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Authors: Tena M. Versland

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Exploring Self-Efficacy in Education Leadership Programs: What Makes the Difference?

Tena M. Versland¹

Abstract

Despite attention given to principal preparation program reform, little research exists explaining how candidates develop self-efficacy or how preparation programs contribute to self-efficacy development. Researchers used a mixed-methods study to examine principals' perceptions of program effectiveness, determine underlying constructs related to self-efficacy, explore how those factors functioned, and suggest ways to design program experiences promoting self-efficacy. Results suggest that program experiences should create opportunities for relationship building, authentic leadership experiences working with others, and persevering to build self-efficacy. Faculty can support efficacy development through creating instructional opportunities where students gain mastery of leading others in school improvement strategies, requiring internships of substantial length for relationship development, and designing rigorous coursework and program challenges with supportive structures to teach perseverance.

Keywords

principal preparation, leader self-efficacy, instructional leadership

Shaping a vision of academic success, creating a climate hospitable to education, cultivating leadership in others, improving instruction, and managing people, data, and processes all contribute to the school leader's ability to influence the actions of others and set conditions necessary for continuous school improvement (Seashore-Louis, Leithwood, Wahlstrom, & Anderson, 2010). Paramount to a school leader's success in

¹Montana State University, Bozeman, USA

Corresponding Author:

Tena M. Versland, Montana State University, P. O. Box 172880, Bozeman, MT 59717, USA.
Email: tena.versland@montana.edu

each of these five key areas is mastery of the art of working with people and building relationships that generate increased instructional capacity (Goddard, Numerski, Goddard, Salloum, & Berebitsky, 2010; Waters, Marzano, & McNulty, 2004). Much attention has focused on the importance of principal preparation programs in equipping principals with the knowledge and skills necessary to effectively lead people and schools (Darling-Hammond, LaPointe, Meyerson, & Orr, 2007; Fry, O'Neill, & Bottoms, 2006; Orphanos & Orr, 2014). Researchers commissioned by the Wallace Foundation (Darling-Hammond et al., 2007; Fry et al., 2006) suggest that problem-based learning (PBL), coursework that incorporates theory into practice, and clinical field experience are necessary to ensure that principal candidates gain the skills and knowledge needed for success in school leadership.

As important as skills and knowledge are to leader success, self-efficacy, the belief in one's ability to accomplish specific tasks and produce desired results may be equally important to principal success. Bandura (2009) theorized that people's judgments of their personal capabilities more so than their actual skills and knowledge drive them to achieve the goals they set for themselves. Munoz, Rinehart, and Winter (2002) suggested that the self-perceptions of principal candidates about their ability to be successful in the principal role were the strongest predictor of their willingness to even apply for a principal position. Although principal preparation programs are expected to help candidates develop technical skills for leadership, the development of principal self-efficacy is less often emphasized even though Tschannen-Moran and Gareis (2007) found that principal self-efficacy is necessary to facilitate group goal attainment. Seashore-Louis et al. (2010) reported that self-efficacy also enables a principal to build relationships necessary for high levels of collective performance:

To feel a strong sense of efficacy is to believe that you, or you and your colleagues, can act effectively and deal with difficulties as they arise. In this sense, efficacy is fundamental to moving from the desire for change to actual changes in behavior. Even those who feel a strong sense of efficacy, however, benefit from supportive conditions in which to act. (p. 31)

Therefore, principal training programs should also include experiences designed to build candidates' sense of self-efficacy if new leaders are to be successful in meeting the challenges of managing complex human systems and improving schools. Lacking self-efficacy about the principalship, school leaders will have a difficult time providing the continuous affirmation and support necessary to build instructional capacity, and innovate and promote higher levels of student achievement. Tschannen-Moran and Gareis (2007) asserted that if schools of education leadership could combine the elements of exemplary programs along with purposeful development of leader self-efficacy, such an innovation would hold promise for effectively training school leaders.

Currently, little research exists that examines how preparation programs contribute to principal self-efficacy development and how instructional practices and program experiences could positively influence self-efficacy development. In this study,

researchers identified program elements that contributed most to self-efficacy development and sought to understand how these elements functioned in promoting principal self-efficacy. Researchers also identified ways program faculty might integrate those self-efficacy generators into instructional practices, coursework, and purposeful interactions across all program experiences.

Literature Review

Self-Efficacy Theory

In 1977, Albert Bandura introduced his theory of self-efficacy and based it on two tenets of social cognitive theory: self-regulation and self-reflection. Bandura found that as people control or regulate their own behaviors, they also reflect on their thoughts and actions. Through self-reflection, people analyze past events and determine future actions. Bandura (1997) specifically defined self-efficacy as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performance” (p. 391). Bandura (1986, 1997, 2009) theorized that these beliefs and judgments about personal capabilities, rather than their actual abilities, drive people to accomplishing goals they set for themselves. People act on their beliefs about what they can do, as well as on their beliefs about the likely results of their actions (Bandura, 2009). When people believe that their actions will result in positive performances, the more vigorous and persistent are people’s efforts. Those with high self-efficacy are more likely to set higher goals, overcome obstacles, and persist in meeting challenges. However, as positive perceptions of self-efficacy empower people to action, low self-efficacy can cause people to doubt themselves and choose not act at all. People lacking in self-efficacy set lower goals, give up easily, and often avoid challenges altogether.

Self-efficacy sources. Of the four sources of self-efficacy beliefs Bandura identified, the first and most influential is that of mastery experiences. Completing a task well builds successful experience, which sets the stage for continued success. Several successful performances of a specific task help people attain mastery of that task. These “mastery experiences” raise self-efficacy beliefs; conversely, failure to master a specific task lowers self-efficacy (Bandura, 1986). However, with persistent and robust efforts failures can also be ameliorated, thereby causing people to believe that applying greater effort can likely overcome almost any obstacle. Vicarious experience, the second source, describes how people learn from watching and imitating the behavior of others. Bandura (1986) suggested that as people observe and learn from the successes and failures of others, they vicariously experience events through modeling. If the successful person appears to be of similar competence to the vicarious learner, the vicarious learner seeks to replicate the efforts and strategies to achieve similar success. If the model experiences failure, the vicarious learner changes tactics to avoid a similar failure. Although vicarious experiences are generally weaker than mastery experiences, they can produce measureable and lasting

changes in performance (Schwarzer & Warner, 2013). The third source for self-efficacy development, social persuasion, represents feedback (in the form of praise and encouragement) people get from others about a specific capability. When people receive positive feedback about their capabilities from experts in the particular area in question, they view themselves to be more competent and their actual performance can be enhanced. However, if social persuasion (feedback) is negative, performances that were once adequate can suffer (Bandura, 1986). The final self-efficacy source, termed as arousal or psychological response, occurs as people monitor their stress and emotional states with regard to a specific task. If the thought of completing the task makes one ill at ease or nervous, self-efficacy suffers. Bandura (1997) explained, "People read their somatic arousal in stressful or taxing situations as ominous signs of vulnerability to dysfunction" (p. 401). Conversely, when people welcome the challenge of a particular task, their self-efficacy heightens, as does their corresponding performance of that task.

Importance of Self-Efficacy to Principal Leadership

Consensus has grown about the overall preparation program components and curricular elements essential to leadership training programs (Darling-Hammond et al., 2007; Fry et al., 2006; Orr, & Orphanos, 2011). Orr (2006) also asserted that not only technical knowledge and skills that graduates gain are important, but also what they come to believe about being a principal and how much they identify with the principal role. Self-efficacy is centrally important to leaders' success, because it determines the degree of effort exerted on a particular task as well as the kinds of aspirations and goals that leaders set not only for themselves but also for their staff (Bandura, 2009; McCollum & Kajs, 2009). In studies of Chemers, Watson, and May (2000), leader self-efficacy was found to be important in affecting the attitudes and performance of followers. Leaders' beliefs also increased their followers' commitments to organizational tasks, which had a positive effect on employees' engagement with their work. Leader self-efficacy helped create an environment that could more effectively overcome obstacles to change (Luthans & Peterson, 2002). McCormick (2001) also credited leader self-efficacy with positively affecting the goals of an organization as well as follower motivation.

Recently, Fisher (2011) found that curricular elements in a 2-year training program using experiences to promote both management and leadership skills changed the self-efficacy of aspiring principals. While researchers support the need for leaders to be self-efficacious, there is little evidence in the literature that preparation programs have incorporated efficacy-building experiences into preservice training. Creating preparation programs that weave efficacy building into coursework and field experiences would indeed be advantageous to aspiring administrators.

Potential for self-efficacy development in preparation programs. What aspects of principal preparation programs then might advance candidates' self-efficacy development and success? Preparation programs attracted criticism for a variety of reasons,

including recruitment and selection, lack of rigor, disconnect between theory and practice, and inadequate clinical practice (Creighton & Jones, 2001; Levine, 2005; Young, 2002). Therefore, the integration of these elements along with purposeful strategies designed to develop candidate self-efficacy has the potential to initiate meaningful program change. In the last decade, several recommendations to improve preparation programs articulated opportunities to enhance candidate self-efficacy. Chief among these come from the work of the Interstate School Leadership Licensure Consortium (ISLLC) that originally adopted educational leader standards in 1996, revised them in 2008, and is currently in process of revising the standards again to more specifically reflect contemporary research on instructional leadership (CCSSO, 2008).

Concurrent with the revision of the 2008 ISLLC standards, the Southern Regional Education Board (SREB) and the Stanford Educational Leadership Institute (SELI) conducted studies associated with school leader development and preparation program effectiveness. In their 2006 report, Fry et al. of the SREB identified a set of core conditions necessary for successful preparation program redesign. Among these core conditions is the necessity for continuous field experiences that allow candidates to demonstrate leadership competencies through practice and mastery of the leadership and management skills that effective principals use on a daily basis. Authentic field experiences that provide opportunities in student discipline, teacher supervision, and analysis of student performance data help candidates gain mastery experiences, which, perhaps in turn, might create self-efficacy building opportunities. Likewise, there appears to be potential for self-efficacy development via field experience as aspiring principal candidates learn vicariously from observing the deliberate actions and behaviors of an accomplished instructional leader. These opportunities for vicarious learning represent the second source of self-efficacy which occurs when someone witnesses a skilled performance, cognitively assesses the performance and stores it away for imitation later (Bandura, 1997).

The remaining two sources of self-efficacy development, social persuasion and psychological response might also emerge as a result of formal mentoring and informal social supports, which are purposefully built into preparation program redesign. Darling-Hammond et al. (2007) examined eight exemplary programs through case study analysis and found seven common elements. Of relevance here, they found that exemplary programs provide social and professional support through cohort groupings and formal mentoring. Social support, labeled by Bandura (1986) as social persuasion, is the third source of self-efficacy and one that relies on interpersonal interactions between experts and learners that create encouragement. The role of mentoring, either as a separate and formal structure, or as a more informal faculty advising responsibility, might often account for the difference between students who persist to program completion and others who do not. Psychological response, the fourth self-efficacy source, describes how people approach stressful situations and manage challenges. Exemplary preparation programs may be well positioned to build leader efficacy as candidates practice skills that help them manage rigorous expectations and execute strategies for succeeding in arduous courses.

Method

The recommendations for preparation program redesign appear to have potential to promote self-efficacy development of aspiring principals through three research questions. Specifically, we asked the following:

Research Question 1: What were principals' perceptions of program effectiveness and their self-efficacy?

Research Question 2: What are the underlying constructs related to self-efficacy development within preparation programs?

Research Question 3: How do program elements contribute to principals' self-efficacy development?

We used a mixed-methods approach (Gay, Mills, & Airasian, 2006). The first two questions were addressed through data collected from a questionnaire that were analyzed with descriptive statistics and a principal component factor analysis; for our third research question, we employed qualitative interviews designed to provide a deeper understanding of principal responses from the survey.

Quantitative

Participants. The quantitative phase of this study began by surveying the entire population of practicing principals in the state of Montana regarding their perceptions of the effectiveness of their principal preparation programs and their principal self-efficacy. The researchers collaborated with the state principals' association to obtain emails for all 538 principals in Montana. We then sent invitation and access to an online questionnaire to every principal; 292 principals completed the survey for a 54% response rate. Respondents reported administrative experience that varied from 2 years to more than 25 years. Principals who responded were 64% male and 36% female, and served schools with student enrollments ranging from less than 100 students to nearly 2,000 students. Elementary principals accounted for 43% of the sample, middle school principals represented 12%, and high school principals made up 30% of respondents. An additional 15% of respondents performed both elementary and secondary principal duties at small rural schools in isolated areas; these schools typically served less than 120 students. Respondents also represented numerous preparation programs from within and outside Montana featuring online, blended, and traditional face-to-face instruction.

Survey instrument. Principals were sent access to an online survey that possessed two parts: the Principal Preparation Program Questionnaire (PPPQ) and Tschannen-Moran and Gareis's (2004) Principal Sense of Efficacy Scale (PSES). The PPPQ was a 36-item tool which was drawn from research on exemplary preparation programs and developed for this study. Specifically, items were taken from findings in the SREB report, *Schools Can't Wait* (Fry et al., 2006), and the SELI report, *School, Leadership Study* (Darling-Hammond et al., 2007). In addition to demographics, experience, and

education, the PPPQ asked questions in four main areas: (a) perceptions of preparation programs' selection and recruitment processes, (b) perceptions of faculty expertise and quality of instruction, (c) perceptions of the relevancy of coursework to practice, and (d) perceptions of clinical field experience. Example items include the following: *Faculty emphasize instructional leadership and student achievement. Faculty use case studies, PBL and simulations to study current educational issues. Faculty emphasize current research and leadership theories. Candidates observe teachers and practice supervision techniques. Candidates collect and analyze student data. Candidates design and facilitate professional development. Candidates are paired with exemplary principal mentors in field experience.*

Items use a 9-point semantic differential scale with the following descriptors: 1 (*not at all*), 3 (*very little*), 5 (*to some degree*), 7 (*quite a bit*), and 9 (*a great deal*). Construct validity and readability were assessed by four faculty members with expertise in education leadership, assessment, and measurement, and social psychology. The PPPQ underwent pilot study with several retired principals and other education leadership faculty who made suggestions about minor revisions for wordings of questions and formatting. The internal consistency reliability for the PPPQ scale as measured by Cronbach's alpha was .92.

The second part of the survey for this study used Tschannen-Moran and Gareis's (2004) PSES, a widely accepted assessment of leader self-efficacy. The PSES contains 18 questions and asks principals to assess their capability concerning instructional leadership, management, and moral leadership (Tschannen-Moran & Gareis, 2004). Similar to the PPPQ, items on this instrument use the 9-point differential response set of *not at all to a great deal*. Examples of PSES items include the following: *To what extent can you facilitate student learning in your school? To what extent can you motivate teachers? To what extent can you manage change in your school? To what extent can you promote ethical behavior among school personnel? To what extent can you handle the demands of the job?* The PSES reports Cronbach's alpha of .91 for internal consistency reliability. All 18 questions from the PSES were included verbatim on our survey instrument for this study.

Quantitative data analysis. Descriptive statistics were generated using the survey data to address the first research question related to program effectiveness and personal self-efficacy. The second analysis determined the underlying constructs of self-efficacy development present in preparation programs using principal components analysis. Because two distinct tools (PPPQ/PSES) were used, it was important to understand how items clustered together to describe relationships between program effectiveness and principal self-efficacy. We chose principal components analysis to examine the 54 items and parse out underlying constructs that reflected preparation program effectiveness and self-efficacy. Principal components analysis reduces a large number of questionnaire items or variables to a few constructs or factors that describe the relationship between variables (Gorsuch, 2013). In addition, we used data screening procedures, including the Kaiser–Meyer–Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity to evaluate the

factorability of the correlation matrix, determine whether multicollinearity existed, and to insure that the data were appropriate for the factor analysis to proceed.

Qualitative Data Collection and Analysis

Following our data analysis from the survey results, we identified principals who rated every item from the PPPQ as effective (7 or higher on the 9-point scale) and who rated themselves 7 or higher on the 9-point scale for every item on the PSES. The purpose of identifying principals who reported high levels of self-efficacy was to interview them to better understand the phenomenon of principal self-efficacy and examine how preparation program elements may have contributed to self-efficacy development.

Interview participants. Of the 292 quantitative survey respondents, 78 principals rated either their preparation program elements highly or their self-efficacy highly (at least 7 of 9 on the 9-point scale). However, only 22 principals, or 7.5% of all respondents, rated both preparation program and self-efficacy highly. Of those 22 potential interview candidates, we chose 10 principals who represented the diverse demographics of principals in Montana and who were in proximity to the researchers. Since the principal respondents resided in Montana, a large western rural state, we defined proximity for this study as within 200 miles; we then began interviewing those 10 candidates who worked within the 200-mile proximity. However, when it was evident that no new information was forthcoming after interviewing six of the 10 interview participants, we determined we had reached saturation, and that the six interviews had produced enough “thickness and richness” to address the third research question.

Interview protocol and participants. We developed a 10-question interview protocol to examine preparation program elements through the lens of Bandura’s (1997) four sources of self-efficacy (mastery experiences, vicarious experiences, social persuasion, and psychological states) asking interview participants how principal preparation program elements influenced the development of their self-efficacy. We used the results of the quantitative portion of the study to help construct the interview protocol, which asked participants about program elements such as coursework, instructional activities, and field experience, as well as about personal interactions, influential people, and stressful situations.

The six interview participants, Ken, Terri, Felicia, Michael, Paul, and Maryann (all pseudonyms), possessed varying levels of principal experience from 4 to 22 years; their total educational service ranged from 9 to 36 years, and they were 37 to 58 years old. Three of the principals served high schools with populations ranging from 250 to 800 students. The remaining three principals worked at a middle school of 440 students, a K-5 school with 335 students and a K-12 school with an enrollment of 150 students. Of the six participants, four had earned master’s degrees and principal certification from university education leadership programs in the western region; another principal earned a master’s degree and certification from a college preparation program in a west coast state. The final participant earned a doctorate at a private

university on the east coast and gained principal certification through a large district's alternative licensure program. As this study was carried out in Montana, a rural western state with a small population, some of the participants are widely known, serving in high-profile positions across the state. Consequently, we were concerned about the degree of confidentiality we could reasonably provide to them. Therefore, personal and professional characteristics matched to particular pseudonyms will not be shared.

Analysis of qualitative data. Similar to the quantitative questionnaire, the interview protocol was pilot tested with former school principals and current education leadership faculty familiar with the goals of the study. Following the pilot study interviews, the researchers transcribed the data and presented results to a focus group of education leadership faculty for feedback and further recommendations. We revised protocol questions to reflect quantitative survey results and to elicit a greater range of responses and depth surrounding efficacy sources.

We coded data from qualitative interviews to reflect representation of Bandura's (1997) four self-efficacy sources. Questions that asked about specific coursework or experiences that require students to master a certain skill or knowledge set were coded as mastery experiences (ME), whereas other questions that inquired about social interactions with classmates, faculty, and other practitioners were coded as vicarious experiences (VE) or social persuasion (SP). Arousal or psychological response (A) questions dealt mainly with principals' recollections of whether they encountered any particularly stressful or encouraging elements within the principal preparation program. Several questions reflected more than one self-efficacy source. One example is question number 5: "How did faculty in your program have an impact on your self-efficacy development?" This question addresses vicarious experiences, social persuasion, and mastery experiences because it seeks to understand not only personal interactions and how those interactions influence aspiring principals' belief systems, but also the kinds of experiences that faculty designed that required students to master various skills. A table of specifications (Table 1) reflects the coding and association of program elements with self-efficacy sources.

The inductive analysis employed to examine our qualitative data has support in the literature (Miles & Huberman, 2013) and used unitization to examine small pieces (units) of data, followed by the categorization of the units into similar groups or categories. Once themes had emerged, member checks established trustworthiness and credibility of the findings. Three common themes emerged, which described the contexts of self-efficacy development for the interviewees.

Findings

Descriptive Statistics and Factor Analysis

Data analysis began by computing descriptive statistics for individual items on the PPPQ and PSES, as well as the overall subsections for program effectiveness and self-efficacy. Of the four subsections on the PPPQ that asked about program effectiveness (*Recruitment and Selection, Faculty and Instruction, Relevancy of Coursework to*

Table 1. Table of Specifications: Program Elements and Self-Efficacy Sources.

Interview question stems	Efficacy sources	Research question
1. Perception of success	Arousal	3
2. Coursework	Mastery experiences	1, 2
3. Instructional experiences	Mastery experiences Social persuasion	1, 2, 3
4. Faculty interactions	Social persuasion Vicarious experiences Mastery experience	2, 3
5. Interactions with others	Vicarious experiences Social persuasion	2
6. Field experience	Vicarious experiences Mastery experiences Social persuasion	2, 1, 2, 3
7. Greatest impact	Arousal Social persuasion Mastery experience	2, 3
8. Efficacy realization	All sources	2, 3
9. Outside experiences	All sources	1, 2, 3
10. Program recommendations	Mastery experiences Social persuasion	1, 2, 3

Practice, and Clinical Field Experience), *Faculty and Instruction* was rated highest ($M = 6.72, SD = 1.94$) revealing that principals perceived faculty expertise and instructional experiences closest to Descriptor 7 (*quite a bit*) on the 9-point semantic differential scale. *Relevancy of Coursework to Practice, and Selection and Recruitment* subsections were rated similarly ($M = 5.63, SD = 2.33; M = 5.46, SD = 2.50$) and most near Descriptor 5 (*to some degree*); clinical field experience was viewed as the least effective program area ($M = 4.78, SD = 1.89$), falling between the Descriptors 3 (*very little*) through 5 (*to some degree*). However, on the PSES, most principals reported fairly high levels of self-efficacy ($M = 6.96, SD = 1.53$).

Means and standard deviations (on the 9-point semantic differentiation scale) for each of the 54 items on the PPPQ and the PSES are included in the last two columns of the factor analysis. Item Q8 had very low correlations ($r < .30$) with the other self-efficacy items and was removed prior to the exploratory analysis. Items Q32, Q34, and Q38 highly correlated ($r > .80$) with the other self-efficacy items; we removed them from the analysis because they assessed similar self-efficacy attributes. The communalities from the principal components analysis were examined and exceeded .500, indicating that the 292 responses were more than sufficient for providing a good recovery of population factors (Fabrigar, Wenger, MacCallum, & Strahan, 1999). We also used data screening procedures to evaluate the factorability of the correlation matrix. Results from the Kaiser–Meyer–Olkin Measure of Sampling Adequacy (.930) and Bartlett’s Test of Sphericity ($\chi^2_{1081} = 8,732, p < .001$) determined that the data were appropriate for the factor analysis to proceed.

The analysis extracted four factors together forming constructs, which aligned with perceptions of program effectiveness and Bandura's sources of self-efficacy. Those factors were labeled *instructional leadership and relationships, empowering others, field experience and authentic learning, and perseverance*. These factors accounted for 62% of total item variance and produced reliability coefficients ranging from .95 to .91 suggesting high levels of internal consistency between items. In Table 2, we present factor loadings in order of magnitude from most to least substantive. The importance of the factor analysis was to understand how the questionnaire items clustered together to form constructs aligning with Bandura's four sources of self-efficacy. Factors 1 and 3 incorporated items related to the effectiveness of preparation programs and Factors 2 and 4 incorporated items related to self-efficacy. Factor 2 was primarily consistent with Tschannen-Moran and Gareis's (2004) subscales of instructional leadership and moral leadership, whereas Factor 4 was primarily consistent with efficacy for management-related items (Tschannen-Moran & Gareis, 2004).

Instructional Leadership and Relationships

Quantitative findings. Factor 1, *instructional leadership and relationships*, consisted of 21 items and accounted for 37% of the total item variance representing survey items associated with program effectiveness, in particular, the program elements that engage candidates in relationship building. High mean scores for these questions suggested that preparation program faculty were most effective in establishing learning communities within cohort groups (Q15: $M = 7.40$, $SD = 3.37$), developing collegial relationships among students (Q14: $M = 6.75$, $SD = 1.88$), and using instructional strategies such as case studies (Q13: $M = 7.18$, $SD = 1.17$) and PBL (Q12: $M = 6.74$, $SD = 1.82$) to simulate authentic conditions of school leadership. This factor suggests that principals built efficacy through mastery experiences and vicarious learning as they coalesced into learning communities to discuss and solve case studies, and PBL issues. Case studies and PBL simulate actual school situations that require mastery of content knowledge crucial to decision making. From these results, it appears that the use of case studies increases the potential to create opportunities for relationship building as candidates work collaboratively with others or lead a group of classmates in mock decision-making situations. Students also learn vicariously by watching and listening to classmates, and develop an appreciation of the experiences, ideas, and opinions of one another. These vicarious learning opportunities provide synergy to the integration of theory from coursework into practice because they simulate how instructional capacity and commitment to school improvement processes are developed.

Qualitative findings. The construct of *instructional leadership and relationships* also emerged as a theme across participant interviews. Terri, one of the principals interviewed, reinforced many of the items in Factor 1 relating to instructional leadership experiences that built relationships. She viewed case studies as a way to dissect and discuss common educational issues and problems during class. The following comment expressed by Terri provides good insights into her self-efficacy development:

Table 2. Factor Analysis Structure.

Item	Factor 1: Instructional leadership and relationships	Factor 2: Empower others	Factor 3: Field experience authentic learning	Factor 4: Perseverance	M	SD
Q14—Faculty created a learning climate with collegial relationships.	.917	-.059	-.142	.046	6.75	1.88
Q17—Faculty create opportunities for candidates to develop self-reflective practices.	.863	-.060	.004	.014	6.50	1.79
Q16—Faculty emphasize current research and leadership theories.	.858	-.070	-.091	.092	6.92	1.69
Q15—Faculty develop learning communities through group projects.	.838	-.071	-.052	.037	7.40	3.37
Q12—Faculty use PBL, active learning, and simulations to master tasks.	.831	-.052	-.004	.075	6.74	1.82
Q13—Faculty use case study analysis to discuss current issues.	.821	.037	-.106	-.043	7.19	1.17
Q20—Candidates learn to develop a school mission and vision that reflects community.	.794	-.099	.062	.038	6.04	2.03
Q19—Faculty emphasize instructional leadership and student achievement in every course.	.785	.042	.108	-.047	6.14	2.03
Q21—Candidates learn to lead a planned change effort.	.784	.058	.004	-.097	5.93	2.00
Q22—Candidates learn to align vision/goals with resource allocation and budgeting.	.783	-.034	.053	.061	5.21	2.00
Q18—Faculty integrate theory into practice.	.773	-.126	-.004	.054	6.41	1.93
Q25—Candidates learn to implement school policies for safe learning environment.	.703	.111	.081	-.066	6.44	1.80
Q24—Candidates learn to work with diverse environments and students.	.701	.095	.084	-.052	5.91	1.91
Q10—Faculty promote rigor and relevance.	.689	.056	-.030	-.054	6.18	1.98
Q7—Candidates experience interesting and challenging coursework	.654	.063	.024	-.103	6.67	1.68
Q28—Candidates learn to design and facilitate professional development for teachers.	.646	.037	.154	.054	5.66	1.86
Q27—Candidates learn to coach teachers on use of assessments and data for instruction	.645	-.011	.239	.040	5.44	2.02
Q29—Candidates learn to create opportunities for parent/community involvement and input	.581	.200	.246	-.164	5.23	2.97
Q26—Candidates practice teacher evaluation processes.	.547	.012	.160	.095	5.21	2.05
Q9—Candidates' current administrators recommended the program.	.440	-.031	.048	.087	5.64	2.58
Q23—Candidates learn to manage facilities and facility maintenance.	.394	.106	.125	.111	5.26	2.09
Q45—To what extent can you create a positive learning environment in your school?	.030	.874	-.040	.000	7.47	1.37
Q49—To what extent can you promote the prevailing values of your community in your school?	-.005	.843	.010	-.055	6.83	1.63
Q41—To what extent can you generate enthusiasm for a shared vision for the school?	.023	.833	.007	-.002	7.32	1.47
Q44—To what extent can you promote school spirit among a large majority of the students?	-.013	.790	.062	-.071	6.95	1.70
Q48—To what extent can you motivate teachers?	.124	.759	-.084	.006	6.89	1.42

(continued)

Table 2. (continued)

Item	Factor 1: Instructional leadership and relationships	Factor 2: Empower others	Factor 3: Field experience authentic learning	Factor 4: Perseverance	M	SD
Q40—To what extent can you facilitate student learning in your school?	-.023	.732	.049	.003	7.25	1.55
Q47—To what extent can you promote a positive image of your school with the media?	.079	.679	-.051	.024	7.33	1.47
Q43—To what extent can you manage change in your school?	-.069	.638	.042	.226	7.10	1.38
Q46—To what extent can you raise student achievement on standardized achievement tests?	-.082	.635	.069	.149	6.57	1.53
Q55—To what extent can you promote ethical behavior among school personnel?	.234	.570	-.204	.204	7.18	1.50
Q53—To what extent can you promote acceptable behavior among students?	-.018	.563	.069	.317	7.60	1.36
Q36—Candidates learn and apply student management procedures.	-.035	-.057	.912	.057	5.22	2.59
Q39—Candidates observe teachers and practice supervision techniques.	-.063	.089	.870	-.037	7.18	1.55
Q33—Candidates enact procedures to build school climate and social justice.	.128	.034	.835	-.014	5.65	2.55
Q31—Candidates are able to process and debrief field experiences.	.111	-.062	.834	.046	4.28	2.50
Q30—Candidates are paired with an exemplary principal mentor.	-.002	-.039	.822	.061	4.92	2.66
Q37—Candidates collect and analyze data for decision making.	.157	-.078	.768	.045	4.56	2.56
Q35—Candidates communicate school's vision to diverse community groups.	.149	.102	.758	-.157	5.61	2.63
Q54—To what extent can you handle the paperwork required for the job?	.075	-.030	-.074	.894	6.85	1.63
Q50—To what extent can you maintain control of your own daily schedule?	.009	-.065	.011	.815	6.31	1.88
Q56—To what extent can you cope with the stress of the job?	.040	.019	.049	.787	6.72	1.68
Q57—To what extent can you prioritize among competing demands of the job?	.094	.190	-.039	.730	6.94	1.40
Q42—To what extent can you handle the time demands of the job?	-.004	.213	-.020	.663	6.90	1.68
Q51—To what extent can you shape the policies and procedures necessary to manage your school?	-.022	.288	.149	.527	6.94	1.54
Q52—To what extent can you handle effectively the discipline of students in your school?	-.070	.360	.210	.478	7.61	1.48
Percent of total item variance	37.14	14.92	6.76	3.94		
Coefficient α	.95	.93	.93	.91		

Note. PBL = problem-based learning. ($p < .01$)

Case studies worked for me. I had to put myself in scenarios and try out solutions to problems I had never considered. It made me see how complex the job was and how you had to be sensitive to a wide range of things in making any decision. I also learned that the decisions we made in groups tended to be better than those we made by ourselves.

Although not rated highly by all quantitative survey respondents, faculty modeling (Q10: $M = 6.18$, $SD = 1.98$), coursework rigor (Q7: $M = 6.67$, $SD = 1.68$), and an emphasis on instructional leadership and student achievement (Q19: $M = 6.13$, $SD = 2.03$) were identified as important to interview participants as each principal cited a relationship with a program faculty member that built self-efficacy. As faculty gave positive encouragement and meaningful feedback, principals reported that they would work harder to reach rigorous standards and please professors. Bandura (1986) wrote, “Competent models command more attention and exert greater instructional influence than incompetent ones” (p. 10). For five of the six principals in this study, vicarious learning also took place as they sought to model themselves and their practices after the faculty members with whom they enjoyed mentoring relationships.

Terri talked about feeling encouraged by a faculty member who gave her meaningful feedback while holding her to a high standard:

I think Dr. Y was very encouraging to me; she was friendly and encouraging but also a task master. If something wasn't done well, she pointed it out to me, but she was also there making suggestions as to what to do to improve and lend a hand. She challenged me on my early writing—she told me what I needed to hear, but then spent time helping me. She didn't lower the bar, she helped me reach it. When I saw my writing improve, I took all her words to heart about everything else. I didn't want to disappoint her.

Michael also mentioned faculty feedback on arduous, but realistic assignments and how one of his professors infused school improvement discussions across coursework:

I got a ton of good feedback from Professor X and it wasn't just “atta boy” type stuff. His comments were specific and could be somewhat critical, but in a good way. He always made comments in the context of what would make your work better. He was the first one to really get me thinking about school improvement and student achievement. When he complimented me and showed confidence in me, I really felt inspired—like, maybe I could do this kind of work.

The quotes from Terri and Michael also reveal the essence of social persuasion as self-efficacy sources. Principals' self-efficacy was developed through the rigorous standards held for them but also in the compliments paid to them from professors they held in high esteem.

Diverse relationships (Q24: $M = 5.91$, $SD = 1.91$) built outside the university setting had a mean score of 5.91 representing perceptions on the 9-point scale between 5 (*to some degree*) and 7 (*quite a bit*). However, interview participants identified the relationships built outside the university setting as especially helpful. They discussed the importance of actively participating in, and in some cases leading professional development, curricular revisions and community input sessions. Interacting with a diverse group of adults and students provided valuable practice for navigating ever-changing cultural, socioeconomic, and political conditions. Ken offered that he encountered a number of capable people during his preparation program and internship, but that some

did not seem to have the ability or desire to develop relationships or interact with a wide variety of people. Ken felt that ultimately, the ability to make connections with others influenced a person's success: "You have to be sincere and set yourself apart."

One factor principals identified that aided them in building relationships was time. Unlike most of their peers, the principal interviewees in our study participated in field experiences or district-sponsored internships of a year or longer; and those year-long experiences gave them more opportunities and time to build key relationships with students, teachers, and others. Maryann discussed how her year-long internship contributed to building relationships with principals and other central office administrators in the large district where she completed her internship:

From the very beginning, I felt acceptance from people in the district. The assistant superintendent met with me weekly to give me direction and to answer my questions. I loved being a part of the big team - meetings were fast paced and energizing. I felt like I had found a place where I could function and be recognized for my ideas. I also think the fact that I was "in the internship" for the full year made it easier for the other administrators to get to know me and develop some trust in my abilities. That wouldn't have happened in a short term field experience placement.

Felicia provided her perspective about the breadth of her field experience due to a long-term placement:

I got to do everything. I learned how to start the school year—end the year and everything in between. Discipline, staff meetings, observing teachers, organizing professional development, meeting and getting to know parents, making presentations to the board . . . I was around the school so much some kids thought I really worked there! It made me feel like I belonged.

In summary, relationships built principal self-efficacy through social persuasion, mastery experiences, and vicarious learning. As principals developed relationships with professors whom principals admired and held in high esteem, principals experienced the phenomenon of social persuasion as they earned the confidence of respected mentors. By developing relationships with students, teachers, parents, other principals, and central office staff during their field experiences, the principals in this study were able to reach deeper into school improvement processes, learn from expert principals, lead teachers in school change initiatives, and participate in whole-district improvement processes. It is important to note that all principals in this study credit the length of their field experiences as affording them greater opportunity to develop confidence about their instructional leadership capacity.

Empowering Others

Quantitative. The 11 items in Factor 2, *empowering others*, accounted for 15% of the total variance. In this factor, high mean scores specifically indicated principals' beliefs in their ability to promote acceptable behavior among students (Q53:

$M = 7.60$, $SD = 1.36$), create a positive learning environment (Q45: $M = 7.47$, $SD = 1.37$), and motivate teachers (Q48: $M = 6.89$, $SD = 1.42$). Interestingly, the mean scores in Factor 2 are higher collectively than any of the other three factors. From this, we contend that principals viewed themselves as skilled in advocacy and possessing moderate to high levels of self-efficacy about empowering others for growth and enhanced school improvement.

Qualitative. Bolstering the notion of empowerment of others as an efficacy-building device, five of six interview participants mentioned how they enjoyed leading professional development and curriculum activities during their field experience. As teachers learned to use the new instructional strategies to advance student learning, principals came to realize the power that their modeling and encouragement could have on others. Although participants understood that leading teachers in professional development effectively required technical skills, they also came to value empathy as equally important to successful implementation of new initiatives. Maryann offered this opposite perspective of an administrator she worked with during her internship:

She knew what she was doing from a nuts and bolts perspective . . . she was task oriented, but she didn't have people skills; she had a really hard time figuring out how to engage and inspire people. She wasn't someone people felt compelled to follow, so professional development was mostly met with . . . quiet resistance. So, while I tried to learn the tasks and curriculum work from her, I figured out I had better do the people stuff a whole lot better.

Field Experience and Authentic Learning

Quantitative. Factor 3, *field experience and authentic learning*, consisted of seven items and represented 6% of total item variance. The loadings for this factor were second highest among all factors indicating cohesiveness of the items, while the mean scores were the lowest for the factors. Specifically, items Q31: process and debrief field experience ($M = 4.28$, $SD = 2.50$), Q37: collect and analyze data ($M = 4.56$, $SD = 2.56$), and Q30: pair me with expert principal ($M = 4.92$, $SD = 2.66$) garnered the lowest ratings among all survey items. The low mean scores reflect field experience elements that for many of the survey respondents were either regarded as fairly ineffective, or in some cases, were absent altogether.

Qualitative. Although survey respondents mostly viewed field experience as ineffective, the high efficacy principals chosen for interviews credit field experiences as greatly influencing their self-efficacy development. Importantly, although the point of field experience is to give aspiring principals practice in working as a school leader, the kinds of practice principals encountered made a difference in building self-efficacy. Principals reported gaining self-efficacy through experiences that required them to work collaboratively with other people during internships. Learning vicariously from watching expert principals deliver professional development as well as modeling

professional learning for teachers built aspiring principals' leadership efficacy. Interviewees identified specific experiences where working with other people through committee work, cultivating teacher improvement practices, and professional development planning were especially meaningful.

Michael enjoyed an internship that included work in curriculum, teacher supervision responsibilities, staff training, and professional learning. As the year progressed, Michael was able to design curriculum and then lead professional learning activities for school improvement. These experiences allowed him to model specific curricular tasks and instructional skills, gaining teachers' respect and cooperation.

After principals knew I was working toward my endorsement and saw I had leadership skills, they let me work through most of school improvement efforts at the high school. I led the staff in the development of vision and mission and from there we looked at our student data and set goals for where we wanted our kids to be. I experienced some work with curriculum and school improvement, but the best part was working with the staff. Even though people knew me—I had relationships there to begin with—they grew as people saw me in a different role.

Because he had earned teachers' confidence, Michael gained efficacy not only through the mastery experiences of actually accomplishing school improvement tasks, but also through social persuasion that occurred as others expressed support for and confidence in Michael's skills and abilities.

Principals also credited instructional experiences such as observing teachers (Q39: $M = 7.18$, $SD = 1.35$) for a supervision class as helping them gain practice in group problem solving and consensus building efforts. Although Terri had several close friendships in her building, she seldom had had the opportunity to work collaboratively with them on any substantive educational issues:

I knew I was a good teacher and that there were other good teachers here, but I never really knew what they did or got a chance to work with them. The supervision class made me look at not only how other teachers could be successful with approaches different from mine, but it also made me see how kids learn at all levels. Observing all the varied staff members made me think about the whole kid experience and helped me to learn some new ways to relate to people who did things differently.

In addition, participants indicated that resolving conflict, modeling tolerance, and holding high standards for all students enhanced school climate and social justice (Q33: $M = 5.65$, $SD = 2.65$). Paul describes practicing conflict resolution during his field experience:

I think my counselor skills created an advantage for me as an administrator. When you have to call parents about social or academic issues with their kids, you have to develop a thick skin and be able to resolve conflicts. My ability to work with parents and students was pretty strong, but it really increased when I was asked to take care of some sticky student discipline issues and meet with parents and teachers to help failing kids. The

principal at that school was pretty disengaged so he gave all the failing student issues to me. You know . . . the poor kids or the ones that didn't quite fit . . . really, I think they just needed a break. I was able to get some teachers to buy-in to the idea that success wasn't just for the smart kids or rich kids . . . that the others could be successful, too. We worked hard to do things differently for those kids and I think that made a difference.

Although other studies (Darling-Hammond et al., 2007; Fry et al., 2006) have identified authentic learning as important to principal development, the results from study extend prior research by making distinctions about the kinds of authentic learning experiences that are mastered. Much of the seminal literature discusses authentic practices in terms of specific tasks such as writing policies, creating handbooks, or managing budgets that had a "real world" application in schools. Authentic learning experiences detailed in this study such as the capacity to lead, manage people, and resolve conflict, functioned as mastery experiences for principals. Rather than mastering a technical skill, however, principals gained mastery in the art of working with people.

Perseverance

Quantitative findings. The final factor, *perseverance*, increased self-efficacy as principals learned to handle the stress of the job by developing strategies and systems for controlling daily schedules (Q50: $M = 6.31$, $SD = 1.38$), prioritizing tasks (Q57: $M = 6.94$, $SD = 1.40$), and mitigating stressful situations (Q56: $M = 6.72$, $SD = 1.68$). Managing stress represents the fourth source of self-efficacy known as psychological states (Bandura, 1997).

Qualitative findings. High efficacy principals described how the demands of a rigorous program along with difficult situations and stressful encounters with other people contributed to self-efficacy through developing perseverance. Interviewees credited rigorous coursework and academic expectations, though stressful, causing them to effectively address more than one problem at a time. Principals had to improve their multitasking and organizational skills to handle the tasks inherent in rigorous coursework. Felicia talked about persisting in her statistics class:

I was ready to quit, and many people had quit because it was so hard. It seemed like I studied practically all day and all night and after a few weeks, I began to get it. The crazy thing was that the key was really in learning how to organize my time. It wasn't that stats was so hard, I just had to be smart about how I studied.

Ken's thoughts on rigor focused on how his professors pushed him to accept criticism and deal with difficult situations:

I saw Professors X and Y make fairly harsh critiques of our work, and at the time, I didn't like them for it. Later, I realized that they were testing our mettle. They knew how hard this job was, and they were preparing us for criticisms and conflict much harsher than just

a grade we earned on a paper. They weren't always warm and fuzzy, but because they kept pushing me to be better, I felt more supported by them than anyone else.

These quotes also reinforce Bandura's (1997) claim that "moderate levels of stress heighten attentiveness and facilitate deployment of skills" (p. 108). Principals identified strained relationships with education leadership faculty and advisors, maneuvering through the endless requirements of the program, and managing the requirements and deadlines of specific coursework and assignments as stressful situations that had the potential to cause aspiring principals to quit their programs. By practicing self-advocacy skills, seeking the counsel of mentors and consciously strengthening their resolve to complete their degrees, high efficacy candidates were able to cope with difficulty and persevere. The participants reported that as they learned to manage stressful situations, their beliefs about their potential for success also increased.

Discussion

The purpose of this study was to understand how principal self-efficacy is developed in principal preparation programs. Implications from this study present intriguing information for education leadership faculty and administrators involved with ongoing program evaluation and redesign. Bandura's four sources of self-efficacy: mastery experiences, vicarious experiences, social persuasion, and psychological responses exist in synergy within the implications of this study and demonstrate that effective practices in principal preparation programs can inherently influence self-efficacy development.

In examining the findings, we contend that relationships are key to building efficacy, especially in light of the demands of contemporary school leadership. Specifically, we suggest that principal self-efficacy develops when instructional methodologies promote the kinds of authentic practice that require candidates to collaborate with and lead others in school improvement strategies. Cases studies, reflection, observing other teachers, and PBL projects functioned as mastery experiences to learn course content and create opportunities for aspiring principals to work with classmates and solve problems. Terri mentioned that her teacher supervision class reinforced her understanding of good teaching and caused her to develop better communication strategies and value multiple viewpoints. She said, "Observing all the varied staff members made me think about the whole kid experience and helped me to learn some new ways to relate to people who did things differently."

Previous seminal research (Darling-Hammond et al., 2007; Fry et al., 2006) has established that authentic practice is an important preparation program element. Authentic learning experiences not only enable skill and content mastery, but also provide opportunities for relationship building, improving communication, and developing social support necessary to implement the processes of school improvement. Relationships with faculty and expert leaders also contributed to self-efficacy development through social persuasion and vicarious learning. Participants revealed that accepting mentors' criticism and adjusting their effort accordingly not only

strengthened their resolve but also deepened the mentor/protégé relationship and extended its influence. Paralleling this finding, Schunk and Mullen (2013) also recommended the need for further study of similar self-regulatory processes in terms of how protégés' cognitively and affectively internalize the benefits of mentoring.

The second implication of this research is that to build self-efficacy, principals should be engaged in field experiences or internships that are long term. Common to every efficacious principal in this study was a long-term internship where each enjoyed several opportunities to operationalize what they learned in coursework and to lead teachers in school improvement strategies. Short-term field experiences could also boast this claim that students are able to practice school improvement strategies. However, of primary importance in this study is that as principals were engaged in long-term field experiences, they had more time to spend in relationship building activities with a variety of stakeholders. Through positive relationships, principals gained cooperation and commitment from teachers and could more effectively plan and execute school improvement activities. These relationships also provided principals support and encouragement.

The quantitative data revealed that survey items asking about field experience garnered the lowest ratings from many of the 292 responding principals. Survey items asking about field experience had mean scores mostly ranging from "very little" through "to some degree" on the semantic differential scale. While a number of principals were not required to complete any internship experience, others reported dissatisfaction with their experiences. Perhaps, by promoting year-long internship experiences, faculty could promote principal self-efficacy development by providing opportunities for greater relationship building with all stakeholders.

One of the tenets of Bandura's (1997) theory of self-efficacy is the belief in one's ability to overcome obstacles. Contemporary researchers (Duckworth, Peterson, Matthews, & Kelly, 2007; Dweck, 2006) also describe the benefits of embracing challenges and persevering toward long-term goals. Principals in this study enhanced their self-efficacy through persistence which, in turn, allowed them to embrace rigorous coursework, learn to accept and value criticism, and adopt greater organizational and self-advocacy skills. For preparation program faculty, advancing program rigor and designing challenging experiences could provide program candidates with a safe environment to learn strategies that create perseverance and eventually success.

Conclusion

Contemporary educational leaders will continue to be judged on the performance of their students and schools. Increased self-efficacy can help principals develop strategic competencies to provide instructional leadership necessary for continuous school improvement. We contend that relationship building is paramount to the development of a principal's self-efficacy. We also suggest that educational leadership faculty design program experiences that have the potential to build principal self-efficacy through one or more of Bandura's (1986) four efficacy sources: mastery experiences, vicarious experiences, social persuasion, and positive psychological states. We offer

these three recommendations. First, create instructional activities, which function as mastery experiences and vicarious learning enabling candidates to acquire course content while building relationships across the school setting. Second, design internships of sufficient length to provide candidates time to build collegial relationships and experience social persuasion and support. Finally, advance program rigor to ensure that candidates can effectively build positive psychological responses necessary to cope with the challenges inherent in the work of principals.

Researchers support that principal preparation programs should promote authentic learning contexts and the development of multifaceted skill sets for the successful integration of leadership theory into sound educational practices (Darling-Hammond et al., 2007; Fry et al., 2006; Kottkamp, 2011; Levine, 2005; Orr & Orphanos, 2011; Young, 2002). Integrating purposeful self-efficacy building experiences into preparation programs offers an opportunity to advance knowledge and skill development, as well as secure principals' beliefs in their abilities to master relationships, overcome obstacles to success, and develop capacity within and among others.

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Author Biography

Tena M. Versland is a professor of education leadership at Montana State University. Until 2012, she served as a middle school and high school principal in Montana for 23 years.