Using Design Thinking to Turn Teacher Education "Upside Down": Implementing NCATE's Blue Ribbon Panel Report

John E. Henning, Ph.D. *Ginger Weade, Ph.D.* *Eugene Geist, Ph. D.*

Introduction

Recently, NCATE announced a national strategy to place clinical experiences at the core of teacher preparation programs. In this new paradigm, the current approach to preservice teacher education would be turned "upside down." Instead of learning concepts in campus-based courses and then applying them in field experiences, teacher candidate learning would occur primarily during clinical experiences that are supported and enriched by coursework. This ambitious call to action declares that teacher preparation "needs to shift away from a norm which emphasizes academic preparation and course work loosely linked to school-based experiences" to "programs that are fully grounded in clinical practice and interwoven with academic content and professional courses" (Transforming Teacher Education, 2010, p. 8).

The benefits of a clinical practice approach to teacher education have been increasingly advocated in the literature (e.g., Korthagen & Kessels, 1999: Korthagen, 2001; Ball and Forzani, 2009). However, implementation to the extent advocated by the Blue Ribbon Panel will necessarily involve sweeping changes that will affect the structure of clinical experiences, the organization of curricula, the partnership relationships between universities and schools, and the types of research valued in teacher education. The implications for this national initiative are especially immediate for Ohio teacher educators. Ohio is one of 8 states that has already agreed to a leadership role by joining the NCATE Alliance for Clinical Teacher Preparation.

The use of design thinking (Brown, 2009) can make a significant contribution to accomplishing this dramatic transformation. It has been successfully employed by designers and entrepreneurs to invent new products that address problems, meet needs, or take advantage of new opportunities. More recently, design thinking has emerged as a tool for generating innovations to improve services, address environmental issues, and stimulate innovation in education. Its fundamental tenet is that we learn by making. That is, instead of thinking to build, we build to think. Thus, the generation and testing of diverse initiatives is at the core of design thinking (Brown, 2009).

The purpose of this article is to show how design thinking can help teacher educators place clinical experiences at the core of teacher education programs. In the following sections, the role of design thinking in developing innovations is explained, three different phases of design thinking are described, and recommendations are provided for using this process to develop innovations in teacher education.

The Role of Design Thinking in Innovation

The analytical thinking processes associated with research design, data collection, analysis and interpretation of results are highly familiar to teacher educators. Less familiar to teacher educators are processes intended to foster the intuitive, creative, and synergistic thinking necessary to develop innovative programs or practices. Design thinking offers such a process, thus, providing a means for complementing and strengthening the thinking processes typically associated with educational research.

and tried again, the more rapid the evolution of insight and understanding.

The best pilot projects introduce small-scale changes that produce big time thinking. The change should be small enough to make it manageable, but conceptually significant enough to create momentum for reform, clearly distinguish new ways of doing business from past practices, and prevent lapses into previous behavior patterns. Changes that accomplish these ends are referred to as leveraged changes (Reigeluth, 2006). The more leveraged the change, the richer the yield of information from pilot projects and the greater potential for insights drawn from Ideation.

Ideation in Teacher Education

In this section, we make more specific recommendations for using design thinking to reform clinically-based teacher education programs. We begin our recommendations by reducing the 10 design principles articulated by the Blue Ribbon Panel into four leveraged changes. Targeting fewer changes provides more focus and makes it easier to launch the innovation process. Each of these four areas is described below, a leveraged change for introducing the innovation process is provided, and examples of pilot projects are discussed.

1. Re-Structure the Clinical Experience

NCATE has called for clinical experiences that are integrated throughout teacher education, that take place at specific sites embedded in clinical preparation, and that are supported by strategic partnerships (NCATE Design Principles 2, 7, & 10). Currently, many teacher education programs in Ohio have made substantive progress in meeting these requirements. For example, at Ohio University we are engaged in numerous regional partnerships with other universities (Southeast Ohio Teacher Development Collaborative and The Rural/Urban Collaborative), regional partnerships with school districts (The Coalition of Rural Appalachian Schools), and professional development school partnerships with local school districts. (For a fuller description, see the Patton College of Education and Human Services website at Ohio University, www.ohio.edu/cehs.) Like many other teacher preparation programs, our field experiences for preservice teachers have gradually increased in strength, visibility, and rigor.

Leveraging further change will require offering clinical experiences that are continuous enough to foster experiential learning through iterative cycles of instruction, feedback, reflection, and improvement in practice. Currently, however, early field experiences are often fragmented, either due to a lack of access or competing demands in candidates' schedules. A classroom visit of an hour or two per week limits the potential for engagement with students and prohibits a meaningful commitment on the part of either the candidate or the cooperating teacher.

As part of the effort to restructure our field experiences, we are piloting a program that will enable completion of a master's degree and a teaching license in approximately 12 months. The clinical experience has been restructured to foster experiential learning in two ways. The first approach enables continuity within a single day. The candidate remains for the better part of a single day, thus providing an opportunity for the teacher to model a lesson, the candidate to teach the same lesson (perhaps multiple times), and for both to reflect together on their teaching. A second approach enables continuity on successive days. The candidate is present for a portion of the day, but is able to teach a series of successive lessons. This approach can enable the teacher to model lessons on successive days, followed by candidate practice and mutual reflection. Both of these approaches serve the experiential learning of candidates better than fragmented experiences that currently exist in more traditional early field experiences. For information on the SciMath Teaching Fellows Program, visit http://www.cehs.ohio.edu/CC/scimath.html

2. Building Capacity in Mentoring and Collaboration

A restructured clinical experience will necessarily lead to a greater awareness of the importance of mentoring to candidate preparation. Accordingly, the NCATE Blue Ribbon Panel calls for mentoring and collaboration that provide an opportunity for candidates to learn in an interactive community from mentors and coaches who have been rigorously selected and prepared (Design Principles 5 & 6). Currently many teacher education programs in Ohio are working with schools to prepare for the state's new mentoring program for beginning teachers.

Leveraging change will require a new appreciation for the importance of mentoring during the early field experiences. A clinical model of teacher education will necessitate mentor teachers who understand the development of teacher candidates from the first moment they step into a classroom to the comple-

mentoring, and the development of early field experience candidates. Much of the research is conducted in schools and involves mining the expertise of practitioners. This approach is also building and affirming relationships, helping to keep teacher education faculty in close touch with the field, and providing a means for gathering invaluable information about the program. For more information on practitioner-based research at Ohio University, visit: http://www.cehs.ohio.edu/CC/practitioner.html.

Implementation in Teacher Education

The primary task of Implementation, the third 'design space' in design thinking, is to move from small-scale pilot projects to system-wide changes. The purpose of Implementation is to identify the most fruitful innovations developed during Ideation and take them to scale. In contrast to Ideation, Implementation is a convergent process that involves a narrowing and focusing of objectives. Real world constraints such as lack of time, money, or faculty can make initial design attempts unfeasible.

Generating a larger number of smaller pilot projects during Ideation facilitates Implementation. Smaller pilots allow for more rapid adjustments to the initial design when problems emerge suddenly. Rapid redesign and reiteration fosters increased thinking and learning, provides faculty with an opportunity to construct change together, and enables more opportunities to achieve the small victories that can build momentum and make implementation a natural extension of the piloting process. A rapid response to problems reduces anxiety and encourages exploration of new roles and ways of interacting. Keeping pilot projects small also prevents an over commitment of resources to any one project. Thus, if the initial conception is not fruitful, less time and resources have been committed to a failed effort.

Since the ultimate destination of any true innovation is not fully known, it is helpful to uncover and consider alternative routes to Implementation. Shifting perspectives, changing points of view, and reframing existing information permits insights into familiar problems by revealing previously hidden information. Changes in perspective can be accomplished by remaining open to all possibilities, pursuing unexpected opportunities, and taking full advantage of "mistakes," "misdirections," "misconceptions," and "outliers." In the midst of Implementation, it is not possible to know which "mistake" will lead to the insight needed to formulate the design that is ultimately implemented.

Changing Roles

Done well, design thinking can foster dramatic changes that may lead to some unexpected and unimaginable discoveries. We have suggested some ways to make initial, leveraged changes that could lead to more dramatic transformations in teacher education. It is difficult to fully know where the changes suggested above will lead or how they will look. Nonetheless, we conclude here by discussing how teacher candidates, cooperating teachers, and teacher educators may take up new and evolving roles as they move through the design spaces of Inspiration, Ideation, and Implementation.

Restructured field experiences will lead to longer and more continuous field experiences for preservice teachers. The increased time in schools will allow them to become more involved in the school, to build more significant relationships with students and their mentor teacher, and to become more responsible for improving student learning. This will shift their role from that of "teacher candidate" or one who aspires to become a teacher, to professional "intern" -- one who plays a vital role in fostering student learning. Shifting from "teacher candidate" to "intern" will allow for a more natural progression from preservice to inservice teaching.

The role of cooperating teachers will experience a similar shift. As teacher candidates become interns, the role of the cooperating teacher will evolve into "mentor teacher." The mentor teacher will have a much more active role in teacher education and will be more closely affiliated with teacher preparation programs. This new role will require a more sophisticated awareness of how interns develop professionally, how a clinical environment can enhance the learning of pre K-12 students, and how school/university partnerships can foster the professional growth of interns.

The professional development of mentor teachers will increasingly become the responsibility of teacher educators. This means that teacher educators will spend more time facilitating the learning of teachers and less time providing instruction to interns in college classrooms. Although teacher educators will continue to serve as instructors of teacher education courses, they will play an increasingly indirect role in teacher preparation by serving as advisers, consultants, and resource providers.

Making and facilitating these role changes will require creativity and imagination. Both can be fos-