

Variations in Form and Skill: Supporting Multiple Orientations to Reflective Thinking in Leadership Preparation

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Drawing on data collected as part of a qualitative action research study, our analysis examines the reflective thinking skill of candidates as they begin a two-year principal preparation program. As leadership educators, we noticed that our highest performing students were also the most skilled at thinking reflectively. Using candidates' writing samples as a proxy for reflective thinking, we looked systematically at students' written work to assess their skill at engaging in reflective thinking. Using Valli's (1997) "Orientations to Reflective Thinking" as an analytic frame, we found that candidates varied in their readiness to engage in reflective thinking. We now use this framework with candidates to assess and guide their development as reflective practitioners. We believe that aspiring leaders need robust practical and conceptual tools for anticipating and solving the complex problems and challenges they will ultimately face. Given the difficulty that our students demonstrate when asked to reflect on their learning and development as leaders, reflective thinking can and should be one of those tools.

Candidates in principal preparation programs often see experienced school administrators as having developed an elusive and mysterious black box of understandings and skills for successfully meeting the complex challenges that face school leaders. As their coursework unfolds, candidates often share a curiosity about how they will acquire a reasonable level of skillfulness. Some ask directly: *How do I learn to think like that?* Although it is argued that leadership can be taught, we recognize the inherent difficulty of preparing teachers to assume the complex, multiple, and overlapping roles and responsibilities of school leaders. As leadership educators, our aim is to help prospective leaders learn to think and act in ways that may not come easily.

In this paper, we present findings from a qualitative action research study designed to inform the continual improvement of our master's level principal preparation program (Carver & Klein, 2013). As leadership educators, we observed that our strongest students routinely demonstrated the ability to think reflectively. For example, these students were able to deconstruct complex problems and apply creative problem solving. Conversely, those who struggled to grow into a leadership identity and practice similarly struggled when asked to reflect on their own or others' ideas and actions. Using candidates' writing samples as a proxy for their skill at reflective thinking, we examined students' written reflections for evidence of skillfulness at reflecting in and on leadership practice. Our analysis found that candidates varied both subtly and significantly in their readiness for engaging in flexible and sophisticated reflective thinking.

Although the leadership preparation literature consistently notes the importance of reflective thinking for school leaders (Council of Chief State School Officers, 2008; Darling-Hammond, Meyerson, LaPointe & Orr, 2009; McCotter, 2009; Short, 1997), we remain surprised at how little has been written about efforts to teach and encourage reflection during leadership preparation. As leadership educators, we believe one of our primary responsibilities is developing in prospective leaders the skill to reflect in and on practice. We further believe that aspiring leaders need robust practical and conceptual tools for anticipating and solving the complex problems and challenges they will ultimately face. Given the difficulty that our students demonstrate when asked to reflect on their learning and development as leaders, our research suggests that reflective thinking can and should be one of those tools.

Preparing Reflective School Leaders

Given the attention on school quality and accountability for improving student achievement in the United States, it comes as no surprise that the literature on school leadership preparation has become increasingly clear as to the critical skills and dispositions needed by emerging leaders (e.g., Darling-Hammond, et al, 2009; Marzano, Waters & McNulty, 2003; Southern Regional Education Board, 2006; Wallace Foundation, 2013). Despite this growing drumbeat, however, little is known and even less is documented about how prospective school leaders learn these skills and dispositions (Murphy & Vriesenga, 2004; Preis, Grogan, Sherman & Beatty, 2007). In particular, we have limited empirical research on how prospective and practicing leaders learn the skills of reflective thinking (McCotter, 2009; Short, 1997).

Reflective Thinking and School Leadership

The practice of reflective thinking can be traced to the writings of John Dewey (1904/1965; 1933) who argued that systematic and reflective thinking is a worthy educational aim as it moves

us beyond impulsive and automatic action, to deliberate and intelligent action. In Dewey's (1933) words,

Thinking enables us to direct our activities with foresight and to plan according to ends-in-view, or purposes of which we are aware. It enables us to act in deliberate and intentional fashion to attain future objects or to come into command of what is now distant and lacking. By putting the consequences of different ways and lines of action before the mind, it enables us to know what we are about when we act. It converts action that is merely appetitive, blind and impulsive into intelligent action (p. 17).

In short, reflective thinking gives meaning and value to experience; it informs our actions; and it provides insight to the beliefs that drive our actions.

Donald Schon (1983; 1987) expanded on Dewey's ideas by contrasting routine or automatic action, which he termed technical rationality, with reflective action, which he described as the process of reflecting in and on professional practice. For both Dewey and Schon, the mark of a skilled professional was the ability to systematically and consciously deliberate on one's experience in order to improve future practice. In doing so, one avoided the traps of blind experimentation, arbitrary decision-making, and rote habit (Dewey, 1904).

Today, as outlined in national leadership standards, school leaders in the United States are expected to "model principles of self-awareness, *reflective practice*, transparency, and ethical behavior" (Council of Chief State School Officers, 2008, p. 33). Similarly, it is widely recommended that coursework in leadership preparation be designed to facilitate reflective thinking (Darling-Hammond, et al., 2009). How leadership educators make this happen, however, is not well understood.

Teaching Reflective Thinking

Seminal ideas about reflection and reflective thinking have served as conceptual anchors for the development of many U.S. teacher education programs (e.g., Jay & Johnson, 2002; Rodgers, 2002a; Spaulding & Wilson, 2002; Zeichner & Liston, 1996). These programs aim to prepare reflective practitioners who are skilled at examining their instructional practice and committed to making the necessary improvements so that all students achieve at high levels. Yet for all the attention on reflection in teaching, much less has been said about the link between reflection and leadership practice. That which has been reported is largely set in the context of ongoing professional development efforts, particularly the coaching and mentoring of practicing school leaders (e.g. Barnett, 1995; Rich & Jackson, 2006), or in the context of focused interventions where reflective thinking is the catalyst for the development of expert thinking and problem-solving in leaders (e.g. Hart, 1983; Leithwood & Steinbach, 1992; Short & Rinehart, 1993). Reflective thinking has also been linked with the development of ethical and moral dispositions in administrative leaders (Arrondondo-Rucinski & Bauch, 2006; see also Branson, 2007) and reflective leadership practice more broadly (McCotter, 2009).

In the studies cited above, authors uniformly agree that instruction in reflective thinking for school leaders (e.g., journal writing, problem-based learning, self-assessment, and reflective dialogue) requires sustained time and attention from both students and faculty. As Hart (1983) first discovered when analyzing data from a design studio for leadership candidates, problem-solving errors were surprisingly frequent. These errors highlighted the difficulty some candidates had in identifying and processing appropriate information, untangling the complexity of problems, and practicing patience during the problem-solving process. As a result, such

individuals were prone to misdiagnose problems and struggled to re-frame problems as they sought “right” answers. Subsequent studies have found similar results (McCotter, 2009; Short & Rinehart, 1993).

Recognizing the difficulty of teaching reflective thinking, Schon (1987) suggests that professional education “combine the teaching of applied science with coaching in the artistry of reflection-in-action” (p. xii). This coaching, according to Schon, is deliberately designed to support the habits of reflective thinking when applied to professional practice. The research on teacher preparation confirms the importance of ongoing guided practice, as well as the difficulty of helping individuals grow and develop as reflective thinkers (e.g., Jay & Johnson, 2002; Rogers, 2002b; Spaulding & Wilson, 2002). In reference to teachers, Linda Valli (1997) notes, “We cannot take for granted that prospective teachers will become reflective practitioners with experience. There are too many experienced teachers who have not become expert at their craft, who do not carefully think about their work or try to constantly improve” (p. 79). We might assume that prospective school leaders will similarly struggle with reflective thinking. Leadership educators can address this challenge, however, through intentional opportunities for guided practice (Bond, 2011; McCotter, 2009).

One particular challenge of teaching reflective thinking is the tendency to over simplify the process as a set of easily mastered steps, rather than a stance on professional practice (Jay & Johnson, 2002). Programs that teach reflective thinking through a single, targeted instructional intervention run this risk. It is also important to recognize that reflective thinking occurs in two distinct contexts: individual and collective (Lyons, 1998). Candidates should thus be given the opportunity to practice and gain confidence with reflective thinking when done independently, but also in the context of group processing. Additionally, the skills of reflective thinking develop over time with practice and feedback (Lyons, 1998). One does not wake up thinking reflectively one day; rather, one gradually develops the ability to think and act in more sophisticated, thoughtful, and principled ways over time. Perhaps most importantly, however, is for faculty to share a common understanding of reflective thinking that is used consistently across the program (Rodgers, 2002).

In sum, reflective thinking can help school leaders manage the complex, messy, and uncertain nature of work in schools. By routinely practicing reflective thinking, school leaders gain skill at examining issues, anticipating problems, questioning assumptions, weighing alternatives, and deliberating on future actions. As Arrondondo-Rucinski & Bauch (2006) note, this skillfulness can help school leaders take responsibility for and learn from their actions.

When educators make decisions or take actions, they must not deny responsibility for those actions, blame others, nor intentionally screen out criticisms. Such defensive behaviors indicate a lack of openness and a lack of desire to reflect on one’s own experiences and interpretations and thus to become transformed by one’s everyday learning on the job (p. 491).

Although the leadership preparation literature has begun to outline practical instructional strategies for promoting the development of reflective thinking in school leaders (McCotter, 2009; Short, 1997; Short & Rinehart, 1993), additional models and strategies are warranted given the aforementioned challenges.

Research Method and Study Design

To inform our instructional practice and to guide curricular improvements, we designed a qualitative action research study for the purpose of following two cohorts of candidates through our U.S. based master's level principal preparation program (Carver & Klein, 2013). Unlike research designs conducted for purposes external to the programs or practices under investigation, action research enabled us to practice bi-focal vision as instructors *and* researchers, resulting in pedagogical and programmatic adjustments in light of what we were learning, as well as support for theoretically driven understandings of our work.

Action research falls under the same umbrella as practitioner inquiry, teacher research, and self-study methods in a PK-12 context (Cochran-Smith & Lytle, 1993; Dana & Yendol-Hoppey, 2008; Samaras, 2011) and the scholarship of teaching in higher education (Boyer, 1990; Hutchings & Shulman, 1999). Action research is the process by which practitioners (e.g., teachers, principals, graduate students, university faculty) systematically examine authentic problems of practice using the inquiry process of problem posing, data gathering, data analysis, and data reporting for the purpose of improved practice. Theoretically, action research stems from the belief that teaching and leading are highly reflective practices (Dewey, 1933; Schon, 1983; 1987).

In this paper we share our analysis of candidates' written reflections, completed during their first semester in the program, to illustrate the nature of reflective thinking during early leadership preparation. We defined reflective thinking as the process of examining the implicit assumptions and consequences of leadership issues and practices. Our assumption was that sustained practice with reflective thinking would lead to "the evolution and integration of more complex ways (or processes) of engaging in one's [leadership] practices" (Lyons, 1998, p. 1).

This study was designed to broadly examine the nature of a candidate's development as a leader across the program and to identify predictable turning points that seemed to prompt changes in thinking and/or behavior. It was in the process of identifying such turning points that we began to notice that candidates' initial performance varied with their skill at reflective thinking. This observation prompted further inquiry into students' practice of reflective writing, which ultimately led to instructional adjustments designed to support the development of candidates' skill as reflective thinkers and leaders.

Program & Participants

The program studied is a university-based principal preparation program in the Midwest region of the United States. As a state-approved principal certification program, the curriculum is aligned with state and national leadership standards. Two features set the program apart from other universities in the area. First, candidates complete the program as a cohort, taking courses as a group. Secondly, the required internship runs across the nearly two-year program. A typical cohort enrolls 12-15 candidates. Located in a suburban community, the university draws students from a wide variety of school contexts: public, private, parochial, and charter, as well as urban, suburban, and rural.

Two cohorts of students were invited to participate in this multi-phased study and twelve candidates ultimately signed statements of consent. Despite coming from a variety of school settings and backgrounds, candidates were similar in that most were early career teachers with

varied leadership experience. Among the group of twelve candidates, eight were male. All expressed interest in becoming a school administrator.

Data Collection & Analysis

The data collected for the larger study included print artifacts completed naturally as part of coursework and included reading reflections, course projects, internship plans-of-work, and a culminating e-portfolio. Additionally, individual semi-structured interviews were conducted with study participants four months after program completion. The study findings reported here are primarily drawn from an analysis of written reflections prepared during candidates' first semester in the program. Specifically, candidates were asked to complete eight reflections across a thirteen-week term. In both sections of the course, these written reflections were designed to be short (2-3 pages in length) and address two or three critical ideas of their choosing from the assigned reading. As an introductory course, assigned readings aligned with the ISLLC 2008 Standards, which served as the framework for course content. Over 250 pages of data were collected and reviewed.

The analysis of candidates' written reflections started with thematically coding the text for self-reported turning points, e.g., changes in belief, understanding, and/or behavior (Strauss & Corbin, 1998). The coded data was then compared and contrasted across the semester and across individuals (Miles & Huberman, 1994). During the first stage of analysis, three sets of student profiles emerged that supported our observation of candidates' varied skill with reflective thinking. To better understand this variation, we employed a reflective thinking typology developed by Valli (1997) for use with teacher education candidates. (Note: Other researchers have similarly adapted teacher preparation frameworks for examining reflective thinking in aspiring leaders, but ours is the only application of Valli's framework in a leadership context. From our perspective, Valli's work had the most direct application and relevance for our research.) As Valli explained, reflective thinking can be separated into at least five orientations: technical reflection, reflection in/on action, deliberative reflection, personalistic reflection, and critical reflection. Our initial application of Valli's typology as a coding scheme found that these five orientations were comprehensive when situated in the context of school leaders' work, and thus could be adapted for the purpose of leadership preparation. See Table 1: Typology of Reflective Thinking for definitions of each orientation and our adaptation for school leaders.

Table 1
Five Orientations to Reflective Thinking

Orientation	Valli (1997) Definition	Adapted for School Leaders
Technical Reflection	Focus on narrow domain of teaching techniques & skills; straightforward application of research.	<i>Reflections are de-contextualized from leadership practice, drawing on abstract or generalized understandings of leadership.</i>
Reflection In/On Action	Looking back to engage in "retrospective thinking" after a lesson has been taught; or making conscious and deliberate decisions	<i>Reflections are of lessons learned from observing, experiencing or imagining leadership practice.</i>

	during teaching.	
Personalistic Reflection	Linking episodes from one's personal and professional life to make meaning of new experiences; includes reflection on the source of personal beliefs and attitudes.	<i>Interrogating personal beliefs and assumptions for purposes of personal or professional learning and development.</i>
Deliberative Reflection	Informed decision-making based on prior experience and/or the weighing of different points of view.	<i>Acknowledging the complexity of a situation and demonstrating openness to weighing competing alternatives prior to decision-making.</i>
Critical Reflection	Reflection on the ethical decisions made in schools, as well as the impact of those decisions on students, programs and society broadly.	<i>Discussion of critical social issues; demonstrates political savvy and ethical decision-making.</i>

We found Valli's typology uniquely useful as a lens for examining candidates' transition from practicing teacher to prospective school leader, and for understanding the nature of their thinking as reflective practitioners. Speaking in the context of teacher preparation, Valli (1997) argued that teaching all types of reflective thinking is useful, as "*It can help teachers consider different types of decisions that need to be made, different sources of information for good decision making, and different ways of relating those sources of information to teaching practice (p. 6).*" Unlike earlier approaches that stressed the development of an information-processes approach to problem-solving by principals (e.g. Barnett, 1995; Hart, 1983; Leithwood & Steinbach, 1992), Valli's typology provided us with the means to examine candidates' understanding of and skill at using various forms of reflective thinking. Furthermore, her typology provided a window through which to examine the alignment of candidates' learning during leadership preparation, thus building upon any conceptual foundation of reflective thinking established during initial teacher preparation.

Research Findings: Variations in Form and Skill

Early in the study we identified three groupings of students across the two cohorts: students highly reflective and open to learning and able to think organizationally; students with less developed reflections and less experience to frame issues and problems, but who were also open to learning; and students either not yet open to learning or not yet able to shift attention from the classroom to the organizational level. As described elsewhere, these profiles were based on three characteristics: 1) skill at thinking reflectively, 2) openness to learning, and 3) the ability to shift perspective from the classroom to the school or district (Carver & Klein, 2013).

To gain greater insight on any qualitative differences in reflective thinking between and among candidates in these three groupings, we used Valli's typology to code and categorize

candidates' written work during the first semester of the program. Our intent was to capture student performance prior to any formal instruction in reflective thinking, thereby capturing candidates' natural disposition to think reflectively. Below we describe candidate responses across the five orientations, looking first at the form or orientation of their responses, and then commenting on their skillfulness. To illustrate the findings, we focus on three of the twelve candidates, one from each identified grouping. To create consistent comparisons, all three were male elementary teachers from the same district and cohort. Candidate 1 entered the program with the most classroom and leadership experience.

Reflective Thinking: Variations in Form

Technical reflection. Valli (1997) describes the content of technical reflections as focusing on the “narrow domain” of technique or skill and “directing one’s actions through a straightforward application of research” (p. 74-75). To code for technical reflection, we looked for instances where candidates reflected directly on a reading or activity with no reference to personal experience or local context, and no direct application to practice. In the data excerpts that follow, candidates reflect on their reading of Elizabeth Hebert’s (2006) memoir, *The Boss of the Whole School*.

Table 2
Technical Reflection Data Excerpts

CANDIDATE 1	CANDIDATE 2	CANDIDATE 3
<i>The book was an easy read that gives a great deal of insight into the psyche of what an administrator may be thinking as they begin their career in administration... I found Elizabeth’s perspective about ‘who needs to know’ and ways to create community particularly appealing.</i>	<i>While reading this chapter, many things became a reality that I really had not thought about. It is interesting to be working as a teacher and reading about administrators who we see from time to time. I know they are very busy, but things that I have read about are making it clear as to what is going on behind the scenes.</i>	<i>I really liked the title of this first chapter, the “Importance of Simplicity, Clarity and Priority”. This was perfectly followed up with simple, well-known strategies about how structure drives improvement in any organization.</i>

Among the five orientations, technical reflection is considered the most matter-of-fact and uncomplicated. These three excerpts, however, illustrate the nuances that can be found within this category. In the reflections of both Candidate 1 and Candidate 2, we see a curiosity for digging deeper into the ideas presented in the reading, although Exemplar 1 is more specific as to what he found interesting and insightful in the readings. We also see a willingness to view the world with new eyes. In contrast, Candidate 3 offered a descriptive summary of the reading’s content, as opposed to a discussion of the ideas embedded in the reading. In this student’s response, we see little curiosity or interest in the reading. While there are multiple explanations for a given response (e.g., the student was rushing to complete the task before deadline), this observation provided a useful window into students’ flexibility as thinkers in a

given moment. Observed over time, common patterns of thinking did emerge across our participant pool.

Reflection in and on action. Drawing directly on the work of Donald Schon (1983), Valli (1997) defines reflection-on-action as the “retrospective” thinking that follows an activity, and reflection-in-action as the “spontaneous” thinking and decision-making that occurs during an activity. To code for reflection in and on action, we looked for instances where candidates learned from experience, either by observing other leaders or by engaging in leadership themselves. We also included de-contextualized references to future leadership activity, as well as instances where candidates’ reflections were based on their teaching practice. Note: because this data was collected during the first semester of the program, we did not expect to see many references to reflection on-action, nor did we distinguish our coding by instances of reflection “in” or “on” action.

Table 3
Reflection In and On Action Data Excerpts

CANDIDATE 1	CANDIDATE 2	CANDIDATE 3
<i>As I read this article, I could not stop thinking about my leadership vision and the school improvement team I am a part of.</i>	<i>With the constant room circulation and frequent checking for understanding, students achieve and perform better. I noticed my classes struggling in the beginning of the school year because I was not using enough of this practice.... I will continually use this practice. The amount of interaction, focus and comprehension were night and day.</i>	<i>[This week’s reading] reminded me of a program we are attempting to implement at one of my current schools...and Chapter Five helped me analyze how I want to be, how I want to act and what I want to accomplish as a leader.</i>

In these excerpts, we see that Candidates 1 and 3 reflect directly on leadership, whereas Candidate 2 connected new insights drawn from the readings to his teaching practice. Candidate 2’s response is reasonable, as we would want to see from practicing teachers a commitment to developing as educators. Over time, however, we would expect to see candidates place more of their attention on leadership practices, whether their own, or of those with whom they work. Thus, this category offered an interesting perspective on candidates’ readiness to shift from the perspective of a teacher, to that of a leader.

Personalistic reflection. According to Valli (1997), linking episodes from both one’s personal and professional life assists educators in making meaning from their own experiences, which then assists their professional development. In personalistic reflections, the writer examines such experiences and explores the source of their attitudes and beliefs. In coding the data, we looked for instances where candidates were reflecting on their future actions as a leader in a clearly established role and context, or where students were interrogating their own beliefs

and assumptions about leadership. The following excerpts represent typical examples of personalistic reflection.

Table 4
Personalistic Reflection Data Excerpts

CANDIDATE 1	CANDIDATE 2	CANDIDATE 3
<p><i>As I read, I seriously questioned why I would want to be an administrator. ...The article does explain that super-principals do not actually exist.... This article made me consider why I would want to be an administrator and while I felt anxious as I read it, it gave me a reason to reflect on who I will be as a leader... I look at an administrative position as one that may have a lot of demands, but one that will be well worth it as success after success is achieved. Leading is a part of who I am and it is something I will do very well.</i></p>	<p><i>It really does take a special person to be an effective principal because there is a TON of balancing, and if you can manage that and stay true to your values, one can be a successful leader and principal.</i></p>	<p><i>I... was able to compare pieces of the section to instances in my career so far... In order to create change we need to have our best educators working with our most challenging students. If our best educators are not willing to take on that responsibility, then that in itself says a lot about those educators.</i></p>

Of the five types of reflection, we assumed that personalistic reflection would come easily to candidates. While it was common to see self-references across the written reflections, these excerpts illustrate the difficulty many candidates had with engaging in personalized reflection. Whereas Candidate 1 demonstrated the skill of reflection reasonably well by connecting future leadership practice to leadership lessons learned over the years, Candidates 2 and 3 connect to the literature in a more abstract manner, thus raising questions about whether or not they truly warrant coding as personalistic reflection.

Deliberative reflection. As Valli (1997) notes, the content for deliberative reflection is taken from a broader range of experience and often incorporates disparate points of view. Hence, there may not be agreement about how to best make a decision, so the educator is called upon to make the most informed choice. To code for deliberative reflection, we looked for passages where candidates were clearly weighing their options as they decided how to proceed. We were unable to find any clear examples of deliberative reflection in our profile student data set and only a handful of under-developed examples in the larger data set.

As we considered this observation, we began to realize that course readings were largely absent complex issues and problems needing resolution. Rather, assigned readings advocated perspectives that were highly congruent with one another. The one task during the semester where we did encourage and support deliberate reflection was a policy activity where candidates

were asked to explore competing positions on a current policy topic, then argue for the topic from one of those positions. This activity was not, however, connected to a reflective writing task.

Critical reflection. In this final type of reflection, Valli (1997) proposes that educators be encouraged to consider the impact of their beliefs and decision-making on individual students, school programs, and society at large. To code for critical reflection, we looked for instances where candidates were beginning to see the ramification of their decisions on other students, teachers, parents, and community members. We also looked for instances of political consciousness. We were especially interested in reflections that supported issues of diversity and equity. Typical examples of critical reflection included the following.

Table 5
Critical Reflection Data Excerpts

CANDIDATE 1	CANDIDATE 2	CANDIDATE 3
<i>I'm not sure how the Common Core Standards will impact teachers, what new laws will impact the way a special education program is carried out, or what the expectations will be for me as an administrator, but I know that whatever the case I will be ready to take it day by day and hit the ground learning.</i>	<i>We need to make sure students are also in a positive learning environment where hard work is rewarded. I know at times teachers tend to focus on students who are successful. But we, as teachers, need to make a point to encourage EVERY one that hard work will pay off. Now some students may take a little more encouragement than others...but I believe that is why we got into this business.... to make a difference and help students be successful.</i>	<i>I would also only ask for major changes of my staff if I was confident that it had value to all of the students and stakeholders involved.</i>

Again, we see varied skill at reflective thinking in these excerpts. While Candidate 2 connects strongly to the assigned reading and to the idea of holding high expectations of all children (albeit in the context of teaching, a pattern that emerged across Candidate 2's writing), Candidates 1 and 3 are much less committed, speaking in generalized comments about their future practice as school leaders. As instructors, we were also hoping to see stronger evidence of a commitment to social justice leadership from all three candidates.

Reflective Thinking: Variations in Skill

As we looked across our coded data, we came to a better understanding of our students as reflective thinkers. As demonstrated through our three candidate profiles, we found strong and

weak evidence of reflective thinking (and writing) in the written work each produced. Further, no candidate reflected equally well in all five categories. For example, we noted that Candidate 1 was more likely to reflect on leadership practice and not teaching practice; Candidate 2 was equally likely to reflect on leadership and teaching practice, and Candidate 3 was more likely to reflect on teaching practice than leadership practice. This might be explained by Candidate 1's prior experience as a teacher leader and Candidate 3's relative inexperience in school-based leadership roles. Most notable, however, was candidates' inability to reflect consistently across the five orientations.

We also noted that, across the typology, the vast majority of excerpts fit the categories of technical reflection; reflection in and on action; and personalistic reflection. We had no excerpts fall definitively in the deliberative reflection category and very few that were coded as critical reflection. In looking back at our list of assigned readings, we saw missed opportunities to scaffold students' experience with different kinds of reflection. This suggested to us the importance of providing candidates with structured and/or guided opportunities to reflect in a variety of contexts and for a variety of purposes, something that we are now more mindful of as course instructors.

Finally, when using the Valli typology, the differences that led to our initial identification of three distinct student profiles diminished when we looked at the data through this lens. Where Candidate 1 was weak, Candidate 3 stood out. And while Candidate 2 demonstrated skill at technical reflection, he was less accomplished at personalistic reflection. This observation highlighted for us the complex nature of assessing candidates' skill and flexibility with reflective thinking. Specifically, candidates may not be evenly skilled and/or consistent in their use of various forms of reflective thinking. Admittedly, it is much easier for a highly accomplished and confident writer to appear skilled at reflection. It is also likely that some students engaged in the level of thinking that we desired, but were unable to skillfully put that same thinking onto paper. We also suspect some of the differences that emerged in our sample stemmed from varying degrees of leadership experience. As a broad observation, the more leadership exposure and experience one had, the deeper the observed reflection.

Discussion: Application to Leadership Preparation

Using the Valli (1997) typology for reflective thinking provided a fresh lens for viewing the written reflections of our graduate leadership students. With a clearly delineated frame of reference for examining written reflections, differences in candidates' patterns of thinking could be identified, monitored, and assessed. Differences that we first observed (e.g., strong to weak skill) diminished as we saw how challenging reflective thinking across a range of orientations was for each of our sample students. As a result, this research highlighted for us the importance of teaching the value of and techniques for reflective thinking, and, more fundamentally, of helping candidates develop a reflective stance toward leadership practice. Reflective thinking is more than thinking and writing at length, but doing so in increasingly flexible and sophisticated ways (e.g., writing within and across orientations).

Although not the only model for teaching reflective thinking, Valli's (1997) typology has provided us with a practical tool for helping aspiring leaders build and refine their reflective thinking skills. To illustrate, instructors now introduce Valli's (1997) typology in the first semester of the program. To reinforce understanding, candidates are asked to complete a self-assessment documenting their skill at the five thinking orientations (adapted from Arrondondo-

Ruckinski & Bauch, 2002; Spaulding & Wilson, 2006). Further guidance is given as candidates discuss how to approach writing their weekly reflections.

As candidates' progress through the seven-semester program, they experience all five types of reflective thinking through a variety of in-class presentations, discussions, and assignments, e.g., case studies, in basket activities, policy roundtables, written reflections. Instructors are also encouraged to use the five orientations as a tool for assessing and providing feedback on the quality of candidates' work. During the final semester of the program, candidates take the self-assessment survey again in order to chart their self-reported growth and confidence in reflective thinking over time.

To gauge our success at teaching reflective thinking, we recently outlined the behaviors and skills that serve as evidence of candidates' willingness and ability to engage in reflective thinking (see Table 6: Critical Thinking Behavior & Skills). Over time, we expect to see candidates engage in behaviors that we can document through coursework and through the required internship, e.g., increased ability to move from concrete description to meaning-making when reviewing events and experiences; and increased ability to transfer understanding across events, settings, or issues.

Table 6
Critical Thinking Behaviors & Skills

Critical Thinking Behaviors & Skills
<ul style="list-style-type: none"> • <i>Increasing ability to move beyond description to meaning-making</i>
<ul style="list-style-type: none"> • <i>Expanding forms and contexts where reflective thinking is practiced</i>
<ul style="list-style-type: none"> • <i>Increasing skill at using reflective thinking to connect coursework with the field, and theory with practice</i>
<ul style="list-style-type: none"> • <i>Increasing skill at analyzing an issue or problem prior to decision-making</i>
<ul style="list-style-type: none"> • <i>Increasing understanding of how and why other school leaders in their district have identified particular goals, strategies and outcomes for school improvement</i>
<ul style="list-style-type: none"> • <i>Expanding competence and confidence in both anticipating and resolving challenges in their day-to-day practice</i>
<ul style="list-style-type: none"> • <i>Willingness to take responsibility for more complex decisions and be accountable for decisions made.</i>

In designing these activities and assessments, we looked to the literature on reflective thinking for guidance. For example, rather than present school leadership as an easy-to-follow sequence of steps, we were careful to introduce reflective thinking as a way of anticipating and thinking through complex issues and problems (Jay & Johnson, 2002). Assigned tasks and experiences were structured to elicit differing orientations to reflective thinking, and to occur in varied settings so that candidates had opportunities to practice individual and group-oriented

reflection (Lyons, 1998). Moreover, we embedded reflective thinking in our program's conceptual framework (Darling-Hammond, et al., 2009; UCEA, 1998). We wanted incoming students to see reflective thinking as a central characteristic of effective school leaders and give them sufficient time and feedback to develop as reflective practitioners (Bond, 2011; Hart, 1983; Jay & Johnson, 2002; McCotter, 2009; Short, 1997; Spaulding & Wilson, 2006).

Since implementing these interventions four years ago, we have growing evidence to suggest our efforts are making a positive difference. Scores on the reflective thinking self-assessment survey show positive gains from year one to year two, and the range of reported year two scores by question (e.g., Do you ask questions of your perspective on an issue?) is smaller, suggesting greater consistency in candidates' reported use of reflective thinking behaviors. Finally, although candidates' written definitions of reflective thinking have not changed substantially across the pre and post versions of the survey, reported confidence in using reflective thinking in a variety of contexts has increased. Of note, we are seeing similar gains when using the "Critical Thinking Behavior and Skills" criteria (described in Table 6) to assess the quality of candidates' written reflections.

Additional evidence supporting our interventions come from semi-structured phone interviews conducted with study participants four months after completing the graduate program. In these interviews, graduates were asked which program activities (e.g., reflective writing and discussion, group, or individual presentations; development of a leadership vision statement and e-portfolio) they considered most important to their learning and development as a school leader. The most often mentioned activity (along with leadership vision and e-portfolio) was preparing written reflections, regardless of whether these reflections addressed assigned readings or internship activities.

When asked what made reflective writing a powerful experience, graduates consistently described the benefits of "*looking inside myself to find what qualities as a leader I had and maybe which ones I needed to blossom a little bit more.*" Some attributed reflective thinking to helping them adapt a balcony view of leadership and school improvement. One frankly suggested that had reflective thinking not been assigned, she probably wouldn't have found the time to practice this new skill.

The reflections for me, started out like a blank sheet of paper, where I had to really sit down and think about where I was going, how I had gotten there, and what I still needed to improve on. And it's very hard to do that unless you sit down and take the time to reflect, and had I not had those opportunities, I probably would not have been as self-reflective.

Another graduate credited the program's frequent and ongoing opportunities to engage in reflective thinking as the key to better understanding himself as a future leader.

Implications & Limitations

Despite the efforts of well-intended reformers, university-based programs continue to come under fire for failing to prepare principals for the challenges faced by today's school leaders. Those who are critical of traditional leadership preparation cite a number of persistent problems, including weak selection criteria that fails to screen for leadership potential; a curriculum that is fragmented and disconnected from the reality of practice; the priority of facilities management over instructional leadership; limited opportunity for candidates to practice and apply new learning; plus internships that lack rigor and focus (e.g. Cheney & Davis, 2011; Hess & Kelly,

2007; Levine, 2005). These critiques share the belief that traditional programs are out-of-date and out-of-touch.

While action research has been widely used by teacher educators to inform their instruction, we argue that the use of action research *by leadership educators* represents a new and promising practice for informing and guiding leadership preparation. As we demonstrate in this paper, study findings offer practical guidance for the content and structure of leadership preparation as it relates to developing reflective practice. Specifically, our analysis highlights the difficulty early-program candidates may have with reflective thinking, while also offering a practical tool that can be used by instructors and candidates for examining the sophistication and flexibility of one's skill at reflective thinking. In short, engaging in the action research process has made both of us more attentive to our teaching, to students' learning, and to the evidence upon which we make claims regarding either. In concrete terms, this study has highlighted for us the critical importance of being deliberate in teaching the skills of reflective thinking.

Still, this study is not without limitations. Our findings are limited to candidates' skill at reflective thinking at the beginning of a single graduate program. Future research is needed that looks at the impact of efforts to coach reflective thinking over time and in diverse settings. There are also practical constraints that stem from studying your own teaching. Care is needed to control for researcher bias. Gaining consent from students requires thoughtful planning. Balancing the dual roles of instructor and researcher requires extra time and attention. In sharing our story we hope readers appreciate both the potential and the rigor of action research. At the same time, we are mindful of what this approach to supporting and assessing reflective thinking is not able to accomplish. Valli's (1997) adapted typology provides a useful framework for deconstructing one's skillfulness and repertoire as a reflective thinker, but it cannot predict or anticipate one's actions in the field. Additional questions remain as to whether the disposition to engage in reflective thinking can be nurtured and taught (Nelsen, 2015).

Conclusion

As Hargreaves and Fullan (2012) argue, becoming a professional involves acquiring the "ability to make discretionary judgments" in situations where not all facts are known, rules or evidence are not clear, and ambiguity or uncertainty prevail (p. 93). They go on to underscore the importance of reflection as critical to professional practice, noting that reflective thinking provides a lever to examine and improve on one's own practice. Given the difficulty that incoming leadership students may have with engaging in reflection, we join others in arguing that the development of reflective thinking be a required component of educational leadership programming (Bond, 2011; McCooter, 2009; Short, 1993). Doing so will help to equip aspiring leaders with the robust tools needed to deliberate on their experience and improve future practice.

Aspiring school principals need to be conversant not only with the content covered in their coursework, but also able to use reflective thinking across the range of school-level decisions that require their attention. School principals need to think critically and reflectively when developing or responding to educational policy and school redesign questions. Often, principals are called upon to share the implications of new research for local practice. Acquiring the necessary skills for evaluating, as well as applying the lessons and findings of these studies to improve student achievement is yet another important outcome for graduates of school leadership programs.

We believe rigorous and relevant experiences with reflective thinking during school leadership preparation will increase the likelihood that prospective administrators will make stronger decisions after they leave the university. We further believe that reflective writing strategies and tools, designed to identify and assess candidates' capacity for a reflective stance toward leadership, and used program-wide to build skillfulness in the practice of reflective thinking, ultimately support efforts to produce competent and effective leaders for our nation's schools.

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