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Conceptualizing the innovation: factors influencing doctoral candidates' interventions in the action research dissertation

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In this action research study, we describe how doctoral candidates conceptualize innovations for their dissertations and outline how we are using the results to improve the doctoral dissertation experience for our new cohort. Over the course of one academic year (2010/11) we documented our students' process of conceptualizing their innovations as they moved from general ideas to concrete plans, which they would carry out the following year during their dissertation research. We found four major factors influencing the conceptualization of the innovation: the leader–scholar community, prior cycles of action research, interactions with stakeholders, and the student's work context. As the next cycle in this action research study, we shared the results with our local community and are currently implementing recommended changes based on the study for the next cohort of students.

Keywords: action research; education doctorate; innovation; intervention; leader–scholar communities; signature pedagogy

Introduction

Many resources are available to guide students as they write their dissertations (see Roberts [2010] for a bibliography), and some guidebooks specifically address the action research dissertation (Coghlan and Brannick 2010; Herr and Anderson 2005). Our experience with our students writing their action research dissertations indicates that they sometimes struggle with choosing an action research project that is appropriate for their studies within their spheres of influence, and of adequate importance, but manageable within their time frames.

In prior research, Weis and Fine (2000) shared the qualitative work of their graduate students who were engaged in interviews, focus groups, and/or participant observations. They also discussed the 'speed bumps' that students encounter as they conduct their research from gaining academic committee support to conducting critical research that the sponsor may not want to hear. Often the graduate student work was grant funded and focused on the bumps encountered after the problem and partners were established. In the present study, we focus on doctoral students who are struggling with issues or problems in their places of work and a step before implementing a project – the conceptualization of their problems and innovations.

After searching multiple sources including ERIC, Google Scholar, and Ebsco, we found no studies that examine factors which influence the selection and

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development of innovations, or actions taken, by doctoral students as they work to solve problems of practice and write action research dissertations. As Herr and Anderson explain:

Unfortunately, there is more writing about action research than documentation of actual research studies. This is, in part, because those who engage in action research projects are often more interested in generating knowledge that can be fed back in the setting under study than generating new knowledge that can be shared beyond the setting. (2005, 6)

In this study we hope to do both – impact our local context, and also provide guidance for others in contexts that are similar. Our goals are to better understand the factors that influence students' action research innovations and to discover ways, as Doctorate of Education (EdD) faculty, to better support them as they conceptualize innovations for action research dissertations.

In this action research project, we describe how doctoral candidates in the second year of a three-year program conceptualize innovations for their dissertations and outline how we are using the results to improve the doctoral dissertation experience for our new cohort. Over the course of one academic year (2010/11) we documented our students' process of conceptualizing their innovations as they moved from general ideas to concrete plans, which they would carry out the following year during their dissertation research. The research questions for this study are as follows:

- (1) What factors influenced the innovations doctoral students conceptualized as they developed an action research dissertation?
- (2) What changes would help students better engage with innovative problems of practice? How will we implement changes for the new cohort?

We are informed by the design concepts of the Carnegie Project on the Education Doctorate (CPED), a consortium of universities committed to reinvention of the EdD, with the goal of making the degree more relevant to scholarly practitioners. CPED design concepts include: developing scholarly practitioners who use practical and professional skills and knowledge to solve problems of practice; a signature pedagogy that prepares scholarly practitioners 'to think, to perform, and to act with integrity' (Shulman 2005, 52); inquiry as practice, where doctoral students pose significant questions addressing complex problems of practice; laboratories of practice that are settings in which theory and practice meet to inform each other; and the dissertation in practice, which is a transforming experience that demonstrates the doctoral students' ability to solve problems of practice (CPED 2012).

The EdD in Leadership and Innovation program is situated in a college of education that includes a large statewide initial certification program, two PhD programs and the EdD program. For the past six years, the Leadership and Innovation EdD has annually admitted cohorts of approximately 20 students consisting of professionals who are employed full-time in pre-K–12 schools as teacher leaders, instructional coaches and administrators, preservice teacher preparation instructors, and others who work in educational services in varying contexts (e.g. higher education, curriculum developers, adult education and training).

For this study we use the multifaceted definition of innovation developed by the Association for American Colleges and Universities for action rubrics (Rhodes 2010) and adapted by Boise State University Foundational Studies Program (2011):

Innovation is the ability to combine, synthesize and apply existing ideas, knowledge, and experience in original ways that can make a contribution to a community and/or society. The innovation process incorporates thinking, reflecting, imagining, collaborating and acting in imaginative ways inclusive of divergent and convergent thinking, and risk taking.

In our EdD program with this view of innovation, doctoral students shape their projects using innovation action research, which Kaplan (1998, 90) defines as action research that is ‘actively engaged in helping organizations to implement a new idea.’ Innovation action research assists practitioners in engaging their educational communities in intentional and systematic study that provides them with deep understandings that solve problems and directly improve their lives (Stringer 2007). Innovation action research can assist practitioners in implementing a planned change with direction and rigor (Coghlan and Brannick 2010) because they reflect, imagine, collaborate, and act in imaginative ways (Rhodes 2010).

A key feature of the EdD in Leadership and Innovation is the leader–scholar community (LSC) (Olson and Clark 2009) that engages in common work and learns from one another throughout the dissertation process. Students are admitted to the program as a cohort, brought together through co-taught common coursework, and grouped into three or four smaller LSCs. In the LSCs, students take up apprenticeship roles as they collaborate with more experienced members on authentic tasks. Program faculty and staff are committed to enabling students who are in good standing to complete the program in three years. The LSC described in this study consisted of five students and two doctoral committee members (the researchers).

Theoretical framework

Transformational learning theory

Our study is informed by Mezirow’s (1991) transformational learning theory. Mezirow and Taylor (2009, xi) define transformational learning as, ‘an approach to teaching based on promoting change, where educators challenge learners to critically question and assess the integrity of their deeply held assumptions about how they relate to the world around them.’ Mezirow’s theory suggests that individuals may learn through a buildup of transformations in meaning-making over time. We also draw upon Kegan’s (2000) theory of adult transformational learning, which focuses on the epistemology of adults, because this is the basis from which all of one’s external and internal experiences are interpreted. The occurrence of transformational learning is marked by a change in how the individual’s meaning-making system is structured. As students move toward a concrete conceptualization of the innovation, they undergo a significant change in perspective, consistent with transformational learning theory.

As educator-participants in an LSC, we are tasked with co-constructing an environment that fosters transformational learning. Taylor (2009) suggests six core elements that frame an approach to teaching which nurtures transformational

learning, including individual experience, critical reflection, dialog, a holistic orientation, awareness of context, and an authentic practice. As we embarked on the two-year process of working with our doctoral students in the LSC, we intentionally and systematically thought about our educational practices. Throughout the two-year process, we clarified and refined our approach to teaching and learning, as we learned from our students and they learned from us.

Creating the dissertation proposal and clarifying the innovation within is a transformational process. Over the past two years we observed our students go through what Mezirow described in his original empirical work (1978) that laid out the elements for transformational learning:

1. A disorienting dilemma
2. Self-examination
3. A critical assessment of assumptions
4. Recognition of a connection between one's discontent and the process of transformation
5. Exploration of options for new roles, relationships, and action
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one's plan
8. Provisional trying of new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life on the basis of conditions dictated by one's new perspective. (Mezirow and Taylor 2009, 19)

Drago-Severson (2007, 75) draws on Mezirow's framework as she defines transformative learning as, 'a process of changing our taken-for-granted mindsets and frames of reference – which do not adequately explain a new experience – by making them more open, inclusive, reflective and integrated.' Furthermore, Drago-Severson found that adults engaged in learning demonstrate four pillar practices: sharing work and decision-making; sharing leadership with supports and challenges to aid in growth; engaging in group inquiry; and mentoring. These practices help us to understand how adults learn together, in a collaborative setting. Drago-Severson's work is of particular significance to this study because much of the learning we observed took place in a group setting.

Additionally, Drago-Severson (2007) synthesizes five principles from theories of transformational learning that are applicable to this study. First, adults bring a diversity of experiences to learning, and these experiences craft their views on learning and education. Second, adults want their learning to be meaningful. They want to understand why they are learning something and how it is valuable. Third, a variety of psychological and physical changes inform learning. Fourth, cultural and social factors impact learning, and, finally, adult learning is a product of experimentation and problem-solving.

As students clarified their innovations we observed them going through these processes over and over again, culminating with the dissertation defense. Therefore, transformational learning is an appropriate lens through which to view the study.

The 'critical friend'

The role of the critical friend in educational action research is well established (Simons 1987; Stenhouse 1975; Tiller 1990). Critical friends have been studied in such diverse contexts as school self-evaluation (Swaffield and McBeath 2005),

medical education (Fetterman 2009), and university teaching (Handal 1999). A critical friend 'can provide alternative perspectives, support, and protection from bias and self-delusion' (Foulger 2010, 140). Deuchar (2008), in a study of doctoral supervision, noted that the faculty advisor can act as critical friend, available but not always needed, and the supervisor's networks also provided a source for critical friends.

Swaffield provides a description of the critical friend in educational settings:

The critical friend is generally portrayed as a detached outsider who assists through questioning, reflecting back and providing another viewpoint. The critical friend prompts the other person towards honest reflection and re-appraisal, a seeing anew that may be challenging and uncomfortable, yet enhancing. The relationship is neither cosy nor collusive, but rather one that cultivates constructive critique. (2007, 206)

In this study, we adopt Swaffield's conceptualization of the critical friend. The notion of the critical friend is pervasive throughout this study, particularly in the data about the supportive role of the LSC in conceptualizing innovations. During the year of the study, we observed many instances of the students being critical friends to each other. The students also relied on their doctoral supervisors as critical friends.

Action research paradigm

The participants in this study are educators in pre-K–12 or higher education. The definition of action research we employed is consistent with the work of Mills:

AR is any systematic inquiry conducted by teacher researchers, principals, school counselors, or other stakeholders in the teaching/learning environment to gather information about how particular schools operate, how they teach, and how well students learn. This information is gathered with the goals of gaining insight, developing reflective practice, effecting positive changes in the school environment (or educational practices in general) and improving student outcomes and the lives of those involved. (2011, 5)

In this case we worked with education doctoral students to examine the processes and procedures in the program designed to help them develop their innovations. We are educational researchers doing research in our EdD program and teacher researchers who listened closely to the voices of our students to better understand their practice and our practice. Our goal is to improve our local policies and procedures and share our findings with our students, our program leaders, and communities that are attempting to improve their education doctorate programs.

We adhered to the guidelines of our university institutional review board, and to the ethical action research guidelines recommended for K–12 school professional and teacher educators (Nolen and Putten 2007) due to the authors' roles as participants and researchers in the project, including clarifying that there was no penalty for participating in the project (e.g. student grades were not affected by not participating in the project). Additionally, we shared the data and findings at regular intervals with the student-participants and asked for their feedback.

Methods

We employed case methodology (Yin 2002), an inquiry approach that explores a phenomenon bounded by time and activity (Stake 1995). This approach uncovered key behaviors of the students in our LSC. We employ data complementarity in order to confirm or disconfirm answers to the research questions (Greene 2007). Data sources include the following:

- Three reflective essays as the students developed their dissertation proposals.
- A state-level conference symposium presentation. Students described their thinking and decision-making as they developed a clearer description of the innovations in the symposium. Their goal was to develop and share ‘word pictures’ (Hall and Hord 2001) of their innovations that helped them refine ideas from fuzzy to concrete.
- Three focus groups where we asked students to address obstacles and processes encountered when working on their innovations. The focus groups were conducted over the course of the 2010/11 academic year.

Codes arose through both a grounded theory approach (Glaser and Strauss 1967) as well as *a priori* categories (Miles and Huberman 1994). After coding 10% of the data together, we individually applied the codes to the same source, compared our coding and achieved 85% inter-rater agreement. We then grouped initial codes into larger categories. For example, initial codes such as ‘nature of LSC’ and ‘dialogue with immediate peers’ were organized to form a larger code: ‘role of the LSC.’ Also, codes such as ‘problem,’ ‘context’ and ‘personal background’ were combined to form the category ‘student context,’ and ‘timing of implementation of innovation’ and ‘length of implementation’ supported the larger category ‘obstacles.’ We then considered the categories in context and developed themes, which will be discussed in the results. A full accounting of codes and their definitions are available online.¹

Results

Research question 1: what factors influenced the innovations that doctoral students conceptualized as they developed an action research dissertation?

We found four major factors influencing the conceptualization of the innovation:

- the LSC,
- prior cycles of action research,
- interactions with stakeholders, and
- the student’s work context.

The leader-scholar community

This study is situated in the second year of a three-year EdD program, the point at which LSC groups were formed. Although we analyze the role of students’ contexts later in this section, here we provide a brief description of each student and her workplace as a basis for discussion of each factor:

- Tanya was the program coordinator of a master's-level program at a large southwestern research-intensive university with responsibilities for recruitment, retention, graduate event programming, and advising for three master's-level graduate programs. Through her interactions with students and faculty members and earlier cycles of action research, she noted graduate faculty comments about students' writing and she asked whether graduate students failed to complete their program due to concerns about their writing.
- Jackie was the director of the teacher preparation intern program in a community college district. Her major duties included supporting and mentoring 300 alternative path candidates annually across vast distances through a distance learning format. Her program was the first nationally recognized post-baccalaureate online teacher preparation program at a community college. In this program, college graduates without teacher preparation were hired by a school district as beginning teachers and simultaneously received teacher preparation and supervision from the community college as they performed their teaching duties. Jackie noticed high attrition rates of these new teachers and wanted to investigate better ways to prepare and support them.
- Becky was a special education achievement advisor at a low-income suburban elementary district with a high percentage of second-language learners. In a school district comprising 14,200 students and 1400 students who have disabilities, she coordinated three teacher mentors who were each responsible for the induction of 15 newly hired special education teachers. She noted the frustration of the new teachers attempting to meet state and national guidelines and that her school district was continually hiring new special education teachers due to high teacher attrition.
- Rachael coordinated the professional development department at a southwest private non-profit university offering continuing education courses for 1500 educators annually. Through earlier cycles of action research, Rachael questioned whether the instructors were well prepared to teach professional development courses. Typically, instructors were contracted to teach one or two courses a semester and had not received professional development to meet the needs of the educators.
- Nina, the director of advising and student services at a large southwestern university, supervised six full-time academic advising staff members who advise undergraduate students. She was concerned with the factors that influence undergraduate student retention and the preparation of advisors to better meet the needs of students and help them achieve their potential.

The LSC played an important role in influencing the development of student innovations. Although students learned about the dissertation process and research methods through readings and assignments in their coursework, they moved from theory to practice largely through their work in the LSC. At first, students were unsure of the purpose of the LSC. Tanya explains:

[Initially] I was skeptical in some ways because [we know] how group work sometimes happens in courses ... [the LSC has] been much more helpful than I anticipated. Especially some of the nights ... we had the opportunity to listen to each person's project, and all contribute and hear others' feedback.

In particular, our analysis revealed that the LSC provided four distinct constructs, which are described below:

- emotional support for overcoming obstacles and dealing with stress;
- formal and informal meetings initiated by the students;
- sounding board and critical friend; and
- mechanism for accountability.

Firstly, the LSC provided emotional support for overcoming obstacles and dealing with stress. The dissertation process is a stressful time in a student's life. In particular, the students in our program struggled with competing priorities and messy contexts. Jackie described how the LSC provided support:

I think one thing that helped was the support from my friends and my group ... So the support was very helpful to overcome any of the obstacles ... I learned to not be defensive but defend my points sometimes.

Becky added:

When one of us is down, there's somebody else who is up, and they're going to pull you out of that and then vice versa ... But there's always somebody that I can go to and say I don't know how to do this ... And somebody is always there to say 'really, it's not that big of a deal.'

Students were asked to identify and address a significant problem that they could act on in their places of work. Often this process involved some level of risk – admitting a difficulty and seeking support to address it. In the above example, other LSC members helped Becky keep things in perspective and believe that she would be able to deal with obstacles and stress. These were transformative experiences, in that students formed new relationships in the LSC as they explored new ideas and procedures that helped them move toward the development of innovations.

Secondly, the LSC evolved to include informal meetings, initiated by the students. Students distinguished between LSC meetings they called with just their LSC peers (informal) and those meetings scheduled by the two faculty members (formal). Tanya explains that the informal meetings appeared to create the trust needed to share work with other LSC members: 'Maybe [the purpose] was just to bond and to talk ... We came to know each other on a personal level ... we were open enough to critique each other's ideas.'

Informal meetings also took the shape of a retreat or time away, and provided the opportunity to set aside time for members to make progress on their writing:

Help from fellow committee members came in the form of a Doctoral Reading–Writing Weekend ... We were able to elaborate on our discussions from the previous night's [formal] LSC meeting, discuss our understandings with each other, provide examples of our own understanding and apply those concepts to our own topic. (Jackie)

Through informal meetings, students took responsibility for their own learning. They co-constructed an environment through planning their own meetings that nurtured transformative learning consistent with Taylor's (2009) core elements of

individual experience, critical reflection, and dialog. Each core element was a part of the students' authentic practice.

Thirdly, the LSC acted as a sounding board and critical friend. The students felt comfortable working with their peers in the LSC to refine and improve their writing, a process that can make students feel vulnerable (Kamler and Thompson 2006). Students shared that the LSC allowed them to provide feedback for each and develop clarity about their innovations. For example, Rachel explained: 'The role of my LSC team is to be as a sounding board for my project, to gain insight regarding their understanding of my intervention, and through conversations, clearly define/refine the program.' And Jackie elaborated: 'They critically ask questions. They listen during the meetings and they have challenged me. And, there have been times when they have said, "That's something [you] need to think about."'

Throughout the course of the study, we observed many instances of students acting as critical friends to one another. Often, these interactions took place within the LSC, although students also reported seeking out one member of the LSC with whom they felt most comfortable. Students consistently challenged one another and provided divergent perspectives. The critical friends in the LSC also helped each other to strengthen their research skill-set, a role that Kember (2000) claims is vital.

Finally, the LSC served as a mechanism for accountability. Students used meeting due dates and self-imposed timelines to keep their work progressing:

[Describing the agenda for one meeting] Bring your timeline. Hand in the paper. So that made me make progress on my paper. So being accountable for something in a group so I would have to look at my friends and show them and look at my professors and show them what I did. (Rachel)

In summary, the LSC played an important role by providing emotional support, formal and informal meeting opportunities, a sounding board or a critical friend, and finally accountability for progress as they worked to clarify their innovations.

Role of cycles of action research

Cycles of action research were the second factor we found that influenced the conceptualization of the innovation. The students in the LSC conducted three cycles of action research prior to the dissertation, laying the foundation for their dissertation studies. We found that as students conducted multiple cycles of action research, it helped them to simultaneously clarify their innovation. Becky's experience provides the illustrative case. Her first cycle of action research led her to examine the problems in her workplace and to a focus for her next cycle of action research:

The first round of action research led ... to try and uncover problems that we're having in the district. We are considered a failing district ... So, I decided to work towards really trying to build the capacities of the teachers, not just in the pedagogy of teaching, but also in the potential teacher leadership ... When you're trying to build the capacities of the teachers and every year you're having a 50% turnover rate ... If you are ever going to make changes, you have to have that core group of teachers that are going to spread their knowledge. (Becky)

The second cycle of research to action research led Becky to a study of her leadership as a mentor of induction year teachers:

And, so, that round of action research really led to where I want to go. I realized that the behavioral changes that [mentor teachers] made [were] in direct relationship to the behavioral changes of the [induction year] teachers I worked with that semester. (Becky)

The second cycle of action research allowed Becky to examine her leadership and to model a form of authentic leadership (Walumbwa et al. 2008) to build the capacities of the teachers, not just in the pedagogy of teaching but also in potential teacher leadership. This led to the innovation used during her dissertation – a study of her leadership, the leadership of her mentor teachers, and the impact of both on the retention of induction year teachers.

Similarly, Jackie worked out the focus of her innovation in a prior cycle of action research:

One of the mistakes I made in our previous research cycle is I knew of this technology and I wanted to do X with it! And, what I've been told is not [to] think of how technology is driving this, but...what are the components that are needed in the field. Then, think, later, how can I have technology support those pieces. (Jackie)

Students conducted two cycles of action research before they selected a problem area for the third cycle of action research for their dissertation studies. Jackie initially thought her innovation would be the technology itself, but by conducting a prior cycle of action research she realized that the technology was a tool through which she would conduct her innovation.

Action research cycles provided transformative experiences for students as these experiences allowed students to plan courses of action, acquire knowledge and skills for implementing their plans, and try out new roles. Each cycle of action research allowed students to participate in authentic practice (Taylor 2009) and to develop a more concrete conceptualization of their innovation representing a significant change in perspective consistent with Kegan's (2000) view of adult transformational learning. Earlier action research cycles provided opportunities for growth that were vital for the development of their dissertation innovations.

The role of context

The third factor that shaped students' conceptualization of the innovation was the role of context. The students' work contexts varied from elementary schools to a university classroom to a community college online post-baccalaureate teacher certification program.² In the following excerpt, Rachel, a teacher professional development program director, explains her autonomy in decision-making and the decision to focus her innovation on those within her sphere of influence, the adjunct faculty she oversees: 'I know that I had pretty much control over my adjunct [instructors], but I had not much control of my students ... So [I chose] the instructors instead of doing something with the students.'

Becky, on the other hand, needed to adjust her innovation based on her sphere of influence. At the time Becky was conceptualizing her innovation, her school district entered into a partnership with a major research university in implementing a multi-million dollar grant. Becky's planned innovation was interrupted by this partnership and the district's decision to move forward with a training model that left little room for what she had originally planned to do:

I participated in this training and determined I had many more questions that needed to be answered regarding how teachers were selected ... the moment you begin to forge forward on a positive trajectory while wearing the researcher hat, you take a crippling three steps back while wearing your practitioner hat. (Becky)

Becky ultimately had to change her innovation due to the pervasive nature of the partnership and the teachers' involvement in its trainings. On the other hand, Tanya used institutional memory of the program she worked in to her advantage:

The length of time that I'd been working with the students in the programs, having some of that historical perspective or having some of that informal feedback was helpful in making some of the decisions that I made to... go in the direction that I went.

Students shaped their innovation based on their spheres of influence, but it appears some had more autonomy than others and used their context in varying ways to influence the development of their innovation.

The role of interaction with stakeholders

The fourth and final factor that helped students clarify the innovation was the role of stakeholders in the design of innovations. Students interacted with a variety of stakeholders including program supervisors, coordinators, and teachers. For example, Becky was planning to develop a teacher-mentoring program as part of her innovation. She reported receiving information from her supervisors regarding district plans for another mentor training:

My next steps were to discuss my preliminary thoughts with my two supervisors ... I met with the Director of Curriculum and Instruction [who indicated that the school district and university] had already begun the Teacher Advancement Program, developing teacher mentors in the district. (Becky)

This led her to discuss the nature of the training with the special education director and revise her mentor-training program because it overlapped with another district planned training.

Jackie also discussed her ideas with her supervisor – who was the chair of the teacher education program at her college:

I am able to bring my rough reflections and thoughts to [my supervisor] which allowed her to see the directions that I am taking. I walk away from our conversations continuing to reflect as the innovation takes shape. My actions become a reciprocal process of reflecting and discussing. (Jackie)

Additionally, Tanya explains that supervisors played an important part when they supported the innovation proposed: 'When I was conceptualizing my project, kind of having the autonomy that I had and the support from my directors, really did help me.'

Students often selected projects because their supervisors thought the projects were of key importance for the improvement of their programs or thoroughly supported the program. The doctoral student knowing that she had the support of the supervisor was a supportive contextual factor. In addition, supervisors also helped shape the innovation:

I have been fortunate in that my faculty chair has been the out of the box thinker who is a practitioner within our system. It is through our conversations together, not always in agreement but always honest, that I feel my best work is drawn from. (Jackie)

For Becky the approval of the school board made a difference: 'I just got approved by the school board, my school first, because I'm using my setting to ... to implement this change.'

Prior to her enrollment in the EdD program, Nina explained she was selected for her role because her dean thought she could provide needed leadership:

The dean selected me to lead the advising unit because he thought that strong leadership was needed to take the unit to the next level.

Becky talked to a seminal researcher in her area and then to her supervisor. She reports:

Dr. W indicated the innovation of developing and implementing a mentorship program based upon Authentic Leadership Theory (ALT) ... would be a legitimate mixed method action research project that would add to the body of literature in ALT.

Following the above meeting, Becky's ideas about her innovation continued to develop. She reported 'I was energized and ecstatic,' but meeting with her supervisor to discuss using these ideas in her workplace 'shifted me back into fuzzy thoughts of implementation.'

As is evident from the students' comments, stakeholders appeared to play a major role in the students' selection of their topics and planning of their innovations or projects. Several of the elements described by Mezirow (1978) are at work here. As students interacted with significant others in their workplaces they were able to form new roles and explore new relations with stakeholders, at times leading to a crystallization of the actions to pursue.

Research question 2: what changes would help students better engage with innovative problems of practice? How will we implement changes for the new cohort?

The timing of the innovation in our three-year program and the nature of innovations embedded in students' workplaces will be discussed in this section. Timing refers to the need for students to plan their innovations at least one semester prior to implementation and that it fit into a 15-week period.

Timing

Nina discussed the concerns she had about creating an innovation that she could implement in the semester designated in our three-year program:

Although I feel [my innovation] is needed. I'm struggling with identifying an implementation period ... The way the program flows, the innovation can only be done during summer and fall 2011. In my current work environment, things are moving quickly. I need to access situations quickly and make adjustments [now]. (Nina)

Becky also explains that the problem she wants to address is the annual turnover rate for new special education teachers, but her 15-week intervention does not coincide with the school year: 'I won't be able to measure turnover rate in a year. Like Nina said, you really have to get this done now, because it's within a time-frame.'

Students struggled with designing innovations that could be planned a semester in advance when they had pressing needs in their place of work that needed to be addressed immediately. Also, they noted that problems to solve do not necessarily fit within 15-week intervention periods.

Changing positions

Three of the five students accepted a new position after they were admitted to or during the three-year program. There appears to be a disconnect between their job mobility and the structure of the EdD program, which requires employment in an education-related position. Students are required to conduct multiple action research cycles in their workplace, with one cycle building upon the next. This programmatic requirement works better when students stay in the same position for the duration of the program. However, position changes are common. Tanya speaks for the three who made employment changes: 'I wanted to choose something that was directly related to my work, but I knew I would be making changes anyway in my employment.'

Students experienced anxiety and stress as they struggled to 'catch up' in their doctoral program after changing positions. With regard to the problems caused by changing positions, Becky states: '...I'm afraid that I'm not going to be able to do what I wanted to do because of just how things roll out for the next year.'

One strength of our program is that students are leaders in their places of work and they endeavor to solve problems in their workplaces. Additionally they create a foundation for their dissertation projects by conducting three cycles of action research before they do their dissertation projects. However, if they change places of work they lose that continuity and in a rather short time period must select another problem to solve and create another innovation to meet the needs. This is a continual issue and requires the faculty to be flexible and adaptable when guiding students through action research cycles over the program's three-year duration.

Discussion

As we worked with the members of our LSC, we noticed that they struggled to create an innovation that represented a deeply felt problem, one they could influence in a significant manner but that must be completed in the semester devoted to dissertation project implementation. Based on our qualitative analysis, we make six assertions about EdD students and the development of their innovations that allow us to view how they addressed their struggles.

Assertion 1: students used the LSC to help them develop their innovations

We found that the LSC provided students with emotional support for overcoming obstacles and dealing with stress, with formal and informal meeting opportunities, with a sounding board/critical friend to gain feedback on their ideas and drafts, and

with a mechanism for accountability for meeting timelines and product due dates. Our findings are aligned with the work of Anderson, Herr, and Nihlen (2007), who state that action research is best done with others who are involved in research. Specifically, a collaborative environment ‘... provide[s] the researcher with an emotional support group, a group of critical friends who can critique the researcher’s work within a context of support’ (2007, 8).

Similarly, Pine (2009) recommends that students find a circle of critical friends to help work through all phases of their research projects. Stringer (2007) adds that action researchers should encourage personal, cooperative relationships, resolve conflicts, be sensitive to people’s feelings, and maintain harmony. Students had a supportive environment in which to undergo transformation, specifically trying new ideas, consistent with Mezirow’s (1978) framework for transformational learning. We conclude that this LSC provided a collaborative environment for our doctoral students to create their innovations.

Assertion 2: prior cycles of action research provided the foundation for students’ dissertation innovations

Students completed three cycles of action research prior to creating the innovation for their dissertation proposals. It appears that each cycle of action research provided experiences that helped them take the next step. In two cases the students found unintended consequences of a cycle of action research and decided to modify the direction of the next set of actions. They also found baseline data that helped them make decisions about the next step. Herr and Anderson (2005) and Stringer (2007) discuss the role of earlier cycles of action research. Stringer (2007) explains that initially investigators seek to clarify the issues, understand how things happen and how it impacts them. In part, they accomplish this by implementing smaller studies in which they collect data on the experiences and understandings of those who are centrally involved (Stringer 2007). Our research supports the findings of these researchers that the proposed research for the dissertation can arise from students’ earlier work, as noted earlier.

Assertion 3: students’ situational contexts provided both opportunities and constraints for the development of their innovations

Our EdD program is designed for practitioners who are employed full-time. Practitioners are expected to conduct studies that attempt to solve problems and positively impact their places of work. We found that the students’ situational contexts provided opportunities and constraints. For example, students explained that some of their supervisors helped them choose the focus for their innovations or hired them to address issues in their place of work. Others were less supportive. For example, one supervisor scheduled summer trainings that conflicted with the student’s intended trainings, the basis of her innovation. It appeared that the situational context played an important role in doctoral students’ selection of the innovations they will study for their dissertation projects. Guba states that, ‘without intimate knowledge of local context, one cannot hope to devise solutions to local problems’ (cited in Stringer 2007, xi).

Further, the action researcher’s questions often come from experiences of tensions in the workplace (Hinchley 2008). Finally, not only does the study context

provide knowledge of the local context and tensions in the workplace, but Anderson, Herr, and Nihlen (2007) argue that the problem context can also lead to the desire to solve one's dilemmas of practice. Additionally, Mezirow (1978) states that transformational learning begins with a disorienting dilemma. Students in situations where the context rapidly changes must adjust and find new pathways to learning. Our findings support these assertions, but we add the caution that the influence of the student's supervisor can enable, but can also provide constraints.

Assertion 4: students used reflection with others to clarify their innovations

In this study, reflection appears to be most effective when it occurred in the presence of critical friends and stakeholders in one's community. Dewey (1933) posited that inquiry about one's practice was an important part of educators' responsibilities. This is consistent with the study definition of innovation we adopted from the Association for American Colleges and Universities: 'The innovation process incorporates thinking, reflecting, imagining, collaborating and acting in imaginative ways' Action researchers build on this foundation too. Mills (2011) advises students to begin investigating their topics through self-reflection regarding their educational values, the theories that impact their practice, how their work fits in the larger context and how they arrived at their beliefs about teaching and learning.

According to Hendricks (2006), action researchers reflect on their practice and the issues in their workplaces to help them identify areas of research and possible actions. Pine (2009, 183) concludes that reflection: '... requires conscious, deliberate, and purposeful effort and time for: asking questions, engaging in introspection, having internal and external dialogs, synthesizing experiences, integrating knowledge, finding patterns, and bring together discrepant variables, as well as observation, reading and writing.'

Further it appears that reflection practices and the dialog that takes place with a group of colleagues are not mutually exclusive. Pine (2009) contends that reflection in isolation has limitations and that reflection in dialog with others allows educators to critique their practices and change their practices. Pine recommends finding a circle of critical friends to help work through all phases of the action research project.

What does this circle of friends do? Ogusthorpe (1999) analyzed two case studies in which a group of colleagues engaged in collaborative reflection and inquiry. Collaborative reflection involved a group of colleagues who engage in dialog about their practice. He found the following factors evident in the groups:

- individuals built trust and raised questions,
- individuals made time for the discussions,
- individuals formed groups (e.g. informal focus groups),
- individuals provided and accepted personal contributions to the group,
- individuals recognized results,
- individuals took risks to participate, and
- individuals stayed patient during the meetings.

It appears that personal reflection can be helpful, but reflection in dialog with others such as critical friends holds promise as well. These steps are parallel to Steps 5–10 in Mezirow's (1978) transformational learning framework. Specifically,

collaborative reflection is a lens through which the following steps in transformational learning can be viewed:

5. Exploration of options for new roles, relationships, and action
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one's plan
8. Provisional trying of new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life on the basis of conditions dictated by one's new perspective. (Mezirow and Taylor 2009, 19)

Ogusthorpe's (1999) case study and Mezirow's (1978) transformational learning framework support our assertion that students come to know and learn through reflection and collaboration, building on prior cycles of action research, and interactions within their contexts and important stakeholders.

Assertion 5: action research innovations do not always fit within program requirements

Our EdD program accepts approximately 20 students into a cohort each year. These students are divided into four LSC at the beginning of the second year of the program, during which they begin conceptualizing their innovation and writing their dissertation proposal. Students who make satisfactory academic progress will finish in three years. After students complete their degree, the participating faculty members take a new group of students and form an LSC.

However, in reality it does not quite work according to the requisite schedule. Listening to the voices of our students, we found that action research focusing on problems in the workplace does not necessarily fall into the timeline for dissertation that the program dictates. Also, we discovered that students changed positions and locations during the three-year program and needed to refocus their efforts on different problems within their new spheres of influence. Finally, several students became ill and needed to adjust their dissertation completion timeline.

This poses a problem for both conceptualizing the innovation and the doctoral program itself. We expect and understand that there are a myriad of factors to work through in order to create a solid innovation. During the course of our study, three of the five students were offered and accepted new positions (one student changed positions three times). Another student experienced significant changes in organizational structure in her school district, impeding the innovation she had initially designed. She had to go back to the drawing board and be flexible about how she implemented the innovation. The result was a significantly scaled back version, yet still impactful. Another student became ill and needed to slow her participation.

These findings are consistent with the experiences of Herr and Anderson (2005, 71): 'One thing is certain: Action research seldom fits neatly into the one mythical dissertation year that follows coursework.'

Conclusions, implications and recommendations

Although listening to experts, faculty members, and administrators who provide the vision and resources for a program is important, so are the voices of students. Fullan (2001, 163) points out: 'Meaning must be accomplished at every level of the system, but if not done at the level of students – all is lost.' In this action research study, we

analyzed the voices of five students in one LSC as they discussed and reflected on their journeys toward an innovation, the focus of their dissertation projects.

As discussed earlier, in our EdD program, the LSC is a signature pedagogy (Olson and Clark 2009). At the beginning of the fall 2012 semester, the three faculty leaders of the new cohort decided to ask the students to meet as a whole group for the first part of the class and then break into smaller LSC groups for the last hour. As the next cycle in this action research study, in the whole group, we described the function of the LSC by sharing the results of this study. Sharing the study findings provided a sense of what it means to be a LSC, the possible interactions between the students and faculty, and especially interactions with other students, the critical friends who provide feedback on ideas and pieces of writing. We will also share these study findings with our leadership team comprising program administrators, the instructors teaching the required coursework, and chairs and faculty members serving on other LSCs.

The leadership team also needs to re-think the stated timelines of our three-year program, and decide if and when there needs to be room for flexible approaches to students' life situations and dissertation innovation implementation windows. We need to discuss whether we can maintain our economic model of admitting a new cohort every year and simultaneously allow more flexibility for students.

In addition to informing our ongoing work, our results can assist others who are looking to reform their EdD programs employing innovation action research. These individuals may find our study of the ways that students conceptualize the innovation useful in their own contexts.

This phase of our study helped us to better understand the thinking of the students and led to opportunities to better facilitate our LSC that began in the 2012/13 academic year. We reported on the authors' first implementation of the LSC in an innovation action research doctoral program. We were not sure of how the LSC would function or the roles students would assume or whether the LSC would play an important role in the development of their innovations. Now we have some explicit constructs that help us frame the LSC as we introduce it to each new cohort of students, including providing emotional support, informal as well as formal meetings, acting as a sounding board and a place for critical friends to exchange ideas, as well as serving as a mechanism for holding each other accountable for project components and timelines. We believe our findings are consistent with the CPED (2012) theoretical framework and Mezirow's (1991) transformational learning theory. Several features of this EdD program encourage transformational learning for EdD students to occur. For example, consistent with the CPED design principle that students pose significant questions addressing complex problems of practice (Shulman 2005), we found that students used the LSC to propose and justify significant questions and then to request feedback from critical friends and other important stakeholders at their settings, leading them to reflect on the questions and shape them. Critical reflection and dialog are key elements of environments that support transformational learning (Taylor 2009). Students explained that the LSC provided the forum for support, dialog, the development of critical friendships, and points in the process where they held each other responsible for staying on track.

We also found that the student work sites became laboratories of practice in which theory and practice met to inform each other (CPED 2012). Cycles of action research became opportunities for authentic practice, an important element of trans-

formational learning (Taylor 2009). Students explained that they built on earlier cycles or that an earlier cycle helped them move in another direction. These are instances in which theory and practice met.

It appears that the LSC is a building block that has helped us to develop scholarly practitioners to solve problems of practice; a signature pedagogy (Shulman 2005) of doctoral education.

We are hopeful that this discussion of how our students conceptualize the innovation itself will spark a discussion among our local community as well as scholars of action research. As Grogan, Donaldson, and Simmons state:

We have argued that we need leaders who have the capacity to reflect critically on their own practice, transform their practice, and ... work democratically with others in their organizations to disrupt the status quo to achieve organizational equity and equality among organizational actors and for the people that the organization serves. We believe that an action research dissertation ... has the potential for achieving this outcome. (2007, 7)

Notes

1. See <http://sidengo.com/Codes>.
2. See code definitions at <http://sidengo.com/Codes>.

References

- Anderson, G. L., K. Herr, and A. Nihlen. 2007. *Studying Your Own School: An Educator's Guide to Practitioner Action Research*. 2nd ed. Thousand Oaks, CA: Corwin Press.
- Boise State University Foundational Studies Program. 2011. "Innovation Rubric." <http://academics.boisestate.edu/?q=Innovation+rubric&site=boisestate.edu>
- Carnegie Project for the Education Doctorate (CPED). 2012. Headquartered at: Duquesne University School of Education, Pittsburgh, PA. <http://cpedinitiative.org/>
- Coghlan, D., and T. Brannick. 2010. *Doing Action Research in Your Own Organization*. 3rd ed. London: Sage.
- Deuchar, R. 2008. "Facilitator, Director or Critical Friend?: Contradiction and Congruence in Doctoral Supervision Styles." *Teaching in Higher Education* 13 (4): 489–500. doi: 10.1080/13562510802193905.
- Dewey, J. 1933. *How We Think. A Restatement of the Relation of Reflective Thinking to the Educative Process*. Rev. ed. Boston, MA: D.C. Heath.
- Drago-Serverson, E. 2007. "Helping Teachers Learn: Principals as Professional Development Leaders." *Teachers College Record* 109 (1): 70–105.
- Fetterman, D. 2009. "Empowerment Evaluation at the Stanford University School of Medicine: Using a Critical Friend to Improve the Clerkship Experience." *Ensaio: Avaliação e Políticas Públicas Em Educação* 17 (2): 197–204.
- Foulger, T. S. 2010. "External Conversations: An Unexpected Discovery about the Critical Friend in Action Research Inquiries." *Action Research* 8 (2): 135–152. doi: 10.1177/1476750309351354.
- Fullan, M. 2001. *The New Meaning of Educational Change*. New York: Teachers College Press.
- Glaser, B. G., and A. L. Strauss. 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyter.
- Greene, J. 2007. *Mixed Methods in Social Inquiry*. San Francisco, CA: John Wiley & Sons.
- Grogan, M., J. Donaldson, and J. Simmons. 2007. "Disrupting the Status Quo: The Action Research Dissertation as a Transformative Strategy." May 19. <http://cnx.org/content/m14529/1.2/>
- Hall, G., and S. Hord. 2001. *Implementing Change*. Boston, MA: Allyn and Bacon.

- Handal, G. 1999. "Consultation Using Critical Friends." *New Directions for Teaching and Learning* 79: 59–70.
- Hendricks, C. C. 2006. *Improving Schools through Action Research: A Comprehensive Guide for Educators*. Boston, MA: Allyn & Bacon.
- Herr, K., and G. L. Anderson. 2005. *The Action Research Dissertation: A Guide for Students and Faculty*. Thousand Oaks, CA: Sage.
- Hinchley, P. 2008. *Action Research Primer*. New York, NY: Peter Lang.
- Kamler, B., and P. Thompson. 2006. *Helping Doctoral Students Write: Pedagogies for Supervision*. London: Routledge.
- Kaplan, R. S. 1998. "Innovation Action Research: Creating New Management Theory and Practice." *Journal of Management Accounting Research* 10: 89–118.
- Kegan, R. 2000. "What 'Form' Transforms? A Constructive-Developmental Approach to Transformative Learning." In *Learning as Transformation*, edited by J. Mezirow and Associates, 35–70. San Francisco, CA: Jossey-Bass.
- Kember, D. 2000. *Action Learning and Action Research: Improving the Quality of Teaching and Learning*. London: Routledge.
- Mezirow, J. 1978. *Education for Perspective Transformation: Women's Reentry Programs in Community Colleges*. New York: Center for Adult Education, Teachers College, Columbia University.
- Mezirow, J. 1991. *Transformative Dimensions of Adult Learning*. San Francisco, CA: Jossey-Bass.
- Mezirow, J., and E. W. Taylor, eds. 2009. *Transformative Learning in Practice: Insights from Community, Workplace, and Higher Education*. San Francisco, CA: Jossey-Bass.
- Miles, M., and M. Huberman. 1994. *Qualitative Data Analysis*. Thousand Oaks, CA: Sage.
- Mills, G. 2011. *Action Research: A Guide for the Teacher Researcher*. Boston, MA: Pearson.
- Nolen, A. L., and J. V. Putten. 2007. "Action Research in Education: Addressing Gaps in Ethical Principles and Practices." *Educational Researcher* 36 (7): 401–407. doi: 10.3102/0013189X07309629.
- Ogusthorpe, R. T. 1999. "The Role of Collaborative Reflection in Developing a Culture of Inquiry in a School-University Partnership." Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Quebec, April 17–19.
- Olson, K., and C. M. Clark. 2009. "A Signature Pedagogy in Doctoral Education: The Leader-Scholar Community." *Educational Researcher* 38 (3): 216–221.
- Pine, G. 2009. *Teacher Action Research: Building Knowledge Democracies*. Los Angeles, CA: Sage.
- Rhodes, T. 2010. *Assessing Outcomes and Improving Achievement: Tips and Tools for Using Rubrics*. Washington, DC: Association of American Colleges and Universities.
- Roberts, C. 2010. *The Dissertation Journey*. 2nd ed. Thousand Oaks, CA: Corwin Press.
- Shulman, L. 2005. "Signature Pedagogies in the Professions." *Daedalus* 134 (3): 52–59.
- Simons, H. 1987. *Getting to Know Schools in a Democracy: The Politics and Process of Evaluation*. London: Falmer Press.
- Stake, R. 1995. *The Art of Case Study Research*. Thousand Oaks, CA: Sage.
- Stenhouse, L. 1975. *An Introduction to Curriculum Research and Development*. Portsmouth, NH: Heinemann.
- Stringer, E. 2007. *Action Research*. 3rd ed. Los Angeles, CA: Sage.
- Swaffield, S. 2007. "Light Touch Critical Friendship." *Improving Schools* 10 (3): 205–219. doi: 10.1177/1365480207077845.
- Swaffield, S., and J. MacBeath. 2005. "School Self-Evaluation and the Role of a Critical Friend." *Cambridge Journal of Education* 35 (2): 239–252. doi: 10.1080/03057640500147037.
- Taylor, E. W. 2009. "Fostering Transformative Learning." In *Transformative Learning in Practice: Insights from Community, Workplace, and Higher Education*, edited by J. Mezirow and E. W. Taylor, 3–17. San Francisco, CA: Jossey-Bass.
- Tiller, T. 1990. *Kengurskolen: Det Store Spranget* [The Kangaroo School: The Great Leap]. Oslo: Gyldendal.
- Walumbwa, F. O., B. J. Avolio, W. L. Gardner, T. S. Wernsing, and S. J. Peterson. 2008. "Authentic Leadership: Development and Validation of a Theory-Based Measure." *Journal of Management* 34 (1): 89–126.

- Weis, L., and M. Fine. 2000. *Speed Bumps: A Friendly Guide to Qualitative Research*. New York, NY: Teachers College Press, Columbia University.
- Yin, R. K. 2002. *Case Study Research: Design and Methods*. 3rd ed. Thousand Oaks, CA: Sage.