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Teacher Education Reform in Far East Russia: Integrating Field Experiences with Action Research

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Abstract

In 2011, the Russian Far Eastern Federal University teacher education faculty redesigned field-experience practica to improve teacher candidates' professional reflection, practical classroom instruction, and capacity for action research. For each academic year, faculty aspired to achieve these goals by collaborating to develop field experiences that differentiated mentoring of teacher candidates to fit with their professional goals and preparation levels. The purpose for this study is to investigate the effectiveness of this reform by comparing pre-reform senior theses to post-reform senior theses on a series of outcomes. Using a mixed-methods approach, findings indicate that post-reform teacher candidates outperformed pre-reform candidates on thesis quality. Specifically, post-reformed candidates were better able to make theoretical connections to their practice as evidenced by their action research topics and findings.

Keywords: teacher education, student teaching, field experiences, action research, senior thesis, theory into practice.



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Introduction

While in the midst of reforming the teacher-education field-experience practice at his university in the Vladivostok region of Russia, the lead author of this article engaged his colleagues on the other side of the Pacific Rim in California, United States, to lead an evaluation of the reform effort. His colleagues, the coauthors of this article, initiated a participatory model of evaluation (Cousins & Earl, 1992) in order to not only improve utilization of evaluation results, but also produce results that are useful to the larger community of teacher educators (Alkin, 1991). This article is a reflection of our collaboration.

Currently, the Russian system of higher education is transforming. Educators throughout the country agree that higher education should encourage students with diverse educational goals to solve authentic real-world problems (Polat, 2008). This is especially true for teacher preparation programs where future teachers must have the capacity to address many classroom-based challenges (Berliner, 2013; Loeb, Soland, & Fox, 2014; Slater, Davies, & Burgess, 2012). Thus, field experiences with children play a critical role in building this capacity. Teacher candidates rate field experiences as the most authentic and relevant part of the teacher preparation experience (Koerner, Rust, & Baumgartner, 2002). In particular, field experiences have the potential to enable future teachers to develop a holistic understanding that connects the university's insights from theory with the authentic experience of classroom practice (Ronfeldt, 2012; Ronfeldt & Reininger, 2012). The reform in Russia attempts to bridge this connection. Therefore, the evaluation study presented in this paper focuses on the efficacy of a reformed system of field experiences during teacher education to achieve an explicit connection between theory and practice.

The Need for Reform

Research on teacher education outside of Russia has identified reasons for reforming Educational system in general and, even more specifically, teacher preparation. In the United States, much of the reform has focused on finding best practices. Studies have focused on identifying the optimal time student teachers should be in the field, finding the best field placements with quality mentor teachers, and establishing clear roles and responsibilities between university supervisor and mentor teacher, (Chambers & Hardy, 2005; Svengalis, 1992). As in Russia, some American teacher-education programs initiated reform through action research to engage teacher candidates in reflective problem solving as a way to use theory to develop and evaluate best practice (Anderson et al., 2015; Carboni, Wynn, & McGuire, 2007; Hagevik, Aydeniz, & Rowell, 2012). In particular, a study of UCLA's teacher education program indicates that their reform efforts focus on developing motivation through mentorship in action research (Cooper, 2006).

In Russia, the need for reform in teacher education rests primarily with making greater connections between theory and practice. The traditional system of teacher education has been presenting a didactic model of instruction, with a substantial amount of theoretical information that teacher candidates do not find important or practical (Alexeyeva & Bokut, 2003; Bakulina, 1991). This system is well ingrained in teacher education, with teacher candidates' completing a series of assignments that are independently determined by university instructors to develop skills they deem important. Field placements are limited to classrooms where teacher candidates imitate instruction modeled by their guide teachers. In doing so, teacher candidates reproduce the traditional, often mundane, pedagogy of the school system (Alexeyeva & Bokut, 2003). This traditional instructional strategy, while

providing teacher candidates with classroom examples to replicate and internalize, is not flexible enough to adapt to each teacher candidate's individual development as a future teacher. As a result, the traditional system focuses on practice and theory as an academic activity rather than an authentic one. With this system, teacher candidates recreate the current, some might say, "obsolete," system of education as opposed to creating opportunities to advance the teaching profession (Abdulina, 1990).

In order to realize the national goal of individualized education for children, teacher education must strive toward two initiatives. First, new national standards for teacher education call for a balanced approach to foundational and pragmatic instruction where practice and theory intersect (Grebenyuk, 2003). Second, reform efforts must innovate university instructors' roles beyond transmitters of knowledge as they become mentors who assist future teachers in developing their individual pedagogy through an apprenticeship model (Rogoff, 1990, 2014). In short, there should be a reform of responsibility and power structures, where democratic cooperation, supportive collaboration, and student initiative replace authoritative, instructor-led pedagogy (Grebenyuk, 2003; Kehm, 2013; Leisyte, 2015; Li, 2012; McCowan, 2012). The teacher education faculty at the Russian Far East Federal University attempted to actualize these notions into a curriculum. This article describes this reform effort and its evaluation with a goal of providing a data point for other teacher-education programs that are considering or implementing their own reforms.

Setting

Overview of the Reformed Student-Teaching Experience

In 2011, the Russian Far East Federal University teacher education faculty initiated a reformed field-experience practice that centered on the development of creative problem-solving skills through professional reflection and a strong connection between practical classroom instruction and students' conducting independent research. To strengthen this connection, the faculty designed a four-phase field-experience process that supports each teacher candidate before completing a thesis in the fifth year of the teacher-training program:

Phase 1: Introductory practicum

Phase 2: Summer teaching practicum

Phase 3: Student-teaching practicum

Phase 4: Professional teaching practicum

The specifics of each practicum are differentiated among teacher candidates to fit with their professional goals as well as their level of preparation for the teaching profession. In particular, teacher candidates' choice of action-research project for each phase guides the specific nature of the practicum as the faculty supports each teacher candidate to be prepared not only practically for the teaching profession, but also to be an innovator within the profession. Student-teaching experiences during practica formulate examples in university coursework, where faculty support teacher candidates in connecting theory to practice. At the end of the program, as occurred before the 2011 reform, teacher candidates defend a thesis that describes their action-research project.

Introductory Practicum

The Introductory Practicum takes place during the spring semester of the first year of the teacher education program. During this practicum, teacher candidates meet with selected teachers in the community who have proven excellence at the vanguard of pedagogical practice. Teacher candidates observe these teachers in action as well as engage with them in discussions about instruction, child development, and the teaching profession. Teacher candidates also have opportunities to work individually with students as well as participate in school life outside of the classroom. At the conclusion of the Introductory Practicum, teacher candidates write a report in which they analyze their experience based on pedagogical theory. The analytical report along with articulated objectives are the key reforms for this practicum.

Summer Teaching Practicum

Between the second and third years of the teacher education program, teacher candidates work for one or two months as summer camp counselors. This Summer Teaching Practicum is designed to support teacher candidates' develop organization and communication skills, as well as gaining new perspectives on the social context of education outside the classroom. In association with the Summer Teaching Practicum, teacher candidates write a report in which they analyze and evaluate an aspect of their practicum experience that they find interesting and educational. This is designed to provide teacher candidates with an opportunity for self-initiated inquiry. The autonomy (Benita, Roth, & Deci, 2014) associated with the report along with articulated goals formed the key to this phase of the reform effort.

Student-Teaching Practicum

Throughout the fourth academic year of the teacher-training program, teacher candidates participate in the Student Teaching Practicum. As teacher candidates work directly with students under the supervision of guide teachers, they consider and incorporate their pedagogical and methodological coursework under practical conditions. Throughout the practicum, teacher candidates are required to keep daily reflections in which they note new pedagogical and instructional methods as well as evaluate their daily lessons. At the end of the Student Teaching Practicum, teacher candidates write a report in which they evaluate their own development as a teacher with particular attention to their developing problem-solving skills. The reforms of this practicum encompassed the reflective diary along with the canonical reforms of the research aspect of the report and articulated goals.

Professional Teaching Practicum

During the fall semester of their fifth academic year, teacher candidates are given complete authority over a class of students. In this independent work, while the university and the school site provide mentoring, the teacher candidate is the sole authority in the classroom. Teacher candidates are required to keep daily reflections, all lesson plans and records of parent contacts. Teacher candidates are also required to give at least one lecture at a faculty meeting at their school site in which they explain theoretical and practical aspects of an important pedagogical or methodological issue. The professional involvement with a faculty lecture, reflective diary, and parent journal formulated the reform of this practicum.

Methodology

The first data source for this evaluation study is the complete set of senior theses from two academic years preceding reform of field experiences (2009 graduates, n=56 and 2010 graduates, n=52) as well as from two most recent academic years after at least four years of field-experience reform (2014 graduates, n=54 and 2015 graduates, n=28), to allow for teacher candidates to experience the full scope of the reform. All graduates completed a program in elementary teacher education and were between 22 and 23 years of age upon graduation. Each cohort was predominantly female, with only one or two males.

Prior to and after the reform, teacher candidates, with the support of university advisors, were required to conduct and write up an independent action-research project known as the thesis. Each thesis included the research question to be examined, rationale for the question, theoretical and analytical review of literature, methods of the experiment, presentation of quantitative analyses and results, as well as discussion and interpretation of results with a conclusion. While thesis projects were completed during the final semester, the proposal could be approved at any time during the teacher-education program. Each thesis was graded by a government committee, headed by a representative from another university, with the following criteria:

- (a) The extent to which the research question is presented as innovative and practical;
- (b) The extent to which the range of literature review includes multiple perspectives related to the topic of the research and supports the research methodology;
- (c) The clarity of the research objective and hypothesis;
- (d) The conviction of the rationale in supporting the practical reasons for the research;
- (e) Clarity and choice of methodology;
- (f) Clarity in presentation of results, including any graphs and tables;
- (g) Thoughtfulness and appropriateness of result interpretation and conclusions.

For the purposes of the present research, two Russian faculty members used the above criteria to independently rate all theses that were submitted in the two years before the reform, as well as theses completed in the two years after implementation of all four years of the reform. All theses were presented to the raters in a blind condition such that they could not determine when theses were submitted.

The second data source included individual, semi-structured exit interviews (DiCicco-Bloom & Crabtree, 2006; Mertens, 2015) of samples of graduates whose theses are included in this study (2009 graduates, n=12; 2010 graduates, n=14; 2014 graduates, n=24; 2015 graduates, n=12). Interviews were conducted by an administrator after graduation, after all grades and evaluations had been submitted and officially recorded. Graduates whose interviews are included in this study provided informed consent.

Graduates were presented the following prompts:

- (a) What do you recall about your field experiences and to what extent were they an important part of your education?
- (b) What can you say about the process of choosing your thesis topic?
- (c) How did field experiences contribute to the quality of your thesis project?

- (d) How did field experiences contribute to your defense of your thesis project?
- (e) How can field experiences be improved?

All interviews were audio recorded, transcribed, and translated into English prior to analysis. Translation was conducted by the second author of this article. The analysis of interviews focuses on identifying common themes (Denzin & Lincoln, 2008) within and across cohorts. Thematic analyses were conducted by the co-authors of this article, who independently established categories and interacted to establish intersubjectivity. Upon establishment of common themes, we conducted a comparative analysis between pre-reform and post-reform graduates. Finally, we chose responses that exemplified each theme (Galletta, 2013) to present typical responses from cohorts prior to and after the reform implementation.

Results

The goal of this evaluation research is to investigate whether or not the changes to the teacher education program resulted in a change in teacher candidates' performance on their action-research thesis. Prior to and after the reform, teacher candidates completed an action-research project that constituted their thesis. To determine whether candidates' thesis quality changed due to the reform, we used the abovementioned Russian Ministry of Education seven-part criteria for theses evaluation.

Theses: Quantitative Analyses

Using the theses data, we first examined the reliability of the two theses scorers. The overall inter-rater reliability (Cronbach's alpha) for the two scorers was 0.89 (ranging from 0.81 to 0.93 for rubric categories), an indication of good to excellent reliability (DeVellis, 2012). Therefore, for all analyses of grades by category, we used averages of scores between the two raters.

In addition, we examined whether or not theses during both years prior to reform efforts were significantly different from each other or from the official grades. We also examined theses submitted during both years after the reform. Our preliminary analyses indicated that action-research theses submitted during the two years before the 2011 reform (theses submitted during 2009 and 2010) did not differ significantly on any of the seven rubric categories. Likewise, there were no statistically significant differences between theses that were submitted during two years after the reform (2014 and 2015). Finally, rater scores were not statistically different from official grades. Therefore, we aggregated scores for theses submitted during two years before the reform as well as theses submitted after the reform (See Table 1).

Table 1. Means and standard deviations of action-research theses grades and scores on associated rubric categories for pre-reform and post-reform graduates (grades and scores range from 1-5, with 5 being the highest).

2009 (n=56)	2010 (n=52)	2014 (n=53)	2015 (n=28)	
Official grade	4.32 (0.77)	4.23 (0.81)	4.68 (0.58)	4.61 (0.63)
Research question	3.96 (0.58)	3.95 (0.64)	4.58 (0.58)	4.50 (0.62)
Literature review	4.22 (0.67)	4.27 (0.65)	4.26 (0.55)	4.16 (0.51)
Objective & hypothesis	3.77 (0.67)	3.75 (0.70)	4.58 (0.53)	4.45 (0.57)

Rationale	4.13 (0.66)	4.17 (0.71)	4.57 (0.60)	4.33 (0.67)
Methodology	3.97 (0.62)	4.08 (0.72)	4.56 (0.58)	4.52 (0.50)
Presentation of results	3.88 (0.71)	3.91 (0.71)	4.47 (0.57)	4.46 (0.54)
Interpretation	4.27 (0.76)	4.15 (0.76)	4.67 (0.53)	4.63 (0.55)

To examine differences between action-research theses during the pre-reform years and post-reform years, we conducted a MANOVA test with associated ANOVAs. We chose not to conduct a series of independent samples t-test in order to avoid the possibility of Type 1 error. Our analyses detected statistically significant differences for all variables with the exception of the “literature review” rubric category, such that graduates in the post-reform years scored better than graduates in the pre-reform years (see Table 2).

Table 2. MANOVA and associated ANOVAs of differences in action-research theses grades and scores on associated rubric categories for pre-reform and post-reform graduates.

	F	df	p	eta ²
MANOVA	26.85	8, 180	< 0.001	0.54
Official grade	6.56	1, 187	< 0.001	0.07
Research question	16.42	1, 187	< 0.001	0.20
Literature review	0.01	1, 187	n.s.	n.s.
Objective & hypothesis	28.00	1, 187	< 0.001	0.28
Rationale	7.51	1, 187	< 0.001	0.09
Methodology	12.52	1, 187	< 0.001	0.15
Presentation of results	15.09	1, 187	< 0.001	0.16
Interpretation	9.02	1, 187	< 0.001	0.10

These findings indicate that post-reform theses were higher in quality than those completed before the reform. In particular, post-reform teacher candidates earned higher ratings on their action-research questions, clarity of their objectives and hypotheses, choice of methodology, and thoughtfulness of their result interpretation. To see how the reform of field experiences could have contributed to these findings, we examined exit interviews with samples of graduates who submitted their thesis prior to the reform as well as those submitted after the reform.

Qualitative Comparative Analysis of Themes Associated with Interview Responses

After interviewing pre-reform and post-reform graduates, we mined interview data for common themes within and across cohorts (Denzin & Lincoln, 2008).

Commonalities. Qualitative analyses revealed important commonalities among all graduates. First, graduates who submitted their theses prior to and after the reform were all convinced that their field experiences provided opportunities to gain authentic experience in the classroom. Pre-reform graduates made statements such as, “Pedagogical field experiences are important in higher education, if a student plans to work at a school, he has to receive experience in working with children and teachers in school.” and “I believe that pedagogical field experiences is an important component of future teachers’ learning process since it affects students’ identity development as future professionals.” Post-reform graduates made similar statements, such as, “Pedagogical field experiences are very important in providing opportunities to receive new experiences with pedagogical activities and to apply instructional skills. I think it is impossible to prepare a good teacher without good pedagogical field experience.”

Both groups highlighted the importance of field experiences in shaping their identities as future teachers. A pre-reform candidate stated “I believe that pedagogical field experiences is an important component of future teachers’ learning process since it affects students’ identity development as future professionals.” Similarly, a post-reform candidate remarked, “Precisely in the process of pedagogical field experiences future teachers receive work experience while developing identities of future professionals.”

An important element of a successful credential program is that teacher candidates have an opportunity to use their pedagogical skills in authentic spaces (i.e., summer camp and school classrooms). In these spaces, teacher candidates have an opportunity to develop their pedagogical practice. All graduates indicated that field experiences played a crucial role in their professional decisions. That is, teacher candidates believed that field experiences strongly informed their thinking about the teaching profession. Pre-reform candidates made statements such as, “I believe that pedagogical field experiences affect graduates’ conceptions about their future careers. What personal characteristics and skills would they need to improve in order to successfully work? After completing pedagogical field experiences, some graduates understand that they will not be able to work as teachers, while others understand that this is their calling.” and “Pedagogical field experiences provide opportunities to test instructional skills and determine one’s paths of self-development. Pedagogical field experiences affect students’ understanding of the teaching profession and determining personal deficiencies.” and “Pedagogical field experiences are the only method to see your own deficiencies of knowledge.” Post-reform graduates made similar statements, “Pedagogical field experiences provides graduates with experience that determines whether or not they will work as educators.” and “While completing pedagogical field experiences one can determine weak skills that must be developed.”

Overall, the commonalities among pre- and post-reform candidates highlight the benefits of the field practice experience to experience teaching in authentic spaces and to develop their practice with the support of mentors (Ronfeldt, 2012; Ronfeldt & Reininger, 2012) In addition, teacher candidates’ statement echo research proclaiming the overwhelming popularity of field experiences among teacher candidates (Koerner et al., 2002).

Nonetheless, post-reform candidates’ theses were rated higher than those of pre-reform candidates on four of the seven indicators. The favorability of the field experiences by pre- and post-reform teacher candidates does not shed light on the notable differences in these ratings. To address this issue, we turn to notable differences in the interview data that might explain the difference in performance.

Differences. Using interview data, we discovered four themes that may explain how post-reform graduates produced stronger action-research theses: (a) teacher candidates’ generating relevant action-research topics (b) teacher candidates’ conducting their action-research, (c) teacher candidates’ interpreting and determining significance and implications of their theses’ results, and (d) faculty involvement in teacher candidates’ thesis work.

The differences started with action-research choice. Pre-reform graduates did not consider themselves responsible for choosing the topics. They attributed their success to their advisors, who they believed to have selected their topics and provided them with a list of literature to fully develop their thesis projects. For example, pre-reform graduates wrote that, “Field experiences did not influence my choice of thesis topic nor the development of

hypotheses. I first chose a topic (it was proposed to me by my academic advisor) and then, during the process of work on the thesis, I thought about how it can be substantiated in practice.” and “I chose a topic from a list of provided topics by my academic advisor and, therefore, field experiences did not influence my decision.” and “My advisor determined the circle of literature that I had to describe in my thesis work.”

Post-reform graduates, however, considered choosing their thesis topic as one of the primary and important classroom challenges that they had to solve and detailed their thinking process. Two comments exemplify a general trend, “The topic of my thesis was chosen by me based on my pedagogical field experiences and making a presentation at a professional conference about my pedagogical field experiences. Pedagogical field experiences helped me figure out actual and important problems, and determine that one of the most serious is the problem of distance education.” and “Field experiences presented me with many questions for which I had no good answers. If before pedagogical field experiences, I did not know what problems are meaningful and important for the life of a school, then in the process of going through field experiences my set of possibilities for thesis topics increased and I had to ask, ‘Which of the many problems that exist in the process of school work do I chose?’” Most of these graduates indicated that they ended up modifying and focusing their initial choice of thesis topic, a process that they found to be a creative search, for example, “During the research process research methods change depending on how well they could be implemented during field experiences.”

Unlike pre-reform graduates, post-reform graduates found great interest in discussing ideas within their theses and some connected what they learned from the thesis work to their current professional activities. A substantial number of post-reform graduates, as already presented in abovementioned quotes, attempted to convince the interviewer that their theses had relevance, innovation, and practical significance by bringing forth specific evidence for their arguments. Another from the myriad of examples is a post-reform graduate who indicated that, “My thesis was devoted to research of pedagogical factors for conducting differentiated lessons. Without pedagogical field experiences, completing such a project would be impossible. I used examples from my field experiences to argue for benefits and limitations of differentiated instruction. My independent work on conducting differentiated lessons allowed me to develop my own position for which I argued and defended in my thesis.”

In contrast, pre-reform graduates, when discussing significance of their theses, did not provide specific details from their work, but rather tended to discuss general development of pedagogical ideas, “Pedagogical practice helped me write the practical part [of my thesis], since I worked with children and I had to perform this or that diagnostic, methodology, etc.”

Given that post-reform candidates tended to state that their theses were more authentic and relevant, we wanted to explore what aspects of the program engendered such a response. Pre-reform graduates saw their thesis as learning and writing about theoretical literature. A few of these graduates were confident that their thesis had to be a high-quality theoretical analysis with limited connection to pedagogical practice. Comments supporting this view include, “My pedagogical field experiences did not contribute to the writing of my thesis. My thesis included examples from field experiences, but those could be selected to fit specific situations and, moreover, it may be easier to find examples from scientific literature or methodological journals.” Another stated;

I completed a very good theoretical analysis of sources regarding my topic and was able to support scientific ideas with examples from my pedagogical field experiences. Pedagogical field experiences did not have much influence on my thesis, only selection of examples,

whilst another said “The most important contribution to thesis quality is my theoretical understanding and ability to present the material as well as a beautiful presentation.”

Post-reform graduates came to the conclusion that their thesis projects were research for solutions to problems or situations that they encountered during their field experiences. Post-reform graduates made statements such as;

Pedagogical field experiences not only helped me formulate my first hypothesis, but also to see its realization in practice. Only during field experiences was I able to see results of applying various methods and to illuminate data that I learned in theory.

Pedagogical field experiences facilitates thesis work because one can see what changed during field experiences. Pedagogical field experiences enriched my methods and helped me see changes in students’ work as well as logic behind pedagogical practices. As a result, the experiments that I formulated were filled with real meaning.

For me, I was able to engross myself in the thesis project and how students, parents, and teachers connected to my topic. My pedagogical field experiences helped me write my thesis and to completely insert myself into the problem that I was solving.

When evaluating practical significance of their thesis research projects, pre-reform graduates focused on the extent to which their work will garner a passing grade. Some participants began with the grade in mind, “When choosing a thesis topic from a list, I chose a topic such that I could successfully write and defend my thesis to receive a good grade.” Others focused on how examples from field experiences helped them to receive good grades, “When defending a thesis, pedagogical field experience is critical because [professors] can ask questions regarding practical applications. Illustrations of conclusions with examples increases the thesis grade.”

Post-reform graduates focused on connections between practical solutions that they learned for a specific pedagogical problem and did not mention grades. Their comments included, “I believe that I delved into my topic and was able to prove my ideas with examples and facts. I was absolutely convinced of the meaningfulness and practical importance of my thesis.” and “It was easy for me to answer questions during my thesis defense because they connected to my field experiences and I liked talking about my thesis work.” Another stated;

My pedagogical field experiences helped me defend my thesis by articulating my results and reasons for them. I was able to argue my position. After the thesis defense, I developed a new relationship with the knowledge that I developed at the university,

whilst one said “When I was asked [during the thesis defense] why I chose my topic and how it is practical, I was able to answer the question because I was certain that it was necessary and useful.”

Finally, interviews were able to contrast faculty involvement in teacher candidates' thesis work. Pre-reform faculty contributed to theses by providing lists of possible topics (see quotes at the start of this section) and supporting candidates' methodologies, "Methodology of my thesis was non-problematic since there were several similar theses that were written in previous years under supervision of my academic advisor. I could rely on those works." Post-reform graduates, however, had idiosyncratic theses that required specific mentoring to help connect theory and practice. A majority of post-reform graduates indicated receiving such support: "Field experiences helped me to develop my working hypothesis. We discussed my several hypothesis ideas during seminars where professors helped me." And;

I relied on support from my academic advisor to help connect my thesis topic with field experiences. After my student-teaching practicum, I developed several ideas for my thesis topic along with hypotheses. If truth be told, my hypothesis changed in the processes of completing my field experiences and discussing them with my advisor.

Conclusion and Discussion

Major structural reforms to a program can be dramatic, but are they effective? We set out to evaluate substantial reform in teacher education taking place at the Russian Far East Federal University. Specifically, we wanted to know whether or not mentoring through field experiences (known as pedagogical practica at the Russian University) with action-research supported teacher candidates' development of theses that combined theory and practice. Using a mixed-method approach, we found evidence to suggest that the reform facilitated candidates to produce stronger theses. Quantitative analysis showed that theses submitted after the reform scored better than theses submitted before the reform on a) innovative research projects, b) clarity of objectives/hypotheses, c) conviction of the rationale, d) clarity of methodology, e) clarity of presentation, and f) appropriateness of results.

We found no difference between pre- and post-reform theses in the quality of their literature reviews, which remained at a similar quality that existed prior to the reform. What is different, according to the abovementioned results, is how candidates use that information and for what purpose. Post-reform teacher candidates use this knowledge to produce, for example, more innovative and authentic projects with clearer objectives and hypotheses. Quantitative and qualitative data suggests that post-reform graduates were better able to make connections between theory and practice than pre-reform graduates.

The improvement in action-research theses quality demonstrates efficacy of reform measures; in particular, teacher candidates' connecting the practical nature of field placements with classroom taught theories. This connection supported teacher candidates' ability to identify practical action-research questions with personal meaning and translate them into clear research objectives and hypotheses. Moreover, the interaction between the practical and theoretical education facilitated teacher candidates' ability to provide a realistic rationale for their action research along with realistic conclusions about their results. Since thesis results were more meaningful to teacher candidates who could connect their action research to the practical aspects of their field placements, teacher candidates were also better able to display and interpret them. Interestingly, as a result of reform efforts, teacher candidates were even better able to design their methodology, because they

were able to connect their action-research to the practical nature of learning and instruction.

Quantitative and qualitative findings suggest that the reform provided opportunities for students to make meaningful connections between theory and practice in their theses. It seems that some of these findings were due to faculty's restructuring their courses to explicitly connect with field-based practice. Courses encouraged candidates to discuss their field experiences with faculty and peers. There, field experiences were given space to be analyzed from both a practical perspective (what to do) and a theoretical perspective (why to do it). This discourse provided opportunities for teacher candidates to be reflective about their own experiences and to use that reflection as a springboard for developing and understanding their action-research projects. Our findings support this notion as qualitative data indicated that reform efforts and theses action-research projects led to teacher candidates' becoming more interested in connections between theory and practice.

While results from this study are positive toward the efficacy of reform in Russian teacher-training programs, additional reform can facilitate further programmatic improvement. Importantly, we believe there is more work left in improving interconnections between teacher candidates' theoretical preparation and their practical teaching experience. One area that needs more attention is their use of methodology as an inquiry-based tool. Teacher candidates recognized that their field practice illuminated a number of challenges that could be investigated. It seems, however, that they perceived these challenges as solvable rather than an on-going practice of reflection leading to action-research.

Implications

Results from this evaluation study have wide implications for field-based experiences within teacher education programs in multiple settings. Our evaluation indicates that teacher candidates view their field experiences through lenses that their teacher-education programs choose to provide. Teacher candidates who chose their theses based on lists of topics provided by faculty (pre-reform graduates) saw their theses as theoretical and had trouble connecting this work to their field experiences. Teacher candidates who developed their thesis topics from problems that they faced during field experiences, however, saw clear, practical connections between their theses and field experiences. As a result, they considered their field experiences to be a series of problems that needed to be solved through creativity, as opposed to primarily solving pedagogical problems by taking direction from an experienced instructor. Moreover, we believe that this view has the potential to foster a growth mindset (Dweck, 2006) in teacher candidates. That is, future teachers may see teaching as a life-long process of development and reform. As such, teacher candidates may be at the forefront of leading pedagogical changes and innovation. These reforms, however, will come to fruition with strong collaboration and mentoring. Success of the reform at this university may be, in part, the result of faculty willingness to collaborate on producing the reform. As a group, faculty agreed to move away from the didactic model and embrace an inquiry-based model of instruction. Moreover, faculty agreed to forego the top-down model of being experts to a more mentorship model of co-investigating challenging classroom problems. In this latter model, we believe that future teachers develop not only pedagogical skills for the classroom, but analytical and creative skills to influence educational reform. In short, we believe that the reform in Far East Russia highlights the critical nature of

effective field experiences and the roles that faculty play in mentoring pedagogical development through reflection and action-research.

Notes

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