' percentage of tenure-line faculty, which the researchers viewed as a possible proxy for institutional investment and program stability

This list is then compared to similar results compiled by other sets of researchers:

> [These researchers] have found that powerful teacher education programs have a clinical curriculum as well as a didactic curriculum. They teach candidates to turn analysis into action by applying what they are learning in curriculum plans, teaching applications, and other performance assessments that are organized around professional teaching standards. These attempts receive detailed feedback, with opportunities to retry and continue to improve, and they are followed by systematic reflection on student learning in relation to teaching. (Darling-Hammond, 2010, p.40)

In Darling-Hammond's (2010) estimation, "One thing that is clear from current studies of strong programs is that learning to practice *in* practice, with expert guidance, is essential to becoming a great teacher of students with a wide range of needs. " (p. 40)

This emphasis on practice is also central to the recommendations presented by Arthur Levine. In his 2006 report, "Educating School Teachers", he presents a set of recommendations for a successful teacher preparation program. (Levine 2006, pp.9-10) (Comments follow each recommendation.)

- Transform education schools from ivory towers into professional schools focused on school practice
    - This mirrors Darling-Hammond's emphasis on practice in practice, and highlights the need to treat teacher education as professional clinical training.
- Focus on student achievement as the primary measure of the success of teacher education programs

    - Note that this does not simply identify student achievement with performance on standardized tests, although such tests will almost inevitably be at least a component of how student achievement is measured.
    - Putting in place the longitudinal data systems that would support this focus on student achievement would allow "… us to begin answering a number of basic, but still unanswered, questions about teacher education, including: What type of teacher preparation is most effective in promoting classroom learning? What curriculum produces the best teachers? What faculty qualifications are the most helpful?" (Levine, p.9)
- Make five-year teacher education programs the norm
    - This is to allow for both content mastery and the needed education in teaching and child development.
- Establish effective mechanisms for teacher education quality control
    - The emphasis here is on increasing the rigor of program accreditation, a process that would also require the same longitudinal data systems that would allow for tracking of the teaching effectiveness of graduates of programs.
- Close failing teacher education programs, strengthen promising ones, and expand excellent programs. Create incentives for outstanding students and career changers to enter teacher education at doctoral universities
    - This final recommendation stands out as distinct from the recommendations made by Duncan and Darling-Hammond, and is based on Levine's research that shows a correlation between a teacher being trained at a doctoral institution and increased growth in achievement for that teacher's students.

With the comments of Duncan and the recommendations of Darling-Hammond and Levine, we have three themes that emerge:

- An enhanced focus on the role of practice
- The importance of subject mastery in addition to knowing how to teach and how students learn
- The value of up-to-date research-based teacher preparation programs

We can add to these three:

- The focus on K-12 student learning (as a function of teachers graduating from a program) as a measure of program success

This last is an element not explicitly listed by Darling-Hammond, but prominent in Duncan and Levine and certainly implicit in her findings. This gives us four themes that can be identified as emerging best practices in teacher preparation programs.

Analysis

The analysis component of this project consists of four topics:

- An analysis of teacher preparation program admission criteria and yield rates to determine the academic standing of incoming students (this should include any changes over time to increase the rigor of these criteria)
- An analysis of the actions by teacher preparation programs to align curriculum with State learning standards
- An analysis of actions by the Board of Teaching to align licensure requirements and program curriculum
- An analysis of the alignment of teacher education programs with best practices as identified in the literature review, including efforts to support graduate induction, mentoring and professional development

Admission Criteria and Yield Rates

This analysis cannot be completed at the institutional and program level because the data is not available. The Minnesota Association of Colleges for Teacher Preparation (MACTE) does collect some of this data, but does not make public data for the 31 individual institutions, or for the 646 undergraduate and 307 graduate programs that these institutions collectively offer. (See http://mtqm.mnteachered.org/node/8 for the data that is available.)

However, MACTE does make public cumulative data about GPAs of program applicants:

> The minimum GPA required for admission into MACTE teacher education programs varies by institution and program. On average, the minimum GPA required by programs for admission into undergraduate programs is 2.57, and 2.80 for graduate programs. However, admission to a teacher preparation program can be

> competitive. The actual average GPA of teacher education candidates admitted into programs is actually 3.31 for undergraduate programs and 3.53 for graduate programs. (Retrieved from http://mtqm.mnteachered.org/node/5)

These GPAs for students actually admitted into the programs indicate that, at least at the collective level, there is evidence that Minnesota's teacher preparation programs are admitting well-qualified students.

When MDE completes the current longitudinal data project mentioned earlier, the institutional and program level data will be available to evaluate the academic standing of these students at the desired level of detail.

> This grant will allow us to put in place the final pieces of our longitudinal data systems so we can follow students from kindergarten into college and careers," said Commissioner Alice Seagren. "It will provide us with critical information to measure whether students are being successfully prepared by our P-12 educational system and will also allow the department to create more user friendly access to data for parents, educators and researchers. (Retreived from http://education.state.mn.us/MDE/About_MDE/News_Center/Press_Releases/017454)

Thus, there will be data on students graduating from secondary schools or undergraduate programs in Minnesota and then entering undergraduate and graduate teacher preparation programs in the state. This data will allow for a detailed analysis of the academic standing of these Minnesota students entering Minnesota teacher preparation programs.

Aligning Programs with State Learning Standards

This requested analysis presupposes structures and relationships in K-12 education that do not exist in Minnesota. Teacher preparation programs do not align their program curricula with state learning standards for students. Instead, they align their curricula with the teaching standards associated with the licensure requirements that are overseen by the Board of Teaching. The needed link between student learning standards and teacher

preparation curricula is made through the alignment of these teaching standards directly with the student learning standards. This is a process carried out by the Board of Teaching. Preliminary evidence of this alignment comes from a 2007 study that indicates that this alignment is very good.

> The results show that the following licenses were very highly aligned, indicating teachers are prepared with the knowledge and skills required to deliver a responsive K-12 curriculum to Minnesota students: K-6 Elementary Education, 5-12 Mathematics, 5-12 Communication Arts and Literature, 5-12 Social Studies, and 5-8 Science. Most of the state's academic standards (81%) have three or more standards in the preparation requirements for these entry-level teaching licenses.
>
> High school Science licenses for Chemistry, Earth and Space Science, Life Science, and Physics were also highly aligned in terms of matching preparation requirements with academic standards: 82-98% of Science academic standards had three or more standards in the preparation requirements. However, these findings may be distinguished from the other licenses because there are relatively few state academic standards for these 9-12 Science areas. Since the licensure rules for the 9-12 Science licenses are still quite detailed, entry-level preparation should be seen as both intensive and extensive. In fact, most of the 9-12 academic standards in Science have six or more corresponding training requirements. (Lombard, T. 2007. "A Study to Determine the Degree of Alignment Between Minnesota Teacher Licensing/ Preparation Standards and Minnesota K-12 Academic Standards for Students," retrieved from http://education.state.mn.us/mdeprod/idcplg?IdcService=GET_FILE&dDocName=032424&RevisionSelectionMethod=latestReleased&Rendition=primary)

This alignment of teaching and learning standards continues to be a key focus of the Board of Teaching given its importance in completing the connection between the curricula of teacher preparation programs and the learning standards for K-12 students. While this report provides some evidence of alignment, the study was limited to standards at the broad level. The Board of Teaching recognizes the need for further detailed analysis and, if needed, further alignment of teaching and learning standards.

Aligning Licensure Requirements and Preparation Program Curriculum

Alignment of licensure requirements and curriculum in the teacher preparation programs is established through the detailed and area specific teaching standards of effective practice established by the Board of Teaching. The Board of Teaching is in the process of changing the method of assuring alignment by moving from the current PEPER system to one with a stronger focus on program effectiveness, called PERCA. PERCA focuses on teacher preparation program outcomes through an assessment of the preparedness and success of the programs graduates. (For more on the schedule for implementing this strategy, see p.26 of http://www.mnteachered.org/files/BOT%20Spring%202010-Balmer%20white.ppt)

Aspects of this alignment are also being tested through a recently instituted audit system whereby random (and occasionally targeted) audits examine the uniformity, accuracy and alignment of higher education institutions with Board of Teaching standards and procedures. This audit focuses on the required elements of the teacher preparation programs, in contrast to PERCA, which assesses program effectiveness. The MDE has currently completed approximately one-third of the audits, and are "seeing good alignment and have met with institutions for more clarification as needed." (Retrieved from http://www.mnteachered.org/files/MDE%20Spring%202010-Melick.pdf)

It is important to note that one of the central goals of these alignments is to determine if student learning in teacher preparation programs translates into K-12 student achievement when these teachers begin to teach. That question will be more directly answerable once the MDE longitudinal data system is put into place. This system will provide the needed teacher-

student data links that will allow one to compare Minnesota trained teachers who then go on to teach in Minnesota with the achievement of their students, and hence the effectiveness of their teacher preparation programs.

Aligning Curriculum with Best Practices

Our review of best practices in teacher preparation yielded four key themes

- Enhanced focus on the role of practice
- Importance of subject mastery in addition to knowing how to teach and how students learn
- Value of up-to-date research-based teacher preparation programs
- The focus on K-12 student learning (as a function of teachers graduating from a program) as a measure of program success

There is a major impediment to determining the alignment of the teacher preparation programs with these best practices. The first, and most important, is that these themes are not in the detailed operational form that would allow one to clearly check the alignment between them and the practices of the various programs. For example, the generally agreed upon importance of teacher practical training can be implemented in so many different ways that it is not straightforward to determine whether or not a program is satisfying this practice. Similarly the emphasis on subject mastery can be achieved in a variety of ways and there is no agreed upon small set of pathways to mastery.

In effect, what this requested analysis is asking for is a key component of the rigorous accreditation process that currently does not exist and that Levine list as one of his key recommendations. While teacher preparation programs are run by people who are keenly aware of these best practices, and eager to implement them, the nuanced and detailed assessment that a

full accreditation process provides is the way to determine whether each of these programs is putting these practices in place.

There was an additional question concerning whether teacher preparation programs following best practices on induction, mentoring and related professional development. The short answer, coming from discussions with representatives from MACTE, is that the programs uniformly regard these as important, but that programs currently do not have the financing or other resources needed to support induction, mentoring and professional development for their graduates. It should be noted that these are a key focus area of the current Bush Foundation Teacher Effectiveness Initiative. (See http://www.bushfoundation.org/education/TEInitiative.asp for more details.)

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