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GRADUATES' CONTINUING WORK AS SCHOLARLY PRACTITIONERS AFTER PARTICIPATION IN A CARNEGIE PROJECT ON THE EDUCATION DOCTORATE GUIDED, EDD PROGRAM

Ray R. Buss — Mary Lou Fulton Teachers College, Arizona State University, Phoenix, AZ, USA — ray.buss@asu.edu

ABSTRACT

Aim/Purpose	This paper examined whether, and how, graduates of an EdD program continued to (a) engage in scholarly practitioner efforts and (b) employ inquiry skills in their workplace settings after completion of their doctoral studies.
Background	Little research has been conducted on follow-up of graduates of doctoral programs. The limited research that has been done, typically, was conducted to examine employment status and satisfaction, salary, and adequacy of preparation. Generally, studies have not explored the effects of graduates' preparation on subsequent use of the skills.
Methodology	A mixed method study was conducted. In all, 67 graduates completed an online questionnaire (~52% response rate) assessing their efforts with respect to using scholarly practitioner skills and inquiry skills. Eleven of the graduates were interviewed and these data were used to examine more closely graduates' use of these skills. Graduates worked in various K-12, community college, university, and other education-related settings.
Contribution	This study begins to fill the gap that exists with respect to examining the effects of graduates' preparation on subsequent use of those skills. In particular, the study was conducted to examine whether and how program graduates continued to use scholarly practitioner and inquiry skills developed during their doctoral preparation in their subsequent professional work.
Findings	The quantitative and qualitative data indicated graduates continued to act as scholarly practitioners and engaged in inquiry skills. The interview data were particularly robust and replete with examples of how graduates used these skills/abilities in their workplaces.

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Recommendations for Practitioners	EdD programs that provide affordances for students to apply skills as scholarly practitioners and employ inquiry as practice methods during students' preparation will foster skills/abilities that can be applied in subsequent professional practice by educators after graduation.
Recommendation for Researchers	Additional studies of graduates' application of skills/abilities learned in doctoral programs are warranted because of the limited research that has been conducted in this area.
Impact on Society	Developing educators' scholarly practitioner skills and inquiry as practice methods will allow educators to more effectively attack the problems of practice they encounter on a daily basis and improve the educational situations of those they teach and serve.
Future Research	A likely next step would be to explore the use of scholarly practice skills and inquiry skills using a case study approach to examine more closely how educators apply these skills/abilities in daily practice.
Keywords	doctoral program graduates, scholarly practitioner, inquiry skills, CPED, EdD

INTRODUCTION

Follow-up research of doctoral program graduates and their continuing implementation of skills and knowledge they learned in their programs has been quite limited. Usually, follow-up studies have been focused on determining employment status and/or satisfaction with their employment (Boman, Brečko, & Berzelak, 2017; National Science Foundation, 2015). Others have surveyed doctoral graduates with respect to employment status, perceptions of influence of program preparation for current career, and salary (Higher Education Authority, 2017; Miller, Middaugh, & Broniewicz, 2014). For example, in an initial investigation, Miller et al. (2014) conducted exit and alumni surveys for PhD graduates of a university in Canada. The authors suggested their results should be considered as preliminary because of low response rates. PhD graduates in health science and medicine (groups with highest response rates) reported high levels of job satisfaction and a high relation between employment and their disciplinary studies. Across all programs, respondents indicated preparation such as presenting papers, writing for publication, and collaborating with faculty members or teams prepared them for their current work as academics (Miller et al., 2014).

Nevertheless, generally, as noted in a report from the Council of Graduate Schools and Educational Testing Service (2012) and Williams June (2013), universities have not kept track of their graduates nor examined the effects of graduates' continued use of skills and knowledge acquired in doctoral programs. This study begins to fill that gap by investigating how graduates of an EdD program continued to use scholarly practitioner abilities *and* inquiry skills and procedures they learned during their doctoral studies in a Carnegie Project on the Education Doctorate (CPED) guided, EdD program. CPED is a consortium of over 100 colleges/schools of education in the United States and Canada that have worked to reimagine, reform, and redesign EdD programs to make them more appropriate for educational professionals by closely connecting program requirements and preparation to program participants' everyday practices. The focus of this study was on graduates' *continuing* (a) application of scholarly practitioner efforts and (b) employment of inquiry skills in their workplace settings.

REVIEW OF RELATED LITERATURE

Criticisms of the EdD have been widespread and ongoing (Anderson, 1983; Deering, 1998; Eells, 1963; Gallagher, 2013; Lester, 2004; Wergin, 2011). Those criticisms rose to a crescendo in the mid-2000s when Levine (2005), and Shulman, Golde, Bueschel, and Garabedian (2006) wrote two influential pieces. Levine (2005) offered a harsh critique of preparation of educational leaders. In his appraisal, he claimed they were prepared improperly for their work as educational leaders with irrele-

vant curriculum, inadequate clinical training, and inappropriate research skills for their workplaces. Shulman et al. (2006) echoed those criticisms and expressed particular concerns about the mismatch between preparation in PhD-like courses that were at odds with students' careers, which focused on practitioner-oriented work in K-12 schools, employment as K-12 administrators, or careers as higher education service and administrative professionals. Notably, in this seminal work, Shulman and his colleagues (2006) advocated guidelines for new, improved EdD programs that focused on meeting better the needs of educational practitioners. In their recommendations, they proposed *hallmarks* related to program delivery and outcomes that would better serve these education professionals. The hallmarks included (a) expecting program participants to be engaged in prior and ongoing practice experiences, (b) requiring practice-related research skills, and (c) suggesting individuals participating in such programs "would be skilled in carrying out local research and evaluations to guide practice" (Shulman et al., 2006, p. 29). Subsequently, these propositions related to reform and redesign of EdD programs were instrumental in influencing the development of the CPED Framework consisting of the Guiding Principles for Program Design and Program Design Concepts (CPED, n. d.), which have been described in the next section.

The Carnegie Project on the Education Doctorate (CPED) has endorsed and supported the (re)design of EdD programs. CPED-guided institutions have worked to redesign the EdD to be more relevant for the advanced preparation of educational practitioners who serve as leaders (Buss, 2018a; Buss, Zambo, Zambo, Perry, & Williams, 2017; Perry, 2012; Perry & Imig, 2008; Perry, Zambo, & Wunder, 2015; Zambo, Zambo, Buss, Perry, & Williams, 2014). To achieve these ends, faculty members in CPED-guided programs have utilized six CPED Guiding Principles for Program Design and six Program Design Concepts (CPED, n.d.) as they designed and delivered practitioner-oriented EdD programs. The six CPED Guiding Principles are: (a) framing programs around questions of equity, ethics, and social justice; (b) preparing leaders to apply knowledge to make a positive difference in peoples' lives; and (c) providing opportunities to develop collaboration and communication skills in diverse communities. The principles continue with (d) providing field-based opportunities to analyze problems of practice and develop solutions; (e) integrating both practical and research knowledge that linked theory with systemic and systematic inquiry; and (f) emphasizing the generation, transformation, and use of professional knowledge and practice.

Additionally, CPED-influenced programs (Buss, 2018a; Perry, 2012; Perry et al., 2015) have employed CPED Program Design Concepts such as (a) scholarly practitioner, (b) signature pedagogies, (c) inquiry as practice, (d) laboratories of practice, (e) dissertations in practice, and (f) problem of practice. Taken together, CPED-guided programs have been distinguished by applying the six CPED Guiding Principles for Program Design and the six CPED Program Design Concepts as faculty members (re)designed and implemented EdD programs to be more responsive to the leadership and research needs of educational practitioners (Buss, 2018a; Perry, 2012; Perry et al., 2015). Because of their importance in the current study, two *selected* Program Design Concepts relevant to ongoing practices of program graduates have been described briefly in the next section. These descriptions were based on CPED's (n. d.) explanations of these two Program Design Concepts.

For example, CPED (n.d.) defined scholarly practitioners in the following way.

> Scholarly practitioners blend practical wisdom with professional skills and knowledge to identify, frame, and solve problems of practice. They use practical research and applied theories as tools for change … disseminate their work … [and] resolve problems of practice by collaborating with key stakeholders.

Inquiry as practice was delineated in the following way (CPED, n.d.).

> Inquiry as practice is the process of posing significant questions that focus on complex problems of practice. By using various research, theories, and professional wisdom, scholarly practitioners design innovative solutions to address the problems of practice. At the center of Inquiry as Practice is the ability to use data to understand the effects of innovation. As

such, Inquiry as Practice requires the ability to gather, organize, judge, aggregate, and analyze situations, literature, and data with a critical lens.

Use of the guiding principles and design concepts has resulted in extensively revised EdD programs throughout the United States and in other nations (Buss, 2018a; Buss et al., 2017; Latta & Wunder, 2012; Perry, 2012; Perry et al., 2015; Sawyer, 2013; Zambo et al., 2014).

In the current EdD program, faculty members have used the CPED Guiding Principles for Program Design and Program Design Concepts to foster development of scholarly practitioner skills and to build inquiry as practice orientations and skills, among other skills developed in the program. Notably, these skills have been applicable for a broad range of practitioners including K-12 teachers and administrators; and higher education faculty members, administrators, and student, personnel service leaders. In previous research, use of these Program Design Concepts has been shown to influence students' efforts during the EdD program (Buss, 2018b; Buss & Avery, 2017; Buss et al., 2017; Perry, 2012; Perry et al., 2015; Zambo et al., 2014). Nevertheless, much less is known about whether and how program graduates have continued to use these skills beyond the program. For example, have graduates continued to act as scholarly practitioners in their workplaces? Have they continued to be engaged in inquiry as practice?

Context of the Study

Consistent with CPED's viewpoint, faculty members at various institutions have been free to adopt/adapt the CPED framework to local contexts to ensure programs best meet students' needs. Thus, in the current program, faculty members at Arizona State University focused on developing *scholarly and influential practitioners* who were learning how to become more fully engaged in (a) leading, (b) innovating, (c) conducting practice-based research, and (d) collaborating with others in their workplace settings—the four primary program outcomes. Program faculty members directly adopted CPED Program Design Concepts such as scholarly practitioner and inquiry as practice, which were the focus of this study. The program also employed features that were more general like cohorts and coursework on action research, innovation, leadership, research methods, and change. Notably, coursework and assignments were generally connected to students' professional work.

Rationale for the Study and Guiding Research Questions

In sum, with respect to competencies they had learned in the program, the researcher wanted to determine whether and how much graduates of the program continued to use scholarly practitioner and inquiry skills in their workplaces. The following research questions guided inquiry efforts as the researcher conducted the study.

- How, and to what extent, have graduates continued to engage as scholarly practitioners in their workplace settings?
- How, and to what, extent have graduates continued to employ inquiry as practice approaches in their workplace settings?

Method

Participants

In all, 67 graduates, ~52% response rate of those for whom the researcher had accurate, useable email addresses (approximately 129 graduates) and who had completed the EdD program from 2009-2017, responded to an online questionnaire and 11 graduates were interviewed. Of those who completed the questionnaire, approximately 67% were females and 32% were males, which was consistent with program enrollments. Moreover, on average these 67 participants had graduated 4.93 years (SD = 2.84) prior to the time when the study was conducted. Graduates worked in various K-12, community college, university, and other education-related settings. They performed roles as

teachers, principals, district administrators, student services providers, university administrators, clinical faculty members, faculty members, and other leadership roles within their workplace settings.

INSTRUMENTS

Online questionnaire

An online, 6-point, Likert scale where 6 = *Strongly Agree*, 5 = *Agree*, 4 = *Slightly Agree*, …, 1 = *Strongly Disagree* questionnaire assessed graduates' perceptions of their continued use of the practice described in the item. A 6-point scale was chosen because it would provide more fine-grained information and add a bit more variability to the responses. The items comprised two constructs based on the CPED Program Design Concepts including (a) scholarly practitioner, with seven items and (b) inquiry as practice, with eight items. Examples of items included, "In my work, I continue to blend practice with professional skills and knowledge to identify problems of practice;" and "In my work, I continue to use theories to design innovative solutions for problems of practice." See Table 1 for a complete list of items, means, and SDs for the items. The items were developed based on the CPED definitions of scholarly practitioner and inquiry as practice, which were provided earlier in this article. Items were specifically derived using parts of the definitions. A faculty member who was knowledgeable about survey construction, CPED, and the CPED Program Design Concepts was provided with a copy of the Design Concepts and the questionnaire items. He reviewed the items to determine the appropriateness of the items with respect to assessing the scholarly practitioner and inquiry as practice constructs. The faculty member indicated the items were appropriate for assessing the constructs and offered suggestions for minor revisions of items.

Table 1. Scholarly Practitioner and Inquiry as Practice Items from the Questionnaire with Means and Standard Deviations

Construct/Item	Mean	SD
Scholarly Practitioner Items *In my work, I continue to …*		
blend practice with professional skills and knowledge to identify problems of practice (PoP)	5.76	0.43
blend practice with professional skills and knowledge to clearly specify (frame) PoP	5.61	0.60
blend practice with professional skills and knowledge to resolve PoP	5.69	0.53
use research as a tool for change	5.40	0.76
use applied theories as a tool for change	5.16	0.83
disseminate my work in various ways	5.16	0.99
resolve PoP by collaborating with key stakeholders	5.76	0.50
Inquiry as Practice Items *In my work, I continue to …*		
pose important questions about complex PoP	5.61	0.58
use research to design innovative solutions for PoP	5.16	0.83
use theories to design innovative solutions for PoP	5.06	0.83
use professional wisdom to design innovative solutions for PoP	5.46	0.79
use data to understand the effects of an innovation/intervention	5.66	0.54
use a critical lens as I gather, organize, aggregate, judge, and analyze situations	5.69	0.56
use a critical lens as I gather, organize, aggregate, judge, and analyze research literature	5.37	0.67
use a critical lens as I gather, organize, aggregate, judge, and analyze data	5.64	0.57

Interview

The interview contained nine questions focused on the two CPED Program Design Concepts—scholarly practitioner and inquiry as practice. Illustrative questions included, "How have you continued to use practical research and applied theories as tools for change in your practice in your workplace setting;" "How have you continued to blend practical wisdom with professional skills and

knowledge to name, frame, and solve problems of practice in your workplace setting;" and "How have you continued to use data to understand the effects of an innovation?"

Procedure

Following Institutional Review Board (IRB) approval for work with human subjects, the researcher conducted the study. The researcher sent an email to 2009-2017 program graduates with current, useable email addresses, approximately 129 graduates, requesting their participation in the project including completing the online questionnaire and participating in the interview. From those who volunteered to be interviewed, 11 students were randomly selected to participate in the interviews. The email provided a link to the online questionnaire that included a recruitment script outlining the study and their rights as participants, as well as the set of questionnaire items. The link allowed participants to access a Google Form the researcher had created earlier. Participants' completion of the questionnaire indicated their consent to participate in the study, a standard IRB procedure at the institution. Data were stored on a secure university server and a password-protected computer. Two weeks following the initial email, the researcher sent a follow-up email. Participants had the option of having their name entered into a lottery for a gift card for their participation.

For the interviews, graduates who agreed to be interviewed were contacted by email and a mutually convenient time was determined for telephone interviews. Prior to the interview, the researcher obtained verbal consent to record it. Interviews lasted between 21 and 47 minutes, median = 26 minutes. Interview responses were recorded, transcribed, entered into HyperRESEARCH (HyperResearch, 2013), and then coded and analyzed using Strauss and Corbin's (1998) constant comparative method. The researcher began by reading and rereading transcriptions of the interviews and then initially coding them. Subsequently, the researcher identified theme-related components (i.e., codes were grouped into categories), which in turn served as the basis for themes. At each step, the researcher ensured data supported the higher-level interpretations by revisiting and carefully reflecting on it. The process was performed in a careful, systematic, and dependable way. Credibility was enhanced through use of reflective efforts and employment of detailed processes that included writing analytic memos during the process and careful review and systematic reflection on the data and emerging interpretations at each step of the process (Guba, 1981). Dependability was supported when a fellow researcher confirmed the codes, theme-related components, and themes offered by the researcher.

Results

The results have been presented in two sections—the online questionnaire and the interview results.

Analysis of Online Questionnaire

SPSS version 24 (IBM Corp., 2016) was used to conduct the quantitative data analyses. For the two constructs, *scholarly practitioner* and *inquiry as practice*, Cronbach's α coefficients were .78 and .76, respectively, which indicated readily acceptable levels of reliability. For the quantitative data, only descriptive statistics have been presented. The mean scores indicated graduates 'agree' and/or 'strongly agree' they were continuing to engage in scholarly practice, $M = 5.51$ with a $SD = 0.45$, and employ inquiry as practice approaches, $M = 5.46$ with a $SD = 0.41$, generally indicating a high level of continued application with respect to both constructs.

Analysis of Interviews

Qualitative results have been summarized in Table 2 where the researcher presented examples of codes from which theme-related components and subsequently themes were derived.

Table 2. Theme-related Components, Examples of Codes, and Themes Based on Graduates' Interviews

Theme-related Components* and Examples of Codes	Themes
Employing theoretical frameworks Using theories at work Applying leadership theories *Resolving problems of practice* Using tools in problem solving Resolving problems at work Collaborating/partnering with others *Disseminating their work* Disseminating work to various audiences Disseminating work in various forms/venues	1. Graduates indicated they were continuing to engage as scholarly practitioners in their workplaces including (a) employing theoretical frameworks, (b) resolving problems of practice, and (c) disseminating their work.
Drawing on research Conducting literature review to provide information to teachers, colleagues, etc. Continuing to rely on research *Using data in various ways* Using data on a routine basis Validating work/need with data *Employing a critical approach* Applying a critical lens to consider literature/data/situations Using a critical approach/process Teaching staff/colleagues to be critical	2. Graduates indicated they were continuing to apply inquiry as practice processes in their workplaces including (a) drawing on research, (b) using data in various ways, and (c) employing a critical approach.

*Note: In the first column, theme-related components have been presented in italic font and examples of codes were indented under the theme-related components. In the second column, themes have been presented.

Theme #1. Graduates indicated they were continuing to engage as scholarly practitioners in their workplaces including (a) employing theoretical frameworks, (b) resolving problems of practice, and (c) disseminating their work.

Respondents offered a range of answers with respect to their continued application of scholarly practitioner practices, Theme #1. In the sections that follow, respondents' quotes have been provided to illustrate the theme drawing on information from the three theme-related components.

Employing theoretical frameworks. One graduate referred to a specific applied theoretical framework she was applying in her workplace as she described the use of Hall and Hord's notions of innovation configuration maps and levels of use when she said,

> We've relied on Hall and Hord's work …. We're using levels of use [framework], we've created innovation configuration maps … to see where they feel they are then in terms of their practice. And, so that's one example of applied theories that we've used in my current workplace.

A second graduate who worked in student services indicated use of theories in her workplace when she stated, "We look at … the academic side … of learning too–so we look at … theories of transitions, theories of learning, cognitive behavioral theory … to help them [students] succeed." A mid-level district administrator suggested her district was using theory to aid teachers in working with students when she noted, "We are working with them in [using] their professional wisdom, but look-

ing at specific theories in how do you work with youth who have suicidal ideation, or high anxiety, or who turned to drugs." Another graduate worked in a community college research and grants office and he noted he and his staff used theory for grant-related work when he said, "we … analyze these programs [using] theories of change, critical race theory, [and] other theories." Graduates indicated they also applied leadership theories in their workplace settings. For example, one graduate claimed she continued to employ leadership theories in her workplace setting when she said,

> helping them [colleagues] understand different theories of leadership, and applying them to their local setting to help them solve a problem or help them address an issue with a particular group of students or issue with a group of employees.

A mid-level school administrator claimed he persisted in using leadership theories when he said, "When I'm looking at building principals [and implementing change, we are] leaning on the theory of change leadership and those things in terms of trying to effect change. So, I mean those pieces always serve as a foundation."

Resolving problems of practice. With respect to using tools in problem solving, one program graduate maintained,

> Really doing some training with them and saying what kinds of tools would work for you to help not only report that, but on the frontline, help you with the student and help to support the student while they're in your classroom.

Another suggested, "So, we definitely use both practical research and applied theories as tools, and we are … [implementing] these innovations in our workplace." A third graduate related the following experience about continuing to solve work-based problems when she said,

> [I was working on] improving teacher efficacy [for] instructing writing with children … I did a three-pronged way of attacking that particular problem. So, I would say … I have continued to do that … anytime we are moving forward with either a problem of practice or a change initiative.

Other graduates described resolving problems in the workplace. For example, one graduate maintained, "my team … really works closely together to solve problems." A second mentioned,

"About problems of practice, … we talk about what we're gonna do, and we try things, and then we analyze them, and then we decide, 'Yeah, this works. And no, this didn't.'" Another described her use of problem solving when she claimed,

> the basic problem solving and analysis that I learned in the program …. I found that I was able to look at problems from a more analytical perspective. … I think I really spent a lot more time figuring out … the problem [rather than using] a band aid approach to try to solve the problem.

Notably, respondents suggested collaboration played a key role in their problem solving work. For example one graduate explained her scholarly practitioner efforts in problem solving was fostered through collaboration when she said, "It was the entire crux of my job … bringing together business leaders, education leaders, philanthropic leaders, and nonprofit leaders, to the table to collectively unpack problems and collectively solve them." A second graduate described the importance of collaboration when she said, "As an assistant superintendent … I think that's probably one of the most critical things – is collaboration, getting other viewpoints … collaboration is key to any of the things that I work on just because everybody has the information." Another summed up her use of collaboration in problem solving when she said, "Well, I think collaboration is key. You know … I'm helping someone in a problem of practice they've identified and I'm trying to be an ear, be a critical friend, [and] provide input."

Disseminating work. With respect to dissemination, respondents offered responses that reflected different types of dissemination to an array of audiences. To illustrate, a more traditional type of dissemination, one graduate said,

> I'm a member of my national organization that represents close to 15,000 superintendents and in it, I'm able to share a lot of the work that we do. …. And they asked me to participate in a lot of presentations and conferences at both state and national [levels].

Another also alluded to dissemination through usual means when she noted, "I've been able to present at different local conferences and national conferences." Others mentioned dissemination to teachers and colleagues to influence practice. One graduate suggested,

"We can take this [information about a teaching approach] now not only to the participants that we were using it with, but now we've expanded, so now we're using that same process with mentor teachers and with teachers." Another spoke of dissemination to staff when he said,

> Okay. I have, what, nine, ten, eleven people that work directly under me. I know, with the multiple programs and projects that we manage, I take what I've learned and kinda guide them as far as whether it's running a program, analyzing a program …

Finally, a fifth graduate maintained, "So when I work with teams–whether it's teams of building administrators or other directors–I think those opportunities to meet as communities–as learning communities–is one way in which I can disseminate what I've done."

Summary for Theme #1: applying practices of a scholarly practitioner. Taken together, program graduates implemented a number of 'skills' related to being a scholarly practitioner. These skills included applying theoretical frameworks and leadership theories to the workplace situation. Moreover, graduates were using tools for problem solving, engaged routinely in solving problems of practice, and collaborated in doing so. These scholarly practitioners also continued to disseminate their work in a variety of ways and to different audiences for whom their work was appropriate.

Theme #2. Graduates indicated they were continuing to apply inquiry as practice in their workplaces including (a) drawing on research, (b) using data in various ways, and (c) employing a critical approach.

Respondents offered a range of answers related to Theme #2. Respondents' quotes have been provided to illustrate the theme drawing on information from the three theme-related components.

Drawing on research. One alumna suggested, "We used research. We used the research literature to find out kind of on a national level, or an international level what the research literature was telling us about the problem." Another graduate suggested,

> Almost everything that we do in our workplace, we're continuing to rely on the research. …. everything that we do, even when we're doing professional development, we're constantly going and looking at the literature, we're constantly looking at the theories because we're wanting to be able to bring that into everything that we're doing.

With regard to drawing upon the research literature, another graduate claimed,

> I think as far as being innovative solutions, it's not always starting from scratch, but looking at what others have done and trying to maybe tweak and adjust to meet our needs. For me, and it's really anything innovative or different, it's scanning [the research] what's been done.

A graduate who worked in professional development indicated the importance of using the research on adult learning when she said,

> I have found that I use adult learning theory in everything that I do. …. [as] a professional developer … I was used to working with people … but it wasn't until I really started reading

> adult learning theory more that I gained some understanding of what's so important, and what to incorporate.

Using data in various ways. Graduates offered many different kinds of examples that illustrated their continued use of data. For example, one graduate described how she continued to use data in her student services role when she noted,

> We showed them [students] the data, but what we developed was what we call … 'academic vitals.' And, we used the internal research or data that we have and our work with students, our professional wisdom, to develop an online … report card for each student.

Another graduate discussed how he used data when he said,

> We use data whether it's showing retention rates of students from fall to spring, or fall to fall, GPA, how they did in credit bank courses. We really use data to tell the story of impact or to let us know where more emphasis is needed.

A graduate working for a school district indicated how she used data when she suggested,

> First of all, we used a ton of data … to watch and really monitor student progress and we were seeing the gains that we expected to see based on what we were putting into place … a big part of this is just that you're not just looking at the data once in a while … but it's become part of the culture of the school and the district that we're regularly looking at data.

An alumna who worked for a non-profit organization indicated how they used data when she claimed,

> Yeah, we were an absolutely data driven program [non-profit organization]. That was kind of one of our very core tenants that we would put, like … in the first paragraph on the first page of our website. … we use data to inform everything we do.

Employing a critical approach. Graduates offered many examples of how they applied 'a critical approach' to data, literature, and situations in their workplaces. To illustrate, one alumna suggested,

> And, so I think a lot of the critical eye that I look at in both literature, data, and even problems of practice is really looking at the context. … At first when I came on they were really only using quantitative data. Because I believe so strongly that context matters, and because I believe that practitioners' voice matters and I also believe that students' voice matters. Those are some pieces that I brought to the table to help us all better understand and have a critical lens, in terms of really, again, understanding the problems and understanding the impact of solutions. We built in systematic mechanisms to call forth voices of all the stakeholders to elaborate on what the numerical quantitative data was telling us.

Another graduate described her use of a critical lens in the following illustration when she asserted,

> So, when you say … you've gathered, organized, judged, and analyzed, we looked at literature … we looked at all of our external audits. I mentioned one was Baldrige [Award]. … We pulled all of that data in as well and looked at where we were, where we are, and where we could be, so I would say that would be an example of [application of] a critical lens.

A third graduate offered a more succinct comment about continuing to employ a critical approach when she said, "[I use a critical lens] as much as possible. I mean I think that whenever I read something or look at a study, that critical lens is important." A fourth graduate suggested, "And so, I really feel like that's allowed me to continue to use that critical lens that I learned in school [the doctoral program] and just by looking at data and research." Several graduates mentioned that they were teaching their staff/colleagues to apply a critical approach to their work including one graduate who said, "I think one of the things I've tried to do with a lot of my staff is to [encourage them to] look at things differently, again through a different lens, to analyze a little deeper."

Summary for Theme #2: employing inquiry as practice. In sum, graduates continued to engage in inquiry as practice in their workplaces after completing the program. For instance, they used research to aid them in clarifying their problems of practice, designing innovations, and providing professional development in their workplaces. Moreover, they continued to use data in various ways to inform their practice efforts and validate effectiveness of their work. Finally, graduates continued to apply 'a critical approach' as they considered situations, literature related to practice, and data in their practice settings.

DISCUSSION

The discussion section consists of six parts. First, the researcher describes the complementarity of the quantitative and qualitative data. Second, the researcher considers the findings in light of the CPED Program Design Concepts and the extant literature. Third, implications for program design and implementation and for students considering work in EdD programs are discussed. The discussion closes with limitations, suggestions for future research, and conclusions.

COMPLEMENTARITY OF THE DATA

From the results, it is clear that graduates of a CPED-guided doctoral program continue to exhibit skills/abilities in the two Program Design Concept areas as they engage in their work by (a) applying the skills of scholarly practitioners and (b) applying inquiry as practice approaches in their workplace settings. Notably, the quantitative and qualitative data exhibit complementarity, they support the other and point to the same conclusions (Greene, 2007). For example, graduates have high scores on the quantitative data, both scores are near 5.5, i.e., between the "agree" and "strongly agree" levels, and are supported by the qualitative data. In particular, the qualitative data are robust and replete with examples of how graduates continue to employ a variety of strategies and approaches in their workplace settings that demonstrate they continue to exercise skills/abilities related to being a scholarly practitioner and using inquiry as practice skills they learned during the EdD program.

CONNECTING THE FINDINGS TO THE LITERATURE

The findings are consistent with Shulman et al.'s (2006) proposed 'hallmarks' for (re)designed EdD programs that serve as the basis for CPED Program Design Concepts (CPED, n. d.). Recall, Shulman et al. suggest consideration of several hallmarks in (re)designing EdD programs to meet better the needs of practicing professional educators. These hallmarks are (a) requiring practice-related research skills and (b) expecting individuals participating in such programs "would be skilled in carrying out local research and evaluations to guide practice" (Shulman et al., 2006, p. 29). In the present study, graduates are continuing to use practice-related research skills they learned in the program. Additionally, graduates continued to demonstrate their use of inquiry practices to conduct research relevant to their workplaces and evaluate the effectiveness of interventions in their workplace settings.

Notably, the findings related to graduates' actions as scholarly practitioners are consistent with CPED's (n.d.) definition of scholarly practitioner. That definition states, "Scholarly practitioners blend practical wisdom with professional skills and knowledge to …solve problems of practice … use practical research and applied theories as tools for change … disseminate their work … resolve problems of practice by collaborating" (CPED, n. d., para. 4). Based on the data from this study, graduates' scholarly practitioner behaviors are quite congruent with the CPED definition because graduates described using theories to guide their work, disseminating outcomes from their work, and resolving problems in their workplaces. Moreover, these findings are aligned with and extend the results from other recent studies on the influence of CPED programs on participants' development as scholarly practitioners (Buss, 2019; Buss, Zambo, Zambo, & Williams, 2014; Zambo, Buss, & Zambo, 2015).

Similarly, the findings for inquiry as practice are consistent with CPED's (n.d.) definition of inquiry as practice, which says, "Inquiry as practice … focus[es] on problems of practice. By using research [literature] … they design innovative solutions … use data … gather, organize, judge, aggregate, and analyze situations, literature, and data with a critical lens" (CPED, n.d., para. 6). Specifically, the findings show program graduates continue to draw upon research and literature to combat problems of practice, use data in various ways to inform their practices, and employ a critical approach as they as they gather, and analyze information, literature, and data. The findings on using inquiry as practice are consistent with and extend the results from other recent research in which program participants developed and used inquiry skills during the program (Buss, 2018b; Buss & Avery 2017; Zambo et al., 2015). Taken together, it is clear the program has a substantial influence on graduates' thinking and approaches to their work, which continues to be exhibited in their use of these practices in their workplaces after graduation from the program.

Limitations

As we consider the findings, there are several limitations. First, graduates may have been providing 'socially desirable' responses during the interview to present themselves in a positive light. To mitigate this matter, the researcher asked interview participants to be honest in providing information during the interviews. Second, it is clear the findings in this study are influenced by the context in which they occurred. For example, as noted in the context section, graduates participate in a program that requires them to engage in scholarly practitioner and inquiry as practice skills/processes throughout the program, thus, graduates are readily disposed toward these actions following completion of the program. Other programs, which do not require this level of involvement, may not attain such outcomes. Third, respondents did not have the option of marking "not applicable" to the survey items. Thus, they were required to indicate some level of use of the item even if they did not continue to use the skill/technique. This limitation may have been mitigated a bit by respondents' overall high levels of responses to the items. Fourth, in any mixed method study, interpretation of the qualitative data may be a matter of concern. Given the steps taken to ensure credibility and dependability in this study, those concerns are mitigated.

Implications

There are several implications for program design and implementation and student agency with respect to the findings. First, with respect to program design and implementation, the researcher offers the following suggestions. EdD programs that provide affordances for students to apply skills as scholarly practitioners and employ inquiry as practice methods will foster skills/abilities that can be transferred to subsequent professional practices of educators. Notably, the use of these skills/abilities during the program provide opportunities for students to receive feedback and attain mastery experiences that increase self-efficacy (Bandura, 1997) for their subsequent application after graduation. Such application of the skills/abilities in the workplace setting after graduation is the sine qua non of effective doctoral preparation.

Second, for students, there appears to be a critical implication for those considering doctoral study. Does the program provide appropriate and sufficient opportunities for prospective students to engage in (a) developing and applying skills/abilities as a scholarly practitioner? … (b) employing inquiry as practice methods? If so, then the program may be well suited to practicing professional educators who desire to participate in a program that can be readily applied to their work during the program *and* importantly after their graduation.

Future Research

Future research might include case studies (Yin, 2018) of four or five graduates to provide for a careful examination of the scope of the application of scholarly practitioner processes and inquiry skills in the workplaces of such participants. Employing a case study approach would provide opportuni-

ties to examine 'how,' 'why,' and 'when' graduates use scholarly practitioner processes and inquiry skills in their day-to-day professional practices. Additionally, the wide variety of data that can be gathered such as documentation, observations, interviews, and physical artifacts can be used to build a rich narrative of the continued use of these processes and skills by graduates who have completed a CPED-guided EdD program. Notably, a comprehensive cross-case analysis of the application of these skills could provide evidence to inform development of a framework to understand better the use of these skills by practitioners after they have completed a doctoral program. Additionally, given the number of limited follow-up studies conducted to examine the continued use of methods and skills learned in doctoral programs, additional studies of graduates' use of such methods and skills is warranted.

Conclusions

In conclusion, findings from the study suggest EdD program graduates continue to engage in scholarly practice approaches and continue to employ inquiry as practice methods. In particular, graduates are continuing to engage as scholarly practitioners in their workplaces by (a) employing theoretical frameworks, (b) resolving problems of practice, and (c) disseminating their work. Moreover, graduates are continuing to apply inquiry as practice in their workplaces including (a) drawing on research, (b) using data in various ways, and (c) employing a critical approach. Thus, application of scholarly practitioner and inquiry as practice knowledge and skills, which are critical program elements that are initially learned during the CPED-guided EdD program at Arizona State University, appear to be robust because they continue to influence program graduates' efforts in their workplaces long after program completion.

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BIOGRAPHY

Ray R. Buss, Ph.D. is Associate Professor of Educational Psychology and Educational Research in the Mary Lou Fulton Teachers College at Arizona State University. He teaches research and methodology courses and supervises doctoral students in the college's highly recognized EdD in Leadership and Innovation program in the Division of Educational Leadership and Innovation. He conducts research that focuses on doctoral students' development of identities as educational leaders and educational researchers and examines instructional issues and outcomes in the doctoral program including graduates' continued use of skills and strategies learned during the program. With colleagues, he explores infusion of technology into the college's teacher preparation courses and its effects on technology integration by teacher candidates as they work toward conducting instruction in their classrooms. With respect to service, he serves on various college committees, maintains contacts with K-12 schools, and provides service to the profession. From 1992-2007, he served as graduate studies coordinator, graduate director, and assistant dean of the college.