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Increasing Principal Candidates' Self-Efficacy through Virtual Coaching

Travis E. Lewis
East Carolina University, lewistr16@ecu.edu

Karen D. Jones
ECU, joneskare15@ecu.edu

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One of the skills necessary to be an effective school leader is the ability to effectively provide instructional leadership, including coaching and feedback to teachers and instructional staff. The Wallace Foundation (2016) stated that high-quality principal preparation programs include experiential learning. Preparation programs must embed opportunities to practice practical skills such as coaching and feedback into coursework (Howard, 2018). Opportunities to practice skill development in this regard, however, are difficult to adequately simulate within a principal preparation program (Boies & Fiset, 2019; Davis, Darling-Hammond, LaPointe, & Meyerson; 2005; Searby, Browne-Ferrigno & Chang, 2017). As a result, many principal candidates enter the field with little to no experience in instructional coaching. This lack of experience may result in decreased self-confidence and uncertainty in the mind of the new administrator. This study explores the effect a virtual coaching experience may have on self-efficacy for principal preparation program students. The research upon which this study is based utilizes a unique collaboration between faculty for elementary and middle grades education and the faculty for educational leadership to match preservice teacher candidates with principal candidates in order to provide virtual instructional coaching to the benefit of all involved in improving through applied practice.

Principal Preparation

There is an agreement among scholars that principal preparation programs do not sufficiently prepare candidates for the principalship (Davis, Darling-Hammond, LaPointe & Meyerson, 2005; Hale & Moorman, 2003; Levine, 2005; Mendels, 2016; Searby, Browne-Ferrigno & Chang, 2017). Some of the main disparagements of programs include that they are too theoretical, and they do not prepare candidates to be instructional leaders (Jones & Ringler, 2018). In 2014, the Professional Standards for Educational Leadership (PSEL) were developed

to respond to these criticisms. These new standards have led principal preparation programs to focus on assessing candidates' instructional leadership skills.

Instructional Supervision

Instructional supervision is an essential skill for instructional leadership. Several researchers are often cited in the field of instructional supervision (Beach & Reinhaartz, 2000; Downey, Steffy, English, Frase & Poston, 2004; Glickman, Gordon & Ross-Gordon, 2013; Kinght, 2010; Sergiovanni & Starrat, 2007). This paper will use Glickman et al.'s (2013) definition of instructional supervision: having the knowledge, interpersonal skills and technical skills to develop a community of learning where teachers participate in the regular study of teaching.

Glickman et al (2013) defined five tasks of instructional supervision that have an impact on improvement. These tasks are direct assistance, group development, professional development, curriculum development and action research. This article will focus on direct assistance as it addresses working with a teacher individually to help him/her improve teaching. This assistance consists of preconferencing, observing and postconferencing. These conferencing steps "provide opportunities for collegial dialogue, planning, feedback and reflection" (Jones & Ringler, 2018). Principal preparation programs are responsible for providing candidates opportunities to evaluate and provide feedback to teachers. These skills are essential for nonevaluative instructional coaching. Coaching is a form of professional development for teachers that can result in improved teaching and learning for students (Cornett & Knight, 2009). Principal candidates need to understand how facilitate professional coaching relationships with teachers. In addition, many principal candidates enter a position in instructional leadership before entering the principalship.

Virtual Coaching

The use of video in educator preparation programs has been around since the 1960s when teacher educators used it to guide peer reflection and feedback (Rich & Hannafin, 2009). Later in the twentieth century, the focus of using video in teacher preparation shifted to self-reflection of the teacher candidate (Lambdin, Duffy & Moore, 1997). In the early 2000s, video technology was used almost exclusively by researchers rather than by teacher candidates themselves (Rich & Hannafin, 2009). There is much research on the successful use of video technology in teacher preparation programs (Hiebert, Gallimore & Stigler, 2002; Marsh & Mitchell, 2014; Rosaen, Lundeberg, Cooper, Fritzen & Terpstra, 2008; Roth, 2007) but little has been developed to find the effectiveness of using video in principal preparation programs (Jones & Ringler, 2018).

A large university in the southeastern United States used video capture and annotation technology (VCAT) to meet the need of teacher and principal preparation candidates. VCAT tools connect text, audio and video to allow annotation in a specific section of the teacher's video. In this way, teachers and coaches are able to share their thinking about particular aspects of the lesson. Principal candidates are able to watch the teacher's lesson and provide asynchronous feedback using strategies from Glickman et al.'s supervision model. In the course of the research project, principal candidates completed surveys to reflect on their own self-efficacy around providing teachers with instructional feedback.

Self-Efficacy

According to Bandura's (1986) cognitive theory, self-referent thought mediates between knowledge and action. Through self-reflection individuals evaluate their own experiences and thought processes. Theorists argue that the powerful nature of beliefs makes them a screen through which new experiences are understood and successive behavior mediated (Abelson, 1979; Dewey, 1933; James, 1885/1975; Mead, 1982; Nisbett & Ross, 1980; Pajares, 1992;

Rokeach, 1968). An individual's ability to infer the outcomes of his/her performance enlightens his/her self-beliefs and then adjusts his/her later behavior (Pajares, 1996). Bandura (1986) posited that self-reflection is a skill exclusive to humans, where people appraise and amend their thinking and behavior. One's self-evaluation includes self-efficacy, "beliefs in one's capabilities to organize and execute the course of action required to manage prospective situations" (Bandura, 1996, p. 2). An individual's beliefs of personal competency affect behavior in multiple ways. People participate in tasks in which they feel confident and avoid those in which they do not (Pajares, 1996). Efficacy beliefs determine how much effort people will expend on and activity and how long they will persevere in the face of obstacles (James, 1885/1975). The greater one's sense of efficacy, the greater the effort, determination, and flexibility one will exert in a task (Pajares, 1996). Self-efficacy conclusions are task- and situation-particular and can be evaluated in specific areas.

Researchers measure self-efficacy by asking individuals to report on the level of their confidence to accomplish a task (Pajares, 1996). Self-efficacy should be assessed at a level of specificity to a particular undertaking. According to Bandura (1986), precise conclusions of one's competency matched to a specific result offer the greatest forecast of future behavioral outcomes. This study measures principal candidates' self-efficacy in relation to providing instructional coaching and feedback.

Method

For this study, as part of a collaboration between the department of elementary and middle grades education and the department of educational leadership at a large southeastern university, students in the principal preparation program (n = 36) were matched with the preservice teacher candidates in their junior year of study. Here forward, the principal preparation students will be referred to as principal candidates, or PCs, and the preservice teacher candidates as TCs.

The convenient sample of PCs (*n* = 36) who served as the subjects of this study were students in 4 sections of an instructional leadership course in a Master of School Administration degree program. The PCs have immense teaching experience at varying grade levels (Table 1) and content areas (Table 2). As the lesson conducted by the TCs and upon which the PCs provide coaching is in the area of elementary social studies, it is noteworthy that 25 of 36, or 69.4 %, of PCs have experience in teaching at the elementary level, while 19 of 36, or 52.7 %, of PCs have experience teaching in the social studies content area.

Table 1. Grade Level Teaching Experience of Principal Candidates.

Grade Range	# of Principal Candidates (PCs) with Experience
K-5 (Elementary)	25
6-8 (Middle)	16
9-12 (High)	19

Table 2. Content Area Experience of Principal Candidates.

Content Area	# of Principal Candidates (PCs) with Experience
Business Education	3
English as a Second Language	1
English/Language Arts	16
General Education (K-12)	5
General Education (K-5)	3
General Education (6-8)	1
Gifted Education	3
Health & Physical Education	2
Math	16
Music	3
Reading	4
Science	17
Social Studies	19
Special Education	2
Technology	2
World Languages	2

The TCs were assigned, as part of their instruction, to conduct classroom lessons in a local elementary classroom on a social studies topic. Upon receiving in class instruction on the

provision of coaching and feedback strategies and techniques, the PCs were provided an opportunity to gain practice in the utilization of these skills. More specifically, they were to conduct a preconference, an observation and a postconference with their respective TCs related to the elementary social studies lesson.

In attempting to provide PCs with firsthand, applied experience in instructional coaching and feedback, several complicating factors needed to be overcome. First, all of the PCs were concurrently employed as classroom teachers while taking their principal preparation coursework during the evenings and online. For the PCs to leave their school of employment to provide coaching at a different level or different content area during the same timeframe would be a challenge. Second, due to the large geographic region in which the PCs are drawn from to the principal preparation program, face-to-face instructional coaching was logistically difficult to travel requirements and scheduling. To aid in overcoming these barriers to the provision of instructional coaching and feedback, video capture and annotation technology (VCAT) was collaboratively used by the PCs and the TCs. The TCs recorded their classroom lessons using the VCAT. The PCs would observe the recorded lessons digitally and provide time-coded, annotated feedback within the VCAT system. The specific VCAT used by the PCs and TCs for the instructional coaching and feedback assignment was GoReact®.

An additional coaching cycle was conducted for a second elementary social studies lesson, wherein the TCs were expected to apply the feedback received from the PCs in their first coaching session to demonstrate improvement. Again, GoReact® video capture and annotation technology were used for the observations and postconference. Preconference sessions were conducted either by video chat, by phone, or in-person when feasible; this was left entirely to the discretion of the PCs and TCs to coordinate.

This study addressed the following research question: What effect does practice in virtual coaching of student teachers have on the self-efficacy of principal candidates in a principal preparation program? In order to adequately explore this question, Pajares (1996)

recommended approach to measuring self-efficacy was utilized. More specifically, the PCs were administered a survey inquiring about their thoughts related to their level of effectiveness and confidence following their second virtual coaching postconference. The possible responses to the initial survey questions were limited using a Likert scale (Mertler, 2019). The four main survey questions relevant to this study that were queried of PCs are shown in Table 3, along with available responses from which PCs could choose:

Table 3. Principal candidate survey questions and available Likert responses.

1. Rate how effective your instructional coaching was during the sessions with your teacher candidate.				
Extremely Effective	Very Effective	Moderately Effective	Slightly Effective	Not Effective at All
2. How confident are you in giving feedback at the elementary level?				
Extremely Confident	Very Confident	Moderately Confident	Slightly Confident	Not Confident at All
3. How confident are you in giving feedback on social studies content and instruction?				
Extremely Confident	Very Confident	Moderately Confident	Slightly Confident	Not Confident at All
4. How confident are you in giving feedback outside of your grade level or subject area?				
Extremely Confident	Very Confident	Moderately Confident	Slightly Confident	Not Confident at All

Additional open-ended interview responses were collected from the PCs to provide greater depth in understanding of their survey responses related to confidence in coaching. Qualitative analysis was conducted on the survey and interview responses of PCs to identify emerging themes using grounded theory (Creswell & Poth, 2018).

Findings

The findings herein include responses and analysis to four Likert survey questions and subsequent open-ended interview questions regarding PC confidence and self-efficacy in providing instructional coaching. These responses followed in class instruction provided to PCs in coaching strategies and techniques, as well as provision of two instructional coaching cycles using virtual capture and annotation technology. This data will be used to address the research question exploring what effect does practice in virtual coaching of student teachers have on the self-efficacy of principal candidates in a principal preparation program? Each section that follows is based upon responses to one of the respective survey question and related interview feedback from PCs.

Effectiveness of Instructional Coaching

This question was used to determine whether PCs believed that they were effective in the provision of instructional coaching to the TCs. The effectiveness of school leaders is strongly and positively related to their confidence and thus their self-efficacy (Oyer, 2015). Overall, 32 out of 36 PCs, or 88.89%, believed that their virtual coaching sessions were moderately to extremely effective.

Figure 1. Principal candidate self-ratings to how effective your instructional coaching was during the sessions with your teacher candidate.

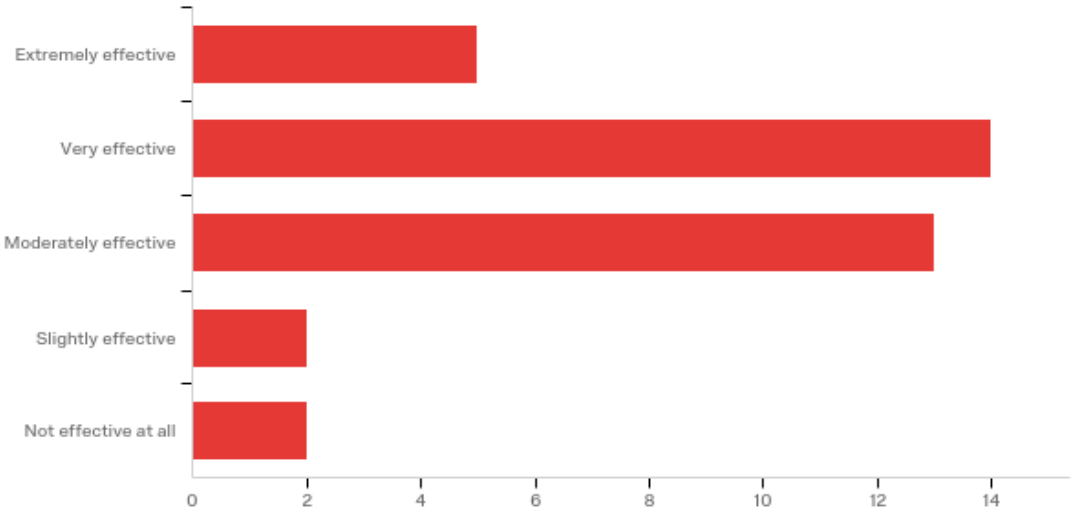

Table 4. Principal candidate self-ratings to how effective your instructional coaching was during the sessions with your teacher candidate.

Answer	%	Count
Extremely effective	13.89%	5
Very effective	38.89%	14
Moderately effective	36.11%	13
Slightly effective	5.56%	2
Not effective at all	5.56%	2
Total	100%	36

In the open-ended follow-up questions and interview responses, PCs felt that they were able to share from their own experiences to the benefit of the TCs. Given the vast range of teaching experiences and knowledge of instructional practices that the PCs have, PCs possessed credibility with the TCs and were able to translate that experiences into practical coaching advice for their respective TCs. Sample comments from the PCs were as follows:

> I was able to share personal experience and best practices from my years in the classroom. I was more aware to look for authentic collaboration between students, as well as intentional teacher interactions with students.

> My [teacher] candidate appreciated how well I communicated my feedback, and just suggestions I gave that helped me at the beginning of my career and even now.
>
> [The TC] thought I gave good suggestions and helped her she things she didn't think about after having watched herself.
>
> I was able to help give feedback suggestions on collaborative group procedures. [The TC] applied these changes to her next lesson, and her confidence showed.
>
> The [TC] used think-pair-share and have more command of the class. Her confidence increased.
>
> I believe my instructional coaching was effective because the teacher candidate used my suggestions. The suggestions increased her effectiveness and decreased behavior management concerns. [The TC] was much more productive during the second lesson.

Confidence in Instructional Coaching at the Elementary Level

Given that 69.4 % of PCs in this study had experience as a teacher at the elementary level, this potentially provided an additional level of comfort and confidence related to coaching in this setting. Of the 36 PC responses, 30 reported feeling confident or very confident in providing feedback at the elementary level following their two VCAT coaching cycles. Additionally, none of the PCs reported lacking any confidence at all in coaching K-5 teachers.

Figure 2. Principal candidate responses to how confident are you in giving feedback at the elementary level.

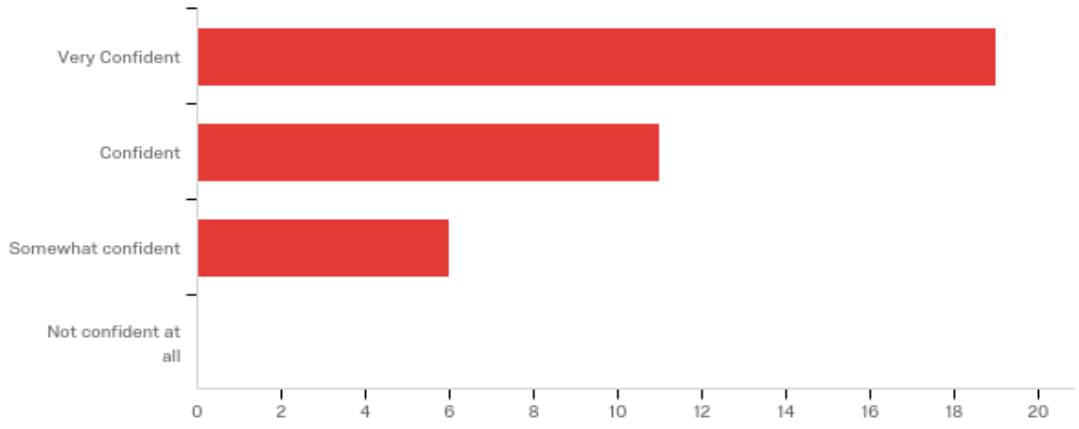

Table 5. Principal candidate responses to how confident are you in giving feedback at the elementary level.

Answer	**%**	**Count**
Very Confident	52.78%	19
Confident	30.56%	11
Somewhat confident	16.67%	6
Not confident at all	0.00%	0
Total	100%	36

Confidence in Instructional Coaching on Social Studies Content and Instruction

As experience teaching in the elementary setting was possibly a supporting factor for the PCs, so too potentially was possession of previous teaching experience in social studies. Of the PCs in this study, 52.7 % had background experience as an instructor in this content area. However, even those without such prior knowledge indicated that they felt confident to very confident in providing coaching in social studies content and instruction. Seventy-two percent of PCs reported such, with 27.78 % sharing that they were somewhat confident in providing coaching in this area. No PCs reported lacking confidence in providing instructional coaching in social studies.

Figure 3. Principal candidate responses to how confident are you in giving feedback on social studies content and instruction.

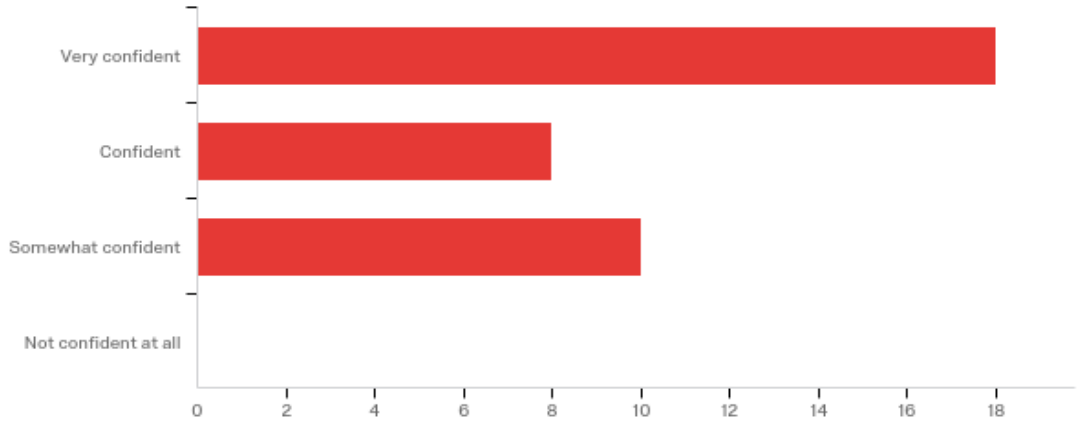

Table 6. Principal candidate responses to how confident are you in giving feedback on social studies content and instruction.

Answer	%	Count
Very confident	50.00%	18
Confident	22.22%	8
Somewhat confident	27.78%	10
Not confident at all	0.00%	0
Total	100%	36

PC follow-up responses demonstrate that they were able to make connections to good teaching pedagogy regardless of the content area. Samples of PC feedback are included below:

> I feel that characteristics of powerful social studies teaching are really that of good teaching in general. The content needs to be relevant to the student's lives and engage them in ways to relate it to their experiences. Teaching should build strong relationships, work to expand critical thinking skills, and help our students to grow as independent workers.
>
> Powerful and purposeful teaching starts with intentional planning. In order for lessons to be powerful in social studies, teachers need to understand the standards by unpacking them. Including a global and 21st century aspect of a lesson is important. Students must always be actively and authentically engaged in any purposeful lesson.
>
> Collaboration is an effective pedagogical strategy to use in social studies teaching.
>
> Connecting social studies to other content areas such as English Language Arts is another effective strategy.

Creating meaningful lessons that are integrated, relevant, value based, challenging, and require students to be actively open-minded are pedagogical strategies to be used when teaching social studies.

Confidence in Instructional Coaching Outside Grade Level or Subject Area

While levels of confidence were high in elementary teacher coaching and social studies coaching and feedback, PCs indicated that, following their two cycles of virtual coaching experience, they felt confident in providing instructional coaching to teachers outside of their own grade level or subject area expertise. More specifically, 71.43 % of PCs rated themselves as confident or very confident in this respect. None of the PCs lacked any confidence in providing coaching outside of their own grade level or subject areas.

Figure 4. Principal candidate responses to how confident are you in giving feedback outside of your grade level or subject area.

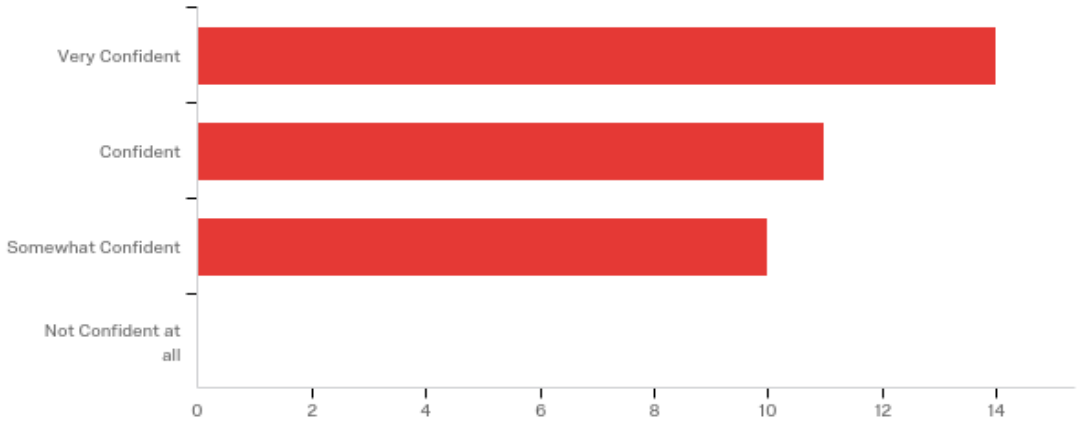

Table 7. Principal candidate responses to how confident are you in giving feedback outside of your grade level or subject area.

Answer	%	Count
Very Confident	40.00%	14
Confident	31.43%	11
Somewhat Confident	28.57%	10
Not Confident at all	0.00%	0
Total	100%	35

PCs shared that while they were unsure of themselves prior to the virtual coaching cycles in providing instructional feedback to teachers outside of their grade level or content area, the experience aided in their growing level of confidence and self-efficacy.

> This was my first time that I have completed an observation outside of secondary education, and I was somewhat uncomfortable giving feedback at the elementary level. However...I know what good teaching looks like.
>
> [This experience] gave me an opportunity to step outside of my comfort zone. I have no experience with elementary teachers, and this assignment allowed me to use what I have learned to provide feedback in an elementary classroom. I used this opportunity to learn more about elementary classrooms and instruction, so that I am more prepared if I am assigned to be an administration at an elementary school.
>
> I was unsure if I would be effective at observing elementary level teachers. I was pleasantly surprised.... I was able to point out suggestions on implementing better modeling for new activities as well as how to improve her classroom management. There was a noticeable difference between [the TC's] first and second lesson.
>
> I had to step out of my comfort zone and work with a candidate who was teaching fourth grade. It allowed me to look outside of my K-2 setting and see how the upper grades learn.

Discussion

One of the skills necessary to be an effective school leader is the ability to effectively provide instructional leadership, including coaching and feedback to teachers and instructional staff. There is agreement among scholars that principal preparation programs do not adequately prepare candidates for the principalship (Davis, Darling-Hammond, LaPointe & Meyerson, 2005;

Hale & Moorman, 2003; Levine, 2005). One skill that is lacking in principal preparation programs is instructional supervision. It is an essential skill for instructional leadership. One way to meet the needs of principal candidates is using video.

The use of video in educator preparation programs has been around since the 1960s when teacher educators used it to guide peer reflection and feedback (Rich & Hannafin, 2009). A large university in the southeastern United States used video capture and annotation technology (VCAT) to meet the need of teacher and principal preparation candidates.

This project used VCAT to allow principal candidates to practice instructional supervision. The study measured principal candidates' self-efficacy in providing instructional feedback. According to Bandura's (1986) cognitive theory, self-referent thought mediates between knowledge and action. Researchers measure self-efficacy by asking individuals to report on the level of their confidence to accomplish a task (Pajares, 1996). PCs reported increased confidence in providing instructional feedback after completing the VCAT project. Bandura's (1986) research indicates that individuals who feel more confident in a task will be more successful in the future. PCs have improved their abilities to provide instructional feedback in future settings after completing this project.

As the technology to provide digital coaching continues to evolve, additional opportunities to refine skill development in this regard are possible. This study focused on coaching for elementary social studies lessons, which may lend itself to be a more manageable exercise for principal candidates who have experience in elementary classrooms or with social studies instruction. Opportunities to observe across grade levels and content areas would provide broader coaching skill development and self-efficacy. Additionally, principal candidates having the same coaching training as provided through this digital coaching exercise but with veteran teachers included, in addition to teacher candidates, may further enhance their self-efficacy by providing additional experience with the coaching needs of all types of teachers in

alignment with Glickman's Supervisory Behavior Continuum (Glickman, Gordon, Ross-Gordon, 2018).

Finally, this cross-department collaborative study between elementary and middle grades education and educational leadership at a large southeastern university provides a template by which other similar collaborations could occur for skill development and coaching across departments and content areas. For example, a principal candidate could gain tremendous experience and insight through observation of a school social work student conducting home visits or a school counselor candidate conducting a classroom guidance lesson. Using digital tools for coaching now provides numerous possibilities to develop the confidence and self-efficacy of our principal candidates for entry into the field as school administrators.

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