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## *A Message from the Editors...*

The Fall 2011 issue of The Ohio Journal of Teacher Education has an open theme. The articles cover a range of topics of interest to teacher educators such as practice and beliefs regarding urban schools, development and implementation of a mobile-technology supported student teaching assessment, place-based education, capstone experience course design, arranging clinical experiences at the core of teacher preparation programs and effective techniques for teaching.

The first article by Thomas-Alexander and Harper examined pre-service and practicing teachers' beliefs about urban schools. Both groups expressed stereotypically negative opinions concerning the physical environment, community and students. The implications for teacher preparation are discussed.

The second article by Keil, Haughton, and DeShetler discussed the development and implementation of a mobile-technology supported student teaching assessment module that was created, piloted for two years, and then withdrawn from use. Multiple issues, some of which were beyond the control of the college, impacted full implementation. The findings are described along with the consequences and implications for the power of colleges of education to implement and sustain similar continuous improvement initiatives.

The next article by Fleming describes graduate students' self-reflections on their capstone experience and makes a case for Place-Based Education for in-service educators. The results depict how to integrate subject matter and standards while acquainting students with their local area, including community and food sources.

The fourth article by Herrelko and Bowman details how one university's faculty built a capstone experience course for their pre-service teachers. The goal of this capstone experience was to prepare highly qualified teachers as researchers and practitioners of the best educational practices.

The following article by Henning, Weade and Geist 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 article will show how this dramatic transformation can be facilitated through the use of design thinking, a tool increasingly employed to address problems requiring innovation.

Finally, McCormack shares a book review about how great teaching can be learned. This book is a tool for teacher candidates and practicing teachers that can be used as a resources for educational leaders to better understand the techniques of effective teaching.

We hope you enjoy this issue of the journal, and we hope you find these articles and book review to be informative and helpful in your various roles preparing teacher educators.

Virginia McCormack  
Sarah Cecire  
Fall, 2011

## Tell Us How You Really Feel: Preservice Interns and Practicing Teachers' Reflections about Urban Schools

*Sashelle Thomas-Alexander, Doctoral Candidate*

*Brian E. Harper, Ph. D.*

### Introduction

There is a rich literature suggesting that teachers' professional behavior is driven by their personal beliefs. Unreasonably, many school reform efforts are focused solely on changing the behaviors of teachers, without addressing their beliefs. Guerra and Nelson (2009) believe that this has contributed to the failure of thirty years of school reform. The researchers posed the following questions:

"Why don't school leaders address beliefs? Could it be they ascribe to the old adage of change the behaviors and the beliefs will follow? Or could they hold many of the same deficit beliefs teachers do, believing students and families, rather than educators should be the target of change?" (p. 354)

Beliefs are difficult to change; therefore, if programs hope to influence the development of sound instructional practices, the program should include components which examine the *development* of teacher beliefs (Pajares, 1992; Wilkins & Brand, 2004). Stipek (2004) studied the relationship between school quality, teachers' beliefs, and the nature of classroom instruction (outcome expectancy) in several elementary schools. A set of correlations revealed that teachers' beliefs were highly predictive of their teaching practices. These findings hold significant implications for teacher education: Teachers' beliefs about how children learn, particularly at-risk children, need to be addressed in colleges of education's reform efforts.

Currently, a major issue oppressing America's schools is the lack of teachers capable of successfully teaching in diverse settings (Warner & Washburn, 2009). This issue presents yet

another challenge for teacher preparation programs: promoting beliefs such as intercultural sensitivity and learning among interns (Armento, Causey & Thomas, 2000). Most of the research on working with culturally diverse students takes an "epidemiological approach" focusing on the presence of deficits correlated with low student achievement (Blasi, 2002, p. 1). Blasi (2002) examined the change in perspectives of pre-service teachers' as a result of a Literacy and Collaboration semester-long course. Results of Blasi's (2002) study revealed that the experience helped interns understand "the child in the context of his/her family, culture, and community" (p. 5), examine the role of socioeconomic status' in education; reflect on the effects of labeling, and understand 'at-risk' students.

These data hold several implications. It is critical that teacher education programs assist interns in developing beliefs consistent with pedagogically sound practices (Armento et al., 2000; Blasi, 2002; Hart, 2003; Olson & Jimenez-Silva, 2008; Wilkins & Brand, 2005). Specifically, it is imperative that interns as well as teacher educators: 1) Raise awareness of diversity issues; 2) understand their own culture as well as their students'; 3) view students' backgrounds as resources not problems; and 4) develop positive beliefs about themselves as learners and teachers (Armento et al., 2000; Case & Hemmings, 2005; Taylor & Sobel, 2001; Wilkins & Brand, 2005).

The promotion of cultural sensitivity is not restricted to teacher preparation programs, but also extends to those currently in practice. The most current research published by NES (1999), reported that an overwhelming 80% of teachers

who teach ethnically diverse students suggested feeling unprepared to meet their needs. Many teacher educators fear being ostracized by their peers and therefore accept a monocultural curriculum (Blackwell, 2003).

This problem manifests itself in several ways. Topics of race are also being silenced at the pre-service level. Black students are being forced to become de facto teacher educators. University-school immersion programs are being abandoned due to time constraints (Ladson-Billings, 2001). Political and economic changes have produced a population of African Americans who do not trust schools and education. Students who do not conform to specific behavioral expectations run the risk of being referred to special education (Kunjufu, 1984; Ladson-Billings, 2001). Diversity has become synonymous with “at-risk-ness” (Haberman, 1995; Ladson-Billings, 2001). Subsequently, because of the attrition rate nationwide, these students with the greatest academic needs, are often taught by those least prepared to teach them (Ladson-Billings, 2001).

The difficulties of changing teacher education however, should not be mistaken with impossibilities (Ladson-Billings, 2001). Research provides evidence that it is possible for teachers with backgrounds different from their students to provide effective classroom instruction if they approach teaching in a way that is responsive to the cultural and linguistic diversity of their students (Gay, 2000). Before implementing strategies to encourage cultural responsiveness, it is important to truly understand the beliefs that pre-service and practicing teachers hold. This study will examine the beliefs that both teacher interns and practicing classroom teachers hold with respect to the urban classroom. Specifically, it will address the following research questions:

- How do practicing classroom teachers compare with teacher interns with respect to the nature of their beliefs about urban schools?
- How do interns and practicing teachers compare with respect to their specific beliefs about income, diversity, learning and motivation and parental involvement in urban schools?

### **Methodology**

Three hundred sixty-two interns and 278 mentors were invited to participate in an on-line survey; of this group, 138 preservice interns from a medium-sized Midwestern university and one hundred

fifty-eight mentor teachers from several school districts of various sizes both in and near a large metropolitan city participated in this study. Of the 138 interns, 80% were female and 20% male; 66% self-identified as Caucasian, 23% self-identifying as Black and 11% self-identifying as some other racial classification. The majority of the interns (53%) are preparing to become general (early childhood, middle childhood, and secondary) teachers, while 32% prepared to become special education teachers and 15 percent prepared to become either art, physical education, music or foreign language teachers. With respect to their current studies, 58% were undergraduates enrolled in their first group of methods courses with minimum field experience hours (20-70), 28 percent were in the process of completing their practicum experience and 14% were in the process of completing their student teaching experience.

Mentor teacher demographics mirrored those of the interns as the majority of them were female (83%), Caucasian (80%), and general education (48%) teachers. The majority (49%) of the mentor teachers currently work in urban settings, while 27% reported working in suburban settings and 24% reported working in districts designated as urban/suburban.

Participants, both practicing teachers and teacher interns, were presented with the following prompt: “*Briefly describe an urban classroom.*” No other instructions were provided, as we wished to assess pre-service and practicing teachers’ reflections about the urban classroom without guiding their perceptions in any way. This methodology has been previously employed as a straightforward way to assess individuals’ attitudes and characterizations (Kuhn and McPartland, 1951).

### **Data Analysis**

The researchers performed primarily qualitative analyses of the participants’ responses. In conducting the qualitative analysis, responses were first read independently by each researcher. We then developed a preliminary list of coding categories by which responses were classified—either positive comments, negative comments or neutral comments (Creswell, 2007). Comments that spoke exclusively to the strengths of urban schools were coded as positive as illustrated in this mentor teacher’s response:

“An urban school or classroom is one that should be open to different styles and types of learning and teaching. It should have a standard



of high expectations for every student that attends. It should help each student to feel safe, comfortable, and able to learn”.

Comments that spoke exclusively about the deficits in the urban schools were coded as negative. The researchers looked for comments that overgeneralized urban schools, classrooms, students and parents. Comments negative in nature that failed to use buffers (e. g. might, may, some, many) were included in this category. An example of a mentor teacher’s negative comment is: “ The building facilities are dirty, run-down, and depressing to look at”.

Another mentor teacher wrote: “Parents are unprepared and do not desire to make sure their children do well in school...after all...there is no where for anyone to work so why bother?”

Lastly, comments that merely described the environment in neither positive nor negative terms were coded as neutral. The majority of these comments spoke exclusively to the location of the school. In most of the comments, there was no mention of students, buildings, parents, or teachers. An example of a mentor teacher’s neutral comment is “A school that is located inside a large metropolitan area”. Similarly, an intern wrote, “A diverse school within the inner city”.

The veracity of a pre-service intern or practicing teacher’s comments was not a factor in determining the positive, negative or neutral classification of a particular comment. It is entirely possible that, for the purposes of this examination, a comment may be technically accurate and still represent a negative portrayal of the urban school. It is our opinion that, when presented with the open-ended query that guided this investigation, intern and practicing teachers were free to choose from among three avenues of response. The first would be a focus on the strengths and opportunities available to those who teach and attend urban schools. These we classified as *positive*. A respondent may have chosen to focus on the problems and deficiencies of the students, teachers, parents, community and physical plant. These we classified as *negative*. Finally, some respondents chose to offer a brief descriptive statement that was devoid of adjectives that would be connotated as either positive or negative. These we classified as *neutral*. In this context a statement that was technically true, such as “*urban schools are primarily populated by low income Black parents who*

*do not often participate in school governance in great numbers*” would be coded as *negative* because the respondent chose to reflect upon a deficiency, indicating that this, rather than a strength, was his or her predominant view of the urban school.

A further illustration of the relationship between veracity and our classification of student responses involves references to free and reduced lunch. Our sample of respondents was chosen from among the greater Cleveland Area, which consists of a number of districts other than the Cleveland Metropolitan School district. It is unknown if the intern in our sample who wrote the comment, “All of the students are on free and reduced lunch programs” was referring to a Cleveland Metropolitan School or another urban school in the Greater Cleveland area since the university where the pre-service teachers attend partners with several urban districts. If the intern was speaking of Cleveland only, then yes the statement would be true. The prompt to which that intern was to respond, however, was “*Briefly describe an urban classroom*”. There is no mention of a Cleveland classroom in the prompt. There are other urban districts where this statement would not be true. For example, in Bedford City Schools, 58% of the students are eligible for free and reduced lunch, Cleveland Heights-University Heights, 59%, Euclid 51%, Garfield 63% and Maple 56%. Subsequently, we are comfortable classifying this statement as *negative*, as the intern has made a false accusation (over-generalization of urban schools).

After the initial reading, the preliminary categories were compared and condensed into larger themes—*income*, (which included comments that referenced socioeconomic status) *diversity*, (which included comments that referenced either race or culture) *motivation and learning* (which included specific references to the learning environment) and *parental involvement* (which included references to the role of parents and community). Individually, the researchers recoded the responses into the new themes before conducting a correlation coefficient on each theme. Inter-rater reliability via correlational analysis for the independent categorical coding was established at .88 for interns and .85 for mentors, respectively.

## Results

For research question 1, participants’ responses were coded into one of three categories: 1) positive, 2) negative, and 3) neutral. Comments that

spoke exclusively to the strengths of urban schools were coded as positive, comments that spoke exclusively about the deficits in the urban schools were coded as negative, and comments that merely described the environment in neither positive nor negative terms were coded as neutral.

Table 3

*Typology of Statements*

Types of Statements	Interns' Statements (n=142)  Percentage	Mentors' Statements (n= 163)  Percentage
Positive	7%	18%
Negative	34%	36%
Neutral	59%	46%

The findings reported have similarities to previous studies (Conway, Browning, Purdum-Cassidy, 2007; Hampton, Peng, & Ann, 2008; Schoon & Sandoval, 2000) suggesting that our findings are not isolated, but part of a bigger, rising trend. The majority of the neutral responses were descriptions of urban schools that included where these schools were likely to be located: “A school that is located within an area in which the population is dense and generally greater than 100,000”

Table 4

*Comparison of Participants' Responses in Main Categories of Analysis*

Group	Diversity Comments	Income Comments	Motivation and Learning Comments	Parental Involvement Comments
Interns' Comments	(43%)	(29%)	(23%)	(5%)
Mentors' Comments	(34%)	(30%)	(24%)	(12%)

The large percentage of intern and mentor comments combined (n = 40%) that used location to describe urban schools could have been the ‘buffer’ used before using descriptive terminology to illustrate a negative depiction of urban schools. “An urban school is a very large city school with high poverty rates, higher population of students of color, scarcity of educational resources and a high proportion of students who are English Language Learners”

A second comment representative of the large number of negative intern comments:

“To me the definition of an urban classroom would (be) a classroom in an urban setting in which the students have to be tough at home. They may carry these attitudes at school and think that school is pointless and be one of many students who do not apply themselves every day in the classroom”

None of our respondents acknowledged that students in urban schools may be victims of an unjust system as reported in Swartz and Bakari’s (2005) research. This is troubling because as scholars warned, when occurrences such as racism and classism are ignored, students are placed at a distinct disadvantage. To combat this problem, teacher education programs have reported providing experiences to help prospective teachers be more successful in urban schools, specifically urban field experiences. But as indicated by our study’s findings, the mentor teachers’ description of urban schools was equally as negative as or more negative than interns’ responses.

One mentor teacher reflected that: “An urban school may have a higher percentage of minorities and subsequently a higher percentage of violence. These schools do not usually have the monies for needed supplies. Youth attending may see it as a sanctuary from their daily lives but also a place that may at times be unsafe. Many youth may be the first in their families to attend high school and may be the first to graduate within their family.”

A second targeted parents in particular: “Parents and families are of lower socio-economic means and often do not have electricity or heat in their homes. Education is often not a priority in the home, yet Big Time Wrestling on tv is. Parents often

do not come to school even for IEP conference, nor do they call to cancel-they just don't show"

### *Diversity*

Statements classified as referencing diversity were those that made specific reference to the range of ethnicities and cultures represented in the urban student and faculty population. Forty-three percent of the interns' responses and 34% of the mentor teachers' responses included statements about diversity, our first major category. Most diversity comments suggested that there is a large amount of cultural diversity in urban schools:

"An urban school is located in a large city which has a variety of different cultures, races and beliefs."

"Diversity is defined by the ethnic, religious, racial, and soci economic backgrounds that are present within the school."

For the most part, interns' and mentor teachers' comments regarding urban schools' student population's diversity were similar. They were neutral - 'type' of comments merely stating the type of students in the schools and classrooms, making neither positive nor negative judgments.

### *Income*

Comments about socio-economic status were classified in the *income* category. Twenty-nine percent of the interns' comments and thirty percent of the mentors' comments about urban schools made some mention of income. Some of the comments were merely descriptive, among them,:

"An urban school or classroom is one that is composed of children...usually average to below average income"

"Generally low socio-economic status of students attending"

"An urban classroom is made up of ...students that are eligible for free lunches, and of a low socioeconomic [socio economic] status"

None of the intern responses coded as positive by either researcher mentioned income in their

description of urban classrooms. Many of the responses in this category included overgeneralizations, among them the following:

"...all of the population may be economically disadvantaged"

"...families living on a fixed income (welfare) or "All of the students are on free lunch programs"

"Majority of students fall below the poverty line"

"...learners who may likely be underprivileged", and "Majority are free and reduced lunch".

Mentor comments about income, although overwhelmingly negative, were somewhat more encouraging. Some responses included phrases suggesting that in spite of this issue, students in urban schools can still be successful:

"An urban classroom includes a diverse group of learners who may likely be underprivileged... These students are just as capable as suburban students, and deserve the same great education"

"A school that has students that have limited access to resources, a supportive community environment as well as a supportive household."

### *Motivation and Learning*

The third broad category included comments about teaching, materials, at risk students, supplies, school beliefs and motivation. These types of comments were reflected in 23% of the interns' responses and 24% of the mentor teachers' responses. Interns typically discussed discipline problems, lack of intervention services, lack of motivation and students' failure to see the importance of education in their descriptions of urban schools. One intern wrote,

"...they (minority students in urban settings) carry these negative attitudes at school and think that school is pointless and do not apply themselves everyday in the classroom."

Many interns also spoke specifically to the lack of available resources in describing urban schools, particularly their relationship to the motivational tendencies of urban students. Several asserted that

“An urban school would be one with poor student attendance, in adequate [inadequate] technology because of not funding available in the school”

“An overcrowded, low-budget, leaky ceilings, not enough textbooks, or technology”.

“Limited supplies such as books, tables, desks, or chairs. Not up to date with technology like computers”

“...they (minority students in urban settings) carry these negative attitudes at school and think that school is pointless and do not apply themselves everyday in the classroom.”

Not all comments about motivation and learning described urban schools negatively. Mentors’ responses in this category viewed urban schools more positively. Specifically, mentor teachers’ comments regarding motivation and learning in urban schools were positive, focusing more on the positive aspects of teaching in an urban setting. For example, one mentor teacher wrote:

“An urban classroom is one that should be open to different styles and types of leaning [learning] and teaching. It should have a standard of high expectations for every student that attends. It should help each student to feel safe, comfortable and able to learn. It should recognize diversity as a building tool to the learning experience”.

Another suggested:

“This classroom is one that has a great deal of talent and supreme potential if the students are led to their education”

### *Parental Involvement*

Responses mentioning parents, home, and family were coded under the final heading, *parental involvement*. Descriptions of urban classrooms including parental involvement were much more

prevalent among mentor teachers’ comments (12%) than interns’ comments (5%). Although only 11 of the comments interns used to urban classrooms discussed parental involvement, all of their comments were coded as negative by both researchers. The majority of these were expressed a perception of the lack of parental support for learning and achievement:

“Students come from broken homes”

“Students come from single-parent homes and homes with grandparents as guardians” “Their homelives [home lives] may be more strenuous than the homelives [home lives] of their peers in the rural classroom”

“Students whose home life is not that great, and “Family members do not read regularly nor do they engage in conversations which utilize and enriched vocabulary”.

Like interns, mentor comments largely reflected a perception that parents are not supportive of their child’s education. However, mentors’ negative comments about parents were more descriptive. Mentors wrote,

“Parents work menial jobs, have no advanced education and some not even having a high school diploma”.

“Many do not have stable home lives. Many do not have parents that support their children’s educational experience. Many parents have limited education themselves and feel uncomfortable with the school district”

Comments about the parent’s educational attainment ran rampant through our findings.

“Parents do not have college degrees”

“Parents with limited educational backgrounds”

“Many youth may be the first in their families to attend high school”

“Usually parents do not have a h.s. [high school] diplomas and/or GEDs”

### *Expressed Beliefs of Practicing Urban Teachers*

Though not formally a guiding research question for this study, it is of interest to note differences in the beliefs of those currently interning or employed in an urban setting from those who were not. Among the responses of the 80 teachers in this sample currently employed by urban schools, a similar pattern of responses to that of the group as a whole emerged. The majority of comments were coded as referencing either diversity (42%) or income (33%). Further, this subsample of respondents reflected very few positive comments. Of 110 total comments made, only 8 comments (10%) were classified as positive, while 30 (37%) were coded negative and 42 (53%) were coded as neutral. The negative statements in particular echoed themes that were evident among teachers and interns who were not currently employed or interning in an urban setting:

A school that serves socially and economically underprivileged students who sometimes come from violent neighborhoods or families. Student probably come from a one parent female led family.

Parents are unprepared and do not desire to make sure their children do well in school...after all...there is no where for anyone to work...so why bother.

An urban classroom consists of students from an urban environment. Many come from low-income households, single parent households, and inconsistent households. Students have little experience with structure and consistency from home.

These data suggest that among practicing and pre-service teachers in this sample, urban teachers did not differ significantly from teachers in schools

classified as suburban or suburban/urban with respect to their beliefs about urban schools.

### **Conclusion**

The objective of this study was to examine and compare preservice interns' and mentor teachers' perceptions of urban schools. These data argue that both interns and practicing teachers hold to a number of stereotypically negative views of urban schools in general and urban students in particular.

Effective urban teachers understand that traditional school practices reflect dominant cultural beliefs (Nieto, 1999). They are involved in reciprocal expectations for student-teacher interactions that “send a message of collective responsibility” (Swartz & Bakari, 2005) instead of adhering to the traditional model of education that indicated only certain groups are successful and that in order to be successful, one group must dominate (Nieto, 1999). Preparing a population of preservice interns to be effective urban teachers as defined by Swartz and Bakari (2005) continues to be a challenge. Hampton et. al (2008) suggested that teacher preparation develop courses specifically to assist preservice interns' understanding of the complexities associated with urban schooling.

Although the benefit of using urban field placements to transform negative beliefs is not unanimous, if used, the field experience should be specifically designed to partner interns with mentor teachers that will assist them in sorting out their perceptions of urban schools. In order to accomplish this task, the role of the mentor teacher and his or her perceptions about urban schools has to be examined more carefully. To this end, Foster (2004) believed that urban school placements must emphasize exposure to master teachers in urban settings.

There are encouraging signs in our interns' and mentor' responses about urban schools. Although there is much work to be done to prepare, recruit and retain high-quality teachers for urban schools, we believe that this process begins much like a rehabilitation program--the first step is admitting that there is a problem. It is our belief that our findings clearly showcase a problem in the way urban schools are defined. Teacher preparation programs can use the results of our study as the ‘first step’. After the problem has been acknowledged, a carefully designed curriculum that addresses the complexities of urban schools, provides interns with quality mentor teachers for field experience, and offers opportunities for

mentors and interns to share, discuss and reflect on their experiences the must be implemented to provide the preparation needed to become successful in urban contexts. If this structure is implemented and provided throughout the entire teacher preparation program, we believe perceptions of urban schools can be changed. We believe that the urban schools that are now viewed by many as a negative setting, can one day, with the right preparation and support, be viewed as a desirable place to work.

*Sashelle Thomas-Alexander, a former Parma City School's middle school teacher, is a third year doctoral student in Cleveland State University's Urban Education Doctoral Program. Her area of specialization is Leadership and Lifelong Learning. Mrs. Thomas-Alexander's research interests include: Culturally responsive teaching self efficacy and outcome expectancy in teacher preparation and perceptions of, teaching in, and preparing teachers for urban schools.*

*Dr. Brian E. Harper is an Associate Professor in the department of Curriculum and Foundations. A former classroom teacher in the Philadelphia, PA public school district, Dr. Harper completed his doctoral work at The Ohio State University in Educational Psychology. His research interests include African American racial identity development and motivational psychology, particularly as it applies to students in urban settings. His current work focuses on African American students and the factors that promote or inhibit academic self-regulation.*

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## **The Unforeseen Perils of Mobile Technology in Field Settings**

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The Judith Herb College of Education (JHCOE) is the professional education unit at The University of Toledo. During the 2009-2010 academic year, the unit enrolled approximately 2,200 candidates in over 30 licensure programs at both the initial and advanced levels. Like many schools, colleges, and departments of education (SCDE), the JHCOE uses paper-based forms for the evaluation of teacher candidates who are completing field experiences. The administration of a paper-based, field observation protocol using paper checklists and narratives presents three challenges. First, the manual recording and storage of candidate performance observations does not lend itself to easy data analysis and reporting. Issues regarding locating paper forms in the students' files and the storage of older records further slow the entire process. In the case of our institution, approximately 4,500 forms must be first located, and then logged into Excel spreadsheets, and finally analyzed. The volume of forms and data further exacerbates the possibility of error during data entry.

A second significant issue related to standardization is complicated by maintaining manual records. While recognizing the diversity of licensure programs, observation forms should account for the common criteria across disciplines as well as support discipline-specific requirements. Despite the best efforts of college administrators and staff, a plethora of observation forms have been developed by faculty to include program anomalies. Apart from the logistics of managing and maintaining the volume of different forms, other quality issues arise including being able to accu-

rately and fairly compare candidate performance across programs.

A third significant challenge arises from communication of assessment results to teacher candidates and other stakeholders. The current manual system results in isolated communication between supervisors and teacher candidates regarding the field observation notes. While we believe that every effort is made to communicate effectively with candidates, the limitations of using paper forms creates further isolation from other evidence of candidate performance. Scrutiny of the evaluation notes is typically driven by problematic cases that merit further investigation, or by the need to provide summary data as part of accreditation reporting. A manual system, therefore, makes the process of program review across the disciplines difficult. A related issue is the quality of the information resulting from the current paper-based system. For example, the relative quality of the evaluation information by supervisors and cooperating teachers has not been explored. Thus given the aforementioned issues, continuing with a manual system has proven to be counter-productive to the assessment and accreditation needs of the college.

### **The Mobile Devices Project**

Much has been written about the promise (Franklin, Sexton, Lu, & Ma, 2007; Ranson, Boothby, Mazmanian, & Alvanzo, 2007; Van Schoor, Navsa, Meiring, Treadwell, Bosman, & Greyling, 2006; Crippen & Brooks, 2000) and successes (Pedersen & Marek, 2007; Treadwell, 2006) of leveraging technology in higher education to support student learning and faculty effectiveness.



In an attempt to rectify the abovementioned problems, a multi-disciplinary team of faculty extensively revised the field performance assessment observation instrument, which was subsequently piloted using mobile devices. The project team collaborated with a third party vendor to implement the assessments with PDAs and laptops. Ahead of a broader implementation of the revised assessment instrument, twenty supervisors field tested the updated assessment using mobile devices.

This project also served a larger purpose as part of the JHCOE's ongoing accreditation efforts. Effective technology implementation and integration are increasingly required for success (NCATE, 2008; HLCNCA, 2003). University-based educator preparation programs are expected to demonstrate many technology-based performance outcomes. These include: faculty expertise in modeling effective technology integration; collaboration of faculty and staff to improve learning outcomes through the use of technology; teacher candidates effectively integrating technology in their teaching; and the documentation of candidate performance to support data-driven program improvements (NCATE, 2008). The mobile technology project would: (1) improve the assessment and accreditation process through electronic data capture; and (2) provide supervisors with opportunities to learn and model effective technology integration in the teaching and learning context.

### **Initial Pilot Test Results**

The initial pilot results of our use of mobile technology for data collection are reported in Haughton & Keil (2009). In summary, most supervisors thought the updated assessments were more comprehensive than those on the old paper forms, were more accurate, and worked well for their respective disciplinary areas. However, there were challenges such as difficulties experienced with the technology and its impact on the observation process, including workload, work habits, and including observation logistics. An interesting finding was that supervisors felt uncomfortable with asking questions because they did not want to appear technology challenged. Yet, despite these challenges, there was consensus that this mobile device project was a good thing and that the JHCOE should continue pursuing this path. Supervisors were almost unanimous in their willingness to continue using mobile devices in their observations. They continued to fully participate in subsequent pilot studies over the course of the following academic year.

### **Additional Pilot Testing**

Despite the challenges experienced during the initial pilot, the potential importance of this project including the supervisors' role led the JHCOE to implement a number of changes to mitigate some of the earlier difficulties. The training documents and procedures were designed with supervisor input to be more extensive, detailed, and user friendly. The training session held prior to the second pilot test (spring 2009) was longer and designed to be more hands-on. Additionally, multiple training support staff – field coordinators and technology support – was available to work with supervisors individually and in small groups. The technology software was loaded and tested ahead of time on all devices. This provided supervisors with extensive access to their respective devices prior to going into the field. This brought about an additional level of comfort and familiarity with the devices. Finally project and support personnel, including the college's technology center staff, were on-call throughout the semester to respond to any and all questions.

These courses of action were designed to provide a support structure that extended beyond technical support. Our supervisors continue to be critical experts and partners who are vital to the success of this and other innovations. As previously mentioned their level of anxiety about the technology and about seeking assistance was made evident after the initial pilot was completed. Therefore, creating a positive and non-threatening climate in which supervisors could seek assistance without feeling ignorant was vital. Ongoing communication, support, and most importantly reassurance is essential to creating an environment of trust in which innovations can be successfully implemented and their potential realized. The continuing participation by supervisors in subsequent pilot studies indicates success with the new approach and strategies implemented by the project team.

### **Factors Beyond Control**

Despite the commitment of the JHCOE to the mobile assessment project, other challenges continued to emerge. These challenges were varied in terms of location, type, and scope. More importantly, they varied in terms of the college's ability to successfully address them and, therefore, provide the appropriate type and level of support for supervisors in the field. The challenges included equipment, classroom context, mobile vendor, and external mandates.

## Equipment

The current economic climate has resulted in a lack of discretionary funds to finance many promising initiatives, including the mobile assessment project. The college was fortunate to receive a small state grant to fund the purchase of the ten PDAs which were used during the initial pilot. Although lightweight and easily portable, the PDAs size became an issue for some supervisors. For example, the small screen size was not conducive to a conferencing scenario in which both the supervisor and the student teacher read notes on the PDA. The small screen also made it difficult for supervisors who wanted to view the entire evaluation form; only a few lines of evaluation criteria could be read at a time. Supervisors were accustomed to working with paper forms and using the notes on these forms for conferencing. Therefore, they tried to use a similar approach with the PDAs. Some adapted their work habit to the device, while others chose to work with laptops. The larger screen was a closer approximation to the paper form and thus had less impact on traditional conferencing work habits.

A related issue was funding or lack thereof. No additional money was available for new equipment. Therefore, the project team was unable to expand PDA usage beyond the initial devices. This lack of funds also impacted the laptops available for the project. The JHCOE's only choice was "trickle down laptops" that were phased out of usage by the college's technology center. While this equipment allowed us to continue the project, these laptops were phased out for a reason and therefore brought their own challenges. They were out of warranty, heavy, and had inadequate memory, disc space, battery life, and internet connectivity. Supervisors could not conduct a full observation without an external power source. Many could not connect to the Internet; others experienced slow responses from the software, both which impacted the logistics and the quality of the observations. Also, various classroom contexts varied in terms of infrastructure. This leads to the second major issue.

## Classroom Context

Field contexts where these devices were used varied tremendously in terms of physical space, resources, and logistics. In some sites, the physical space was barely conducive to the traditional, paper-based observation process. The addition of a supervisor who needed space for a laptop and power source,

stressed an already limited situation. Some reported having to situate themselves in places that were close to an outlet, but were distracting to the students, the cooperating teacher, and the student teacher. Supervisors noted that even typing on the devices interrupted surrounding students. Internet security and firewalls varied among buildings resulting in inconsistent Internet access that further taxed the supervisors' technology skills. Although many classrooms were outfitted with computers and printers, the varied hardware and software configurations further limited access. Ultimately, some supervisors were forced to resort to paper-based forms. This access issue had ramifications for the adoption of mobile assessments by cooperating teachers, which was part of a longer-term plan.

## Mobile Vendor

The JHCOE partnered with Mobile Vendor to initiate this project. It was recognized that this provider's core business was P-12 education and not higher education-based pre-service teacher education. However, their product and platform were close enough to allow the JHCOE to implement the new performance assessment framework. There was an understanding that modifications would be needed throughout the project.

Attempts at modifications were handled through a series of teleconferences and emails. Over time, this process became cumbersome and ineffective. Mobile Vendor was not able to make all of the necessary changes to address the JHCOE's needs because these changes were counter to their core business. Thus, the project team began preliminary discussions about developing the software to suit the assessment needs of our pre-service teacher education programs. This meant re-writing the system, which would tax already limited resources. The JHCOE was poised to have the in-house programmer create such a program and incorporate the required changes in order to move forward with implementation of a mobile electronic evaluation system in P-12 settings.

The preceding described some of the challenges encountered during the mobile assessment project. While some were more severe than others, all were manageable to some extent. With creative planning, the project team was confident that the right steps at the appropriate time would enable this initiative to move forward while issues were being corrected. The JHCOE was committed to this project because of many strategic benefits.

## Death of an Innovation-Impact of State Mandates

The use of an integrated system, which included the use of mobile technology, was short lived. In July 2009, the governor signed Ohio House Bill 1, which mandated a new licensure system for teachers in Ohio, including a Resident Educator license. Prior to the passage of House Bill 1 in 2009, the State of Ohio used the PRAXIS III Teacher Performance Assessment for professional licensure. Provisional teachers were required to complete a two-year entry year program, which culminated in the PRAXIS III performance assessment, which assesses the skills of beginning teachers in classroom settings. The JHCOE, along with the 49 other teacher preparation programs in Ohio, aligned its performance assessments with the Praxis III domains and criteria so that candidates were familiar with the language and process used in this high stakes assessment. In addition, most school districts aligned their performance evaluation of new teachers with this system. For the first time in Ohio, teacher preparation programs and K-12 school districts were “on the same page” and using the “same language” when discussing candidate and in-service teacher performance.

In the governor’s plan for education, the Ohio Department of Education is required to have a Resident Educator Program in place by January 2011 and the State’s use of Praxis III has ceased. A Transition Program has been put in place while Ohio builds a new system for supporting and evaluating beginning teachers. In the interim, Ohio is piloting another teacher performance system. Many of the State’s teacher preparation programs are continuing to use the Praxis III domains until final decisions are made; however, the JHCOE has decided to use the Ohio teacher standards during the interim period. Nevertheless, as a result of uncertainty, the mobile assessment project is permanently “on hold” until the state finalizes the new direction.

### Conclusion

The pilot provided authentic data in terms of supervisor feedback and electronic observations. A review of literature revealed that few, if any, schools, colleges, and departments of education were using mobile devices to conduct clinical assessments. The JHCOE was poised to be a leader in the use of this innovation as part of its electronic assessment system. Despite the many challenges encountered with the equipment, classroom context, and mobile vendor the

JHCOE remained committed to this project because the benefits outweighed the costs. However, House Bill 1 ended this forward progression. The JHCOE is forced to wait because no feasible interim solutions exist. Given the lack of economic and human resources, further action on this project is pointless.

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## A Case for Place-Based Education for Inservice Educators

*Louise Conn Fleming, Ph.D.*

### Introduction

Smith (2002, September) defines Place-Based Education (PBE) as “an approach to curriculum that is grounded in students’ own lives, community, and region” (p. 30). Education, especially in the era of state, national, and professional group standards, tends to emphasize what is far away, and we find that most students know little or nothing about where they live. Yet, during the time of curriculum standardization, how can we ask teachers to teach what will not be tested? I teach a seminar called Place-Based Education in which I model how to integrate subject matter and standards while acquainting students with their local area, including community and food sources.

At our university, M.Ed. Candidates choose from a list of options for their capstone. One option is an Inquiry Seminar. Inquiry Seminars are topical, listed by professor, and students who want to take an Inquiry Seminar choose the topic that interests them. For several years, I have been advising one of the Inquiry Seminars around the topic, place-based education. We engage in readings, field trips, research and activities. For their final project, students develop a place-based unit to teach *their* students, using both content standards and place-based techniques. Student evaluations have shown that teachers who participate in this seminar are enthusiastic about weaving local education into their normal curriculum. Each time I offer the seminar, I have students who drive up to three hours one way because they are so excited about the topic. Additionally, many of these students leave the seminar inspired and recharged for teaching. In light of what place-based education has done for

my students, the objective of this study is to make a case for place-based education for in-service educators.

### Background: Place-Based Education

John Dewey (1902/2001) wrote that the great waste in education comes from failing to use students’ experiences from outside the school and failing to help the child connect what is learned in school with daily life.

When the child gets into the schoolroom he has to put out of his mind a large part of the ideas, interests, and activities that predominate in his home and neighborhood. So the school, being unable to utilize this everyday experience, sets painfully to work . . . to arouse in the child an interest in the school studies (p. 46).

This “disconnect makes learning an imposed chore” rather than an exploration of students’ own questions (Smith, 2002, September, p. 30). My own children grew up playing with bugs and sticks, going with me to parks, playing in streams, and inventing and solving outdoor mysteries like *Nate the Great* (a book series by Marjorie Weinman Sharmat) and *Encyclopedia Brown* (a book series by Donald J. Sobol). Instead of recognizing these connections with their backyard and community, however, my daughters’ teachers taught science from a textbook and performed experiments *for* the students and told them to take notes. Thus, the little girls who loved discovery and the outdoors began to hate science. Place-based education locates learning in the lives and

concerns of students and their communities (Smith, 2002, September). It is powerful because it “takes advantage of students’ natural interest in the world and their desire to be valued by others” (p. 30).

Place-based education works for adults too. Louv (2008) stated that time spent learning outdoors renews teachers’ enthusiasm for teaching. Many of my students choose Place-based education from a range of topics because they love the outdoors. Although some of them grew up with outdoor experiences and are very comfortable with nature, others are afraid to take their students outdoors and equally afraid to let their own children play outside. Nevertheless according to their statements, all of them leave the seminar inspired to integrate place-based education into their teaching. Those who are parents also make plans for how to share place-based experiences with their children. On student evaluations they write such comments as “renewed my passion to come up with learning tasks that inspire”; “this Inquiry Seminar gave the opportunity to take my natural love of nature and combine it in my classroom”; and “I came away with a lot of ideas and our school grounds have a lot of opportunities for outdoor exploration.”

Place-based education includes such categories as cultural studies, nature studies, real-world problem-solving, internships and entrepreneurial opportunities, and induction into community processes (Smith, 2002). Place-based education also often includes service to the community. Projects can take place within the school or on school property. For example, two primary teachers and their classes decided to redesign a neglected greenspace at their school (Smith, 2002). They catalogued the plants, mapped the area, and wrote a book about the plants they found. The students organized workdays at which they and their parents replanted the entire area. Smith (2002) noticed afterward that the students had begun to care about the school: “one student remarked that whenever he was walking around the school now and saw something that wasn’t right, he often thought ‘we could fix that. We could work on that’” (p. 32).

Another example took place in a high school business class in Howard, South Dakota. Students, along with their teacher, wanted to find out how money was earned and spent in their community (Theobald & Curtiss, 2000). They conducted town meetings with local business owners, consulted with the county auditor, and surveyed community members. When surveys were returned, students found that

most residents were spending their income in larger cities some distance away. The local paper reported the results, and surprised residents changed their buying habits. By the end of the summer, annual sales tax projections had already been exceeded, and the auditor estimated that \$6 to \$7 million had been infused into Howard’s economy (Theobald & Curtiss, 2000).

These business students learned economics, about their local area, how to analyze data, how to construct surveys, and how to talk to people. They learned that they could make a difference in the community, and they learned (p. 110) “that ineffable quality that all schools strive for: student character.”

My students’ place-based units differ widely. A computer programming teacher had his students plan and design a brochure for a vacation to natural areas in Ohio. Another student developed a unit around having her students design and install a wild-life garden. Another student used a place-based theme to have her students learn about canals of Ohio. Another designed a walking tour of her town. In their reflections they all reported that their students had enjoyed the unit, that they were collaborating with other teachers and/or their principals, and that they were looking forward to collaborating on further place-based projects.

## Methods

The College of Education at my university requires that every graduate student complete a capstone exit assessment, the *Self-Reflection Assessment for Candidates in Inquiry Seminars and Other Capstone Experiences*. They must discuss the following topics: the skills of professional inquiry that they developed or applied; the implications of the topic to curriculum, instruction, or professional performance; and the development of values such as collaboration, ethical research practices, and commitment to ongoing school improvement. My research analyzes and elaborates on themes in the students’ self assessments for two Inquiry Seminars. The total number of responses is 14 out of 19 students. Because one group received the permission forms late, I only received four out of eight. In the other group I received ten out of eleven. Of those students returning permission forms, six are male and eight are female. Four teach high school, four teach middle grades, and six teach early childhood.

Students were asked to sign the permission forms, but they were assured that there would be no penalty for not signing. Although responses to the

questions can be used as part of a course grade, I emphasize that I will not grade them. In fact, I collected them as they came in, but I did not look at them until after the seminar was over and grades had been submitted. I promised the students that I would not name them, their Program Center, or their school.

I did not have themes selected beforehand. I read the papers and sorted their responses into three broad categories, according to what they wrote: What They Liked about the Seminar; Impact on Teaching; and Impact on Life. The first category, What They Liked about the Seminar (there were no negative responses) includes Learning about Place-Based Education; Readings, Discussions and Critical Thinking; Collaboration in the Seminar; and Outdoor Field Experiences and Activities. The second category is Impact on Teaching. This category includes Using Nature and the Community; Collaboration in Teaching; Curriculum Implications and Instructional Methods; and Students' Responses. The third category is Impact on Life, including Impact on Life, Health, Practices, Children; Feeling of Renewal for Teaching; Feeling of Renewal for Learning; and Appreciation for Nature and Community. The next section lists the categories with selected quotes from the Self-Reflection Assessments. At the end of the section, the results are summarized in a table.

## Findings

### Category 1: What Students Liked About the Seminar

- a. Learning about Place-Based Education: Most of the students had never heard of Place-Based Education before enrolling in the seminar, and they enjoyed learning about the topic. One person wrote, "The connection between the schools and community is something that has been lost the last ten to twenty years. Place-based education brings those elements together and allows the benefits to be shared jointly."
- b. Readings, Discussions, and Critical Thinking: Comments in this category had to do with the material and instruction in the seminar. Students made comments such as they liked the "critical examination of issues," "learning new points of view," and "thought-provoking readings."
- c. Collaboration in Seminar: Much of the instruction required dialoguing and working together on projects. Students wrote that they valued collaborating with peers in the seminar and wrote comments such as "The dialogue in this seminar with fellow teachers

was perhaps the best part."

- d. Outdoor Field Experiences and Activities: Students responded enthusiastically to the field experiences and activities in the class. One student wrote, "The seminar provided field experiences and activities that brought place-based learning to a level in which it became something that could be brought into our classroom on an everyday basis."

### Category Two: Impact on Student's Teaching

- a. Using Nature and Community: Several students wrote that they would make opportunities to include nature and community in their teaching. One wrote, "I will prioritize field-based instruction so that students are better equipped to solve real world problems that are better aligned with grade standards." Another one promised, "I will now seek out ways to integrate nature and our community in my current lessons. By doing this, I know that the lessons will be more meaningful for my students." One student summarized her thinking with the following comment: "Truly, the natural world is the ultimate classroom."
- b. Collaboration in Teaching: I was pleased to see the number of students who shared what they were learning with colleagues and even family members. Students taught their units with colleagues and started planning with them for the following year. One student called the collaboration "priceless."
- c. Curriculum Implications and Instructional Methods: Several students included comments about the interdisciplinary nature of PBE. Others wrote about how engaged their students were in their unit and noted that PBE encouraged problem-solving and decision-making. Students also noticed that PBE reached beyond the curriculum by building values of "social awareness, conservation, and how our actions affect others." One student stated that "community and civic learning" should be part of the curriculum. He also found that PBE is applicable to "a variety of students with different backgrounds, differing levels of resources, and different learning styles." Another student succinctly stated, "We should turn communities into our classrooms."
- d. Students' Responses: Part of my students' requirements included giving a pre- and post-assessment to their students. At the end of the assessments, they noted, their students demonstrated both academic and emotional achievement, a sense of wonder, and "thoughtful engagement with nature and our community." Students noted that the unit helped their

students to see how they can contribute toward the community. One student wrote that she noticed a “vast difference” in her students’ behavior and retention. The student told me, ‘We enjoyed going outside and helping the world breathe.’

c. **Renewal for Learning:** Students put a lot of energy into the seminar. I could tell they enjoyed the topic and the activities. However, I was surprised to see that some of them credited the seminar with a continuing desire to learn. One student wrote, “This class has renewed my appreciation for learning. . . .” Another wrote that the seminar taught him that “learning is all around us and we never stop learning.”

d. **Appreciation for Nature and Community:** In addition to seeing their students learn appreciation for nature and community, students wrote that their own appreciation had increased. One student wrote, “My capstone experience has made me think outside the box and appreciate nature wherever I go . . . I have learned to stop, observe, and wonder about the little things in nature and not be so focused on my mission or what’s next.”

Table 1 shows the number of times each category was mentioned. The total number of categories mentioned is far more than the number of students because many of them named several of the categories.

### Educational Importance of the Study

This study has the potential to affect the education of in-service educators in both graduate education and in professional development. If educators are to rise to the challenge that John Dewey laid before us over 100 years ago, to connect schooling with students’ lives, it is important for us to consider ways to make those connections happen. But unless we in

### Category Three: Impact on Students’ Lives

a. **Impact on Life, Health, Practices, and Children:** A few students told me orally that they had already begun practicing PBE with their own children. One student wrote that she was going to plant a garden at her school and her home. The most heartfelt comment came from a student who, at a young age, is struggling with health problems: “The readings really had an impact on me and opened my eyes to new ideas about education and living. I never expected this seminar to have such an impact on my life, but it has been profound. It has changed the way I eat and live my life and has shown me the importance of bringing these topics into the classroom.”

b. **Renewal for Teaching:** Several students told me privately that they felt energized to teach. Three of them planned a unit together for the following school year, and they all said that they were looking forward to collaborating on it. One student wrote “After having the opportunity to try a place based lesson, I realized my students and I have a new enthusiasm for teaching.”

Table 1  
*Number of times each category was mentioned*

<b>What Students Liked about the Seminar</b>	Readings, Discussions, and critical thinking 6	Collaboration in Seminar 3	Learning about Place-Based Education 7	Outdoor Field Experiences and Activities 4
<b>Impact on Student’s Teaching</b>	Using Nature and Community 9	Collaboration in Teaching 9	Curriculum Implications and Instructional Methods 10	Students’ Responses 10
<b>Impact on Student’s Life</b>	Impact on Life, Health, Practices, Children 2	Feeling of Renewal for Teaching 2	Feeling of Renewal for Learning 3	Appreciation for Nature, Community 4



higher education teach educators *how* to do this, they may not know. Place-based education is one way to connect with students' lives and with communities.

In addition, we need to give our teachers hope. Many teachers today are discouraged. They are teaching in difficult situations and being asked to do what seems to be impossible. Inspiring them to be the educators they want to be and giving them tools to bridge the gaps between students' experiences and school may be enough reason to pay attention to a study of Place-Based Education for inservice educators. Fleming, Ellsworth, and Mudra (2009) have been presenting outdoor and place-based teacher workshops for several years. In their evaluations, they have found that, following the workshops, the teachers are inspired. Many of them return year after year, calling it "summer camp for teachers" (p. 33). Smith and Sobel (2010) have had similar results. They have seen "teachers revitalized as they engage in work that matters" (p. 43). Broda (2007) states that providing experiences in the outdoors for teachers helps them to see that their students will be enthusiastic when they learn outdoors.

If it is true, as the above studies indicate, that time spent in place-based education and in learning outdoors renews teachers' enthusiasm for teaching, we cannot afford *not* to teach PBE. Furthermore, as we see communities eroding, teachers may be even more in need of the renewal that traditionally may have come from neighbors and community connections. Place-based education takes both teachers and students into communities, in which they serve as "fellow citizens with shared responsibilities" (Smith & Sobel, 2010, p. 40). Such participation helps to build communities by constructing "social capital," the "forms of trust and mutuality that hold communities together" (Smith & Sobel, 2010, p. 40). In the words of Louv (2008, p. 3), "In an era of increased teacher burnout, the impact of green schools and outdoor education on teachers should not be underestimated."

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## Building an Adolescence to Young Adult Capstone Course

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It is the goal of teacher education departments to prepare highly qualified teachers who are researchers and practitioners of best practices in education today. Being able to use data to drive educational decisions in the classroom is a skill that requires teachers to be familiar with research methodology and best pedagogical practices. In alignment with this belief, the Adolescence to Young Adult (AYA) program preparing pre-service teacher candidates to teach grades 7 -12, answered the challenge by creating a curriculum emphasizing both pedagogy and content knowledge for the AYA pre-service teachers. While the union of research and pedagogical practices are taught in theory in university classes, it is not until the candidate actually teaches in a 7 – 12 classroom that they witness the importance of mastering both skills (Laursen, 2007). Even though faculty integrates theory with practice in most teacher education courses, the question of whether this integration process can actually occur in a university setting is a difficult one. However, when pre-service teachers are in their 90 hours methods semester field experience, the integration of content knowledge with pedagogical theories becomes a daily requirement. This semester long field experience is the culminating learning event for pre-service teachers for synthesizing academic content and pedagogy. Henscheid and Barnicoat (2002) identify the synthesis of real world with the academic world as a Capstone course. The intent of the AYA Capstone course is to allow pre-service teachers to experience a reconciliation of their academic theory with the reality of classroom practices. By requiring the implementation of an action

research assignment within the Capstone course, the AYA faculty focused on two specific goals for the course: 1) producing teacher researchers; and 2) reviewing pedagogical areas of concern.

An increase in the number of Capstone courses occurred after the publication of *Integrity in the College Curriculum: A Report to the Academic Community* (Association of American Colleges, 1985). This report focused attention on university students' inadequate academic preparation, lack of leadership skills to meet the challenges of culture, diversity, and workplace, as well as skills to assimilate and manage the flow of information. This report identified nine experiences that all undergraduates needed. Two of these elements were inquiry and in-depth study found in Capstone courses. The concept behind this was the need to give undergraduates nearing the end of their studies opportunities to integrate theory and practice and reflect on studies that represented their field of study.

In *Reinventing Undergraduate Education* (Boyer Commission, 1998) the capstone experience is regarded as a means to connect all the skills of research developed in earlier work into a project. This project is framed by a significant question or set of questions. The student conducts the research or engages in creative exploration to find answers, and then communicates results to audiences.

Capstone courses have been defined as culminating experiences where students are expected to integrate, extend, critique, and apply knowledge gained in their major (Brock, 2004; Wagenaar, 1993). Others such as Fairchild and Taylor (2000)

believe a Capstone course focuses on integrating knowledge, facilitating meaningful closure, and providing students with a contextual framework for connecting theory and practice to their profession in the outside world. Their research further demonstrated that students who completed a Capstone experience typically required less on-the-job training. Durel (1993) perceived Capstones as a culminating experience following a sequence of courses that integrates fragmented knowledge into a unified whole. Welch (2000), states that students need to understand problems and issues facing society and to develop analytical and problem-solving skills.

There are two major perspectives in the philosophy of capstone offerings one being an integrative academic experience, while the second method brings together past courses and “real world” preparatory experiences (Catching, 2004; Rhodus & Hoskins, 1995). Often Capstones are developed with a focus to prepare graduates for their first professional employment based on feedback from prospective employers (Magner, 1990). The overall purpose of both Capstone ideologies is to assist undergraduates in the connection and integration of learning.

Capstone courses come in multi-formats: case analysis, multiple role play, living cases, storytelling, computer simulations, and games. Mundell and Penarola (1999) used the case analysis format by giving students raw data, information sources, and teaming to reconstruct cases from these sources. Hartenian, Schellenger, and Frederickson (2001) assigned students to fictional companies in cross-functional teams. Students used their expertise from their major, but also had to perform other functions found in a realistic work setting. Keil and Olivo (1996) provided student teachers a place to tell their stories, share ideas, discuss problems, and give and receive support. The Capstone was viewed as the collegial beginning for the teacher induction process linking student teaching to professional careers. Fairchild and Taylor (2000) had students develop and implement a strategic business plan for a hypothetical firm and evaluate its financial impact on the organization’s success. This business simulation allows students to synthesize previous knowledge in the curriculum in a meaningful manner and helping to create new understandings of the business model.

Based on the literature, a Capstone course was created with the purpose of codifying theory to practice in pedagogy and content needed by our pre-

service teachers during the student teaching experience. As well as the need to give undergraduates nearing the end of their studies opportunities to integrate theory with practice and reflect on research that represents their field of study as requested by our high school partnership faculty and our students. Data was collected each year through a survey conducted with the graduating students and with the cooperating teachers and administrators. Thus, the AYA faculty responded to the needs of our students and our partnership schools by developing a Capstone course.

From the review of Capstone literature, we designed our Capstone course following a business model utilizing internships. The Capstone design was to give undergraduates nearing the end of their studies an opportunity to review, integrate theory, and practice as well as reflect upon content specific practices during their senior year field experience (Catching, 2004). Therefore, our research questions investigated:

1. What impact does research-based teaching have on student achievement when implementing an action research project;
2. What impact does a review of pedagogical concerns have on pre-service teachers’ self-beliefs about teaching?

### **Capstone Program Creation Process**

Creating a new course is a difficult hurdle in universities. Prior to the university granting the course acceptance, the course syllabus must be created and a justification for the course must be presented to the department faculty for consideration and approval. A key element that motivated our faculty to approve the Capstone involved an action research assignment with the intent of providing guidelines for conducting classroom research and motivating participants to implement research-based practice with the integration of theory into practice. The faculty viewed this requirement as helping the pre-service teachers unify classroom theories about data and give pre-service teachers experience working with students to collect and analyze data. The Capstone pilot experience was permitted.

To create this Capstone course, the AYA faculty held multiple meetings to brainstorm, discuss, and plan the essential elements for the course. Prior to the senior field experience, the AYA faculty obtained feedback from the pre-service teachers from exit interviews conducted during the fall methods content seminars. From these interviews surfaced concerns and apprehensions about student teaching. The AYA fac-

ulty analyzed the pre-service teachers' concerns and issues discussed in the seminars. While the pre-service teachers demonstrated their depth of content knowledge on the Praxis II content exam, and their pedagogical knowledge on the Praxis II Principle of Teaching and Learning exam, they still had the fear that they would not be effective teachers in an actual classroom. The pre-service teachers were fearful that they would not remember all the educational theory to implement into their practice.

In the planning stage, the faculty concluded that the Capstone would meet all day during the first week of the senior field experience/student teaching, along with four evening seminars and individual mentoring throughout the semester. The purpose for the Capstone action research project was to assist the pre-service teacher to implement research-based practice in the classroom and measure student achievement as well as alleviate pre-service teachers' apprehensions.

### **Methodology**

This case study examined the creation and implementation of a Capstone course offered during the senior field experience. The study followed pre-service teachers' experiences linking research with practice. To track the effectiveness of the Capstone which Bogdan and Biklen (2003) identified as "Historical Organizational Case Study," the faculty determined that the data from surveys, examination of results from action research projects on student achievement, and grades of the research papers would provide informative data to answer our research questions.

A qualitative methodology was best suited for this study. The use of surveys as written documents (Patton, 1990) served as a trustworthy source of data collection. We compared and contrasted the student surveys by looking for common themes and descriptions. The action research paper examined the student data within the project. The grading of the research papers followed a rubric used in the university course on action research. Sensitizing concepts (Blumer, 1979; Denzin, 1989; Patton, 1990) included our knowledge of relevant research and influenced our data analysis.

### **Participants**

The participants in this research were 55 pre-service teachers consisting of 44 females and 11 males entering a 15 week semester of full-time student teaching. The pre-service teachers attend an urban,

Catholic university in the Midwest serving a population of 7,731 undergraduate students and 3,189 graduate students. Participants were all undergraduates enrolled in the college of education seeking Bachelor of Science degrees in education with a specialty in one academic content area for the high school level.

### **Design and Procedure**

**Capstone Planning.** The planning process included the 12 member AYA faculty team, consisting of methods instructors from Art, English/Language Arts, Foreign Languages, Mathematics, Science, and Social Studies as well as pedagogical generalists. All members of the team supported and agreed on the importance of the Capstone experience and volunteered to take the lead preparing and presenting a seminar or assisting and mentoring students with their research.

At the end of every fall methods term and student teaching experience, the students attend an exit seminar where they identify the strengths and weaknesses of the program, issues and/or concerns, and suggestions for improvement of the student teaching experience. After collecting and analyzing surveys from the prior year and the fall methods exit seminar, certain concerns surfaced that needed to address prior to students entering their student teaching semester. These common concerns included classroom management, inclusion of students with Individual Educational Plans in classrooms, differentiating lesson plans, use of technology found in local schools, pedagogical concerns linking their university learned theories to practice in the classroom, how to conduct action research, legal/ethical issues in schools, and finding a teaching position.

From the students' responses on the surveys, issues were identified by the faculty, and a schedule for seminars was established. Faculty were recruited whose specialties aligned with identified concerns. Invited speakers from our partnership schools were invited to discuss topics unable to be filled by faculty. The sum of the seminars exceeded a week's time of class. To integrate the seminar information with student teaching, we planned for four after school seminars to cover the topics over the course of the semester. Once the topics were identified, the syllabus was created. The Capstone syllabus was presented to the department faculty for review and approval the following month. With department chair approval, the Capstone course was piloted in January of 2009, prior to the department final review and vote.

**Logistics.** Planning, implementation, coordination, and assessment for the Capstone were coordinated by the AYA program chair and approved by the AYA faculty. Feedback was given by department faculty enabling us to make this Capstone course a reality.

Two key elements were stressed by the planning team: pre-service teachers needed “the how to” of: 1) conducting action research and 2) collecting, analyzing and using data to inform their practice in order to document student achievement. The action research paper was the first exposure the pre-service teachers had to conducting research with a focus on student achievement. This was accomplished through a four-hour seminar providing research paper format, developing a research question, collecting data sources, and analyzing data with the assumption that mentoring would occur with each pre-service teacher throughout the semester.

The integration of technology into content was a pedagogical concern of pre-service teachers. Since pre-service teachers are faced with information more than doubling every three months (Fisch & McLeod, 2007), learning how to integrate technology skills into the classroom was viewed as a pedagogical strategy that pre-service teachers needed to meet the goals of 21<sup>st</sup> Century Skills (Partnership for 21<sup>st</sup> Century Skills, 2004). A half day session was created to introduce, familiarize, and practice multiple technology modes for classroom use. Pre-service teachers explored various content specific internet sites to complement their teaching and discussed implications of these tools for student achievement. These sites included: Wiki, Flickr, Twitter, Moodle, Audacity for podcasting, blogs, Muvee Mix, Voice Thread, Wetpaint, and Google.docs.

**Seminars.** Four after school seminars were created to complement the Capstone week. The seminar topics covered: employment opportunities; long term professional development; formative assessment to inform and improve instruction; and graduate school requirements. The seminars met for two hours and were presented using an interactive teaching mode throughout the semester.

### **Data Collection**

At the end of the senior field experience, the pre-service teachers submitted their action research paper and completed a survey during the final seminar. Anecdotal data was collected by the AYA faculty when visiting the partner schools in their discussions

with pre-service teachers and cooperating teachers.

### **Data Analysis**

Three data points were examined to determine the impact of the Capstone course: grades earned on the action research papers, impact on student achievement as reported in the research paper, and student comments on a survey conducted at the end of student teaching experience. The action research papers were evaluated using a rubric developed by the AYA faculty. The rubric identified the following range of possible points: 1 point- little or no evidence of research-based teaching and student achievement, technical errors; 2-3 points – minimal evidence of research-based teaching and student achievement, limited technical errors; 4-5 points – extensive evidence of research-based teaching and student achievement, no or very few technical errors. The areas that were awarded these points consisted of: title page, abstract, introduction, literature review, methodology, results, interpretation of findings (impact on student learning), conclusion, references and appendices. The grades were recorded and percentages tabulated for the whole cohort. The impact on student achievement was based on the pre/post assessments data reported in the action research paper. Summary data reports were aggregated and reported to the department.

The AYA faculty reviewed the survey responses to find common themes and descriptions based on frequencies of pre-service teachers’ responses. Comments and descriptions were recorded, sorted, and categorized for commonalities and responses. Comment frequencies were calculated based on percentages of students making comments within each survey question.

### **Results**

The AYA faculty concentrated their review of the effectiveness of the Capstone course on the two course questions: 1) What impact does research-based teaching have on student achievement when implementing an action research project; and 2) What impact does a review of pedagogical concerns have on pre-service teachers’ self-beliefs about teaching? In response to the first question, the pre-service teachers’ action research papers demonstrated that they were able to link their research to their classroom practices by identifying the impact on student achievement. The AYA faculty became mentors for each of the pre-service teachers over the 15 weeks of student teaching to provide guidance and direction as the re-

search was conducted and during the writing process. The action research papers demonstrated that students were able to successfully link research with classroom practices to impact student achievement. The Capstone grade was based on the pre-service teacher's ability to research and write a formal action research paper. Using the research paper rubric 51% achieved a grade of A, 40% earned a B, and 9% received a C grade.

The second source of data for the Capstone was the results section of the action research paper relating to impact on student achievement. This data reported the impact on student learning as the pre-service teacher implemented research-based practices. Examples included one Social Studies pre-service teacher who reported focusing on primary sources rather than the textbook found his students' grades improved with a deeper understanding of the concepts being examined based on his assessments. A Mathematics pre-service teacher found that planning and presenting mathematics lessons in differentiated approaches greatly increased student scores on unit tests. A Language Arts pre-service teacher compared memorized vocabulary lists to embedded vocabulary. Her data found that students using embedded vocabulary had a longer retention rate and higher application rate of vocabulary in their writing samples. Her action research data were presented to the Language Arts Department at her senior field placement resulting in a review of in-service teacher practice and classroom instruction in the teaching of vocabulary. These were not atypical results. Eighty-nine percent of the pre-service teachers reported similar increasing results, 7% of the reports observed a decrease in student achievement, and 4% had no difference in student achievement.

The results of the survey conducted at the culminating meeting of the student teaching semester revealed four topics that the pre-service teachers found helpful from the Capstone. These topics included in order of frequency: action research project, classroom management, anxiety issues, and technology. Pre-service teachers responded through the survey that the most beneficial seminar dealt with employment. Principals from local high schools spoke to the group about what they were looking for in their interview processes. Only 20% of pre-service teachers wrote that the other seminars were helpful to them.

The pre-service teachers noted at a rate of 81% that the action research process was beneficial and

wrote positive comments. Comments included: 1) Learning how to write the proposal was helpful. 2) It was nice to have done some research, I have been asked about it in interviews. 3) Make sure they pick something that produces scientific data, this really helped me. 4) I think it is vital to have a research project. 5) I feel that the seminars at the start of the second semester (Capstone) were useful in mentally preparing us for what was ahead. Fifteen percent of the students felt the action research did not meet its potential. There were comments that noted improvements that could be made to the course and they provided examples of how to improve the program. Examples included: 1) Start the action research process in the fall in methods classes. 2) Next year make the paper a larger percentage of our grade. 3) Spend more time on helping us create meaningful research questions. 4) More follow-up, mentoring. There were 4% who thought the whole course was a waste of time. Their comments included: 1) Nothing was helpful. 2) We could have done without it.

Our second premise asked what impact a review of pedagogical concerns had on pre-service teachers' self-beliefs about teaching. From the 53 surveys, 77% of the responses stated they felt more confident in their teaching based on the Capstone. Comments included: 1) As a whole, I feel the whole course was comprehensive and supportive. Based on how I felt at the beginning of the year, I now feel prepared and ready to teach. 2) Relax and be confident in the instruction you have received. The other 23% of students made no comment directed toward the Capstone course, they did note a supportive environment provided by the university faculty and the cooperating teachers.

Approximately five papers did not carry out their action research to the level of achievement that we had hoped. We found during the interviews that these pre-service teachers did not grasp the connections between being a teacher researcher and how that improves practice.

Results from the pilot were presented to the Teacher Education Department. Specific evidence was presented demonstrating pre-service teachers' implementation of research-based practices. These results showed an impact on student growth and achievement. The vote was unanimous from the department to include this new course in the AYA curriculum.

## Discussion

The AYA faculty and the pre-service teachers concluded that the Capstone experience was beneficial. Seventy-seven percent of the pre-service teachers identified positive elements of the program. Pre-service teachers stated “Good project, it was very beneficial to me” and “I feel that the seminars at the start of the second semester (Capstone) were useful in mentally preparing us for what was ahead.” Thus, the AYA faculty concluded that the work and time to create the Capstone course was worth the effort. Pre-service teachers experienced action research and saw the benefits of using research-based practice in their teaching. The majority of the pre-service teachers were able to grasp the use of research as a source for improving their pedagogy. We learned from the survey that some pre-service teachers did not receive the mentoring that they needed to produce a high-quality action research paper. We plan to discuss mentoring with AYA faculty and university liaisons to create a uniform mentoring element to the program. Grossman and McDonald (2008) called for a research agenda that examined what aspects of teacher education improve student achievement. We found that this Capstone course helped our pre-service teachers put a focus on student achievement that was not present in the past. Further research is needed to track student achievement with pre-service teachers’ classroom evaluations as well as their implementation of research-based practices.

The survey responses were positive about integrating technology and content in classrooms. The pre-service teachers felt confident in their expertise using multiple internet programs to deliver content. This was observed by the AYA faculty and cooperating teachers as the pre-service teachers taught their classes. The cooperating teachers made many positive comments on the lessons they learned from the pre-service teachers about the multiple internet sites that could improve content delivery. The AYA faculty is moving to implement cooperating teacher suggestions such as getting the Action Research paper started during the fall methods courses. This would ensure the topics being examined were truly examinations of content and pedagogy. This was the first time many of the pre-service teachers conducted research using the American Psychological Association (APA) (2001) requirements. The pre-service teachers had a difficult time mastering APA formatting. To help our students next year, we plan to have an additional seminar,

schedule peer reviews of the proposal and paper, and conduct a review session with a faculty member prior to submitting the final paper. Based on this experience, we see great potential for Teacher Education Programs to link research and classroom practices through action research in a Capstone course.

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## Using Design Thinking to Turn Teacher Education “Upside Down”: Implementing NCATE’s Blue Ribbon Panel Report

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### 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 accomplish-

ing 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.

Brown (2009) has described design think-

ing as an iterative process that begins in response to a problem or need. It occurs in three overlapping spaces: *inspiration*, *ideation*, and *implementation*. *Inspiration* is motivated by a need, problem or opportunity that prompts a search for solutions; *ideation* involves generating, developing, and testing ideas; and *implementation* moves an innovation from piloting stage to full integration within a system (Brown, 2009; Brown & Wyatt, 2010).

The thinking in each design space makes use of the thinking in every other space, whether anticipatory or reflective. For example, entry into a new space is framed by the outcomes of the previous one. Similarly, innovation efforts typically loop back through Inspiration, Ideation, and Implementation as ideas are refined and new directions explored. Each of these three spaces and their utility for implementing a clinically based program in teacher education is discussed in more detail in the following sections.

### **Inspiration**

Inspiration can occur at any time during the design process. Typically, the result is an intuition, a sudden insight, or an “aha” moment, all of which constitute a significant reorganization of thought into a new perspective. The intuitive thinking processes responsible for inspiration are tacit, somewhat mysterious, and difficult to analyze. However, it is well established that intuition is motivated by a sense of urgency concerning some need, problem or opportunity (Sadler-Smith, 2008). The needs, problems, and opportunities facing teacher education described in NCATE’s Blue Ribbon Panel report are presented below. This description simultaneously provides a rationale for change, a sense of urgency in the Panel’s call for action, and a “design space” for conceptualizing innovation.

In regard to needs, the Report discussed the need to prepare future teachers for “unprecedented responsibilities” in an increasingly fast-paced world. New teachers can expect a rapidly changing curriculum that requires an in-depth knowledge of child development and assessment to meet the individual cognitive, emotional, and social needs of an increasingly diverse student population. Consequently, they will need advanced communication skills in order to enhance their ability to collaboratively problem solve with peers. In regards to problems, the report discussed two that have led to wide variation among clinical experiences and a lack of rigor among teacher preparation programs. The first is a lack of explicitly articulated ex-

pectations for field experiences in many teacher education programs. The second is the need for better mentor preparation: teachers who have participated in a mentoring program are more effective in working with preservice teachers than those who have not (see Bridges, 1995; Evertson & Smithey, 2000; Killian & McIntyre, 1986).

In regard to opportunities for reform, the report discussed several recent developments in teacher education that provide platforms for change. These include the development of common core standards, more accurate recordkeeping through state-wide databases, and the increasing recognition of the importance of field experiences to teacher preparation. The first provides a basis for a clinically based curriculum in teacher education. The second provides an opportunity for increased rigor and more accountability within teacher education programs. The third is consistent with previous research on the effectiveness of field experiences for developing pedagogical content knowledge (The National Research Council, 2010). Taken together, these three developments comprise a rich and fertile design space to support the inspiration needed for innovations in teacher preparation.

### **Ideation**

Ideation refers to the generation, development, and testing of ideas. It is a more deliberate and explicit process than Inspiration, but it differs substantially from the analytic procedures associated with educational research. During research, data collection and analysis occur within the carefully defined parameters set by an already established research design. In contrast, Ideation is a *search* for a design; consequently, the parameters for collecting information are broader and more malleable than those set in traditional forms of educational research.

The wellspring for Ideation is in the depth of expert knowledge concerning the nature of a problem, its context, and the relationship of the problem to existing practice. However, Ideation can be further enhanced by the strategic use of pilot projects. Pilot projects enable teacher educators to actualize their design thinking in real world settings for the purpose of generating and testing new insights, intuitions, and creative impulses (Nelson & Stolterman, 2003). Systematically cultivating new experiences from a fresh design perspective feeds inspiration, exposes problems, and reveals interrelationships. The more quickly information is gathered and ideas are tested, redesigned,

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](http://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 fos-

ter 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 Sci-Math 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 completion

of their student teaching experience. They will need to understand the phases of growth through which candidates pass, how to challenge candidates in ways that foster rapid growth, and how to have open and honest conversations that promote deep reflection. Making this change will require building an infrastructure for mentoring at the early field experience level.

In this new model, professors will take more responsibility for preparing teachers to mentor by actively seeking to increase their understanding of mentoring and by contributing to the construction and maintenance of an infrastructure for mentoring. As part of this effort, faculty members at Ohio University are currently offering a series of ten-hour workshops on mentoring early field experience candidates. The workshop offers teachers a graduate credit at no cost or very reduced cost, depending on the availability of internal grant funds. In return, teachers become part of a continuing conversation that enables a joint effort to identify and support the mentoring skills specific to early field experiences. The workshop has provided a meeting place for teachers and professors to discuss the direction of the early field experiences, the development of tools to support the mentoring of candidates in early field experiences, and fresh experiences to further feed design thinking. To read further about the Mentoring Teacher Candidate Workshop, visit [http://www.cehs.ohio.edu/cc/mentor\\_wkshp.html](http://www.cehs.ohio.edu/cc/mentor_wkshp.html).

### **3. Turn Pedagogy “Upside Down”**

NCATE has called for pedagogy that focuses on student learning, is measured by the learning of teacher candidates, prepares future teachers in content and pedagogy learning, and fosters the use of technology (Design Principles 1, 3, 4, & 8). Like many other teacher education programs, Ohio University already embraces and incorporates many of these elements into their instruction.

Leveraging change will require taking an additional step of creating a clinical curriculum that supersedes and is independent of any single course. In the current model, the curriculum for field experiences is organized to meet objectives set at the level of individual classes, rather than the classes serving the larger purpose of the entire program. Thus, candidates experience their clinical experiences as a collection of isolated events lacking a central purpose or outcome. Such a fragmented approach also inhibits communication with the candidates’ mentor teachers who lack familiarity with the content of individual courses, the access or time to read a collection of individual syllabi,

and a framework for understanding the sequence of courses within a program.

One approach Ohio University is taking to develop a clinical curriculum is through the use of seminar classes. Seminar classes exist for the sole purpose of supporting clinical experiences, much like those associated with student teaching. Building a curriculum will involve listening to candidates as they reflect on their clinical experiences and then using those reflections to design a sequence of experiences that can maximize their experiential learning. These experiences would not be designed as applications of coursework; instead, their design would be a response to the candidate’s experience in the field. In the new paradigm, campus-based courses will be organized as satellites to the seminars, designed to support and enrich the candidate’s experiential learning. In effect, practice will precede theory, thus turning pedagogy in teacher education “upside down.”

### **4. Establishing a Research and Development Agenda**

To construct a clinical model of teacher education requires the development of a powerful research and development agenda that supports continuous improvement (Design Principle #9). Leveraged change would involve integrating design thinking into a powerful research and development agenda. The role of design thinking would be to create speedy innovations that could be rapidly deployed to test their short-term benefits and to generate new ideas. The role of empirical research would then be to assemble the evidence needed to justify long-term benefits for the program and the profession.

Under the current model, professors often work independently on research projects, often within an area of specialization, such as science education or social studies education. There is not always a strong connection between their research and their teacher preparation program as a whole. In the new paradigm, organizing faculty into teams or collaborative groups would be foundational to the research and development needed for teacher education. Working together enables constant dialogue about program improvement, facilitates continual professional development, and fosters productivity in scholarship. Tackling issues that address needs, solve problems, or take advantage of opportunities in individual programs could also provide insights for the entire field.

At Ohio University, we have numerous “works in progress” related to restructuring field experiences,

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 pre-service 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 fostered by systematically moving through the design

spaces of Inspiration, Ideation, and Implementation. The use of design thinking provides a means for taking advantage of an historic opportunity to transform teacher education programs and fulfill the vision of the NCATE Blue Ribbon Panel. It is a vision that calls for teacher educators in Ohio to take a leadership role. It is an opportunity that we do not want to miss.

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**Book Review:** *Teach Like a Champion: 49 Techniques that Put Students on the Path to College* by Doug Lemov; San Francisco, CA: Jossey-Bass: Wiley Imprint, 2010.

*Virginia McCormack, Ed. D.*

In the book *Teach Like a Champion: 49 Techniques that Put Students on the Path to College*, Doug Lemov (2010) offers worthwhile text that supports teachers and educational professionals in creating, managing, and applying a teaching taxonomy of effective teaching practices in all learning environments. This book is appropriate as a resource for educational practitioners and as a textbook for teacher candidates.

The author begins by placing ideas of valuable teaching techniques in context with what teachers need to know in today's classroom. An important component of this book is the specific, proactive examples of teaching techniques illustrated with concrete demonstrations from diverse classrooms that are practical and easily implemented. The reader will be able to quickly locate sections of the book that contain specific teaching techniques. There are twelve chapters in the book with part one encompassing the essential techniques and part two helping students get the most out of reading. Each chapter in this text follows a user-friendly format that includes the definition of the topic and key insights from research, descriptions of effective pedagogical approaches for varied grade levels, and revisiting instruction through reflection and practice. The appendix provides behind the scenes interviews with the participating champion teachers and a companion DVD exhibits the effective teaching techniques highlighted in the book.

How do we measure effective teaching? Numerous frameworks and fundamental practices abound along with new programs created with educational stimulus funds that focus on how well

teachers perform. A oversight in this text is that Lemov neglects to analyze the political, social and cultural variables and implications. Additionally, teachers as reflective practitioners will question the flexibility of a set of practices and whether these practices could provide a common foundation and framework for improving teaching.

Lemov unabashedly argues that through explicit planning, delivery, engagement, maintenance, building trust, and challenging students, teachers will make measurable improvements in their teaching. The classroom practices of the most successful teachers are documented to give hope to teachers struggling with low performers and to challenge teachers of high performers to even higher academic goals. Effective teachers, administrators and schools carefully plan the use of time based on the content area, student learning style, and current research. The various high-leveraged techniques presented in the text require assorted time commitments that range from minimal to substantial. Along with a time commitment, teachers must be willing and open to recalibrating how they teach a particular lesson or course that over time may even lead to an entire lesson or course redesign.

Based on the idea that teaching is an art, Lemov is a firm believer that champion teachers and teaching can be developed, refined and revitalized. All of these techniques are about trying to keep teachers energized, so that students have the best learning experience they can possibly have and that academic achievement is increased. Entry-level teachers and mentor teachers can adapt these techniques to fit their needs. This book is a discus-

sion starter as well as a resource for teachers and teacher candidates on how to apply teaching techniques in different situations that they will have to respond to in their classrooms. Mentor teachers can benefit from foundational knowledge and opportunities to advance their skills and by helping a colleague think about their teaching that can rejuvenate the colleague's teaching and their own. The key is to continue learning, trying new ideas and build on the techniques that work, rather than becoming mired in the same teaching routine.

Effective teaching is embedded in our teaching philosophy, woven through a flourishing personal teaching style and crafted through teaching experiences. The text discusses high expectations, building a classroom culture of trust and rapport, classroom management, and the ability to construct lessons as singular, yet integrated techniques. The reader has the sense of being guided through the instructional techniques and supported through a very feasible approach. This book simplifies how to deliver instruction for a range of content areas and techniques in a manner that will effectively reach diverse learners.

In all, I thought the book offered realistic advice that is grounded in detailed, comprehensive, and practical action for teaching and learning. Lemov presented a view of widely used effective teaching techniques that were firmly embedded within a research background. The genius of this book is the clarity with which it elucidates how this quality can be intentionally developed in every classroom. Regardless of the scale of implementation, these practices have the potential to assist teachers in gaining a better understanding of effective teaching.

*Virginia McCormack is a professor of education at Ohio Dominican University and a member of the OATE Executive Board.*



# Ohio Association of Teacher Educators

## Membership Invitation August 2011-July 2012

*The Ohio Association of Teacher Educators (OATE) is a state unit/affiliate of the Association of Teacher Educators (founded in 1920) and is also a member of the Ohio Confederation of Teacher Education Organizations (OCTEO). OATE promotes quality teacher education programs for initial preparation, induction, and continuing professional development opportunities for P-12 school districts, agency-based, and college/university teacher educators.*

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## ***The Ohio Journal of Teacher Education***

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Deadline for **Spring 2012** submissions is **November 14, 2011**

Deadline for **Fall 2012** submissions is **April 23, 2012**

Manuscripts, editorial correspondence, and questions can be directed to Virginia McCormack, Ed. D.,  
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