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A growing body of research suggests that educational leaders are crucial for finding, assimilating and applying evidence.¹ They are more effective when helping colleagues and staff use evidence than external support agencies.² As the primary source of advanced preparation for educational leaders, the educational doctorate (EdD) should prepare leaders to apply relevant evidence. Yet, these programs have been criticized for providing both too much³ and too little⁴ training on research while other program features have been largely ignored. For instance, while the prevalence of the cohort design and group dissertations in EdD programs has been studied⁵, their implications for preparing leaders to use research evidence have not.

Purpose/Objective/Research Question:

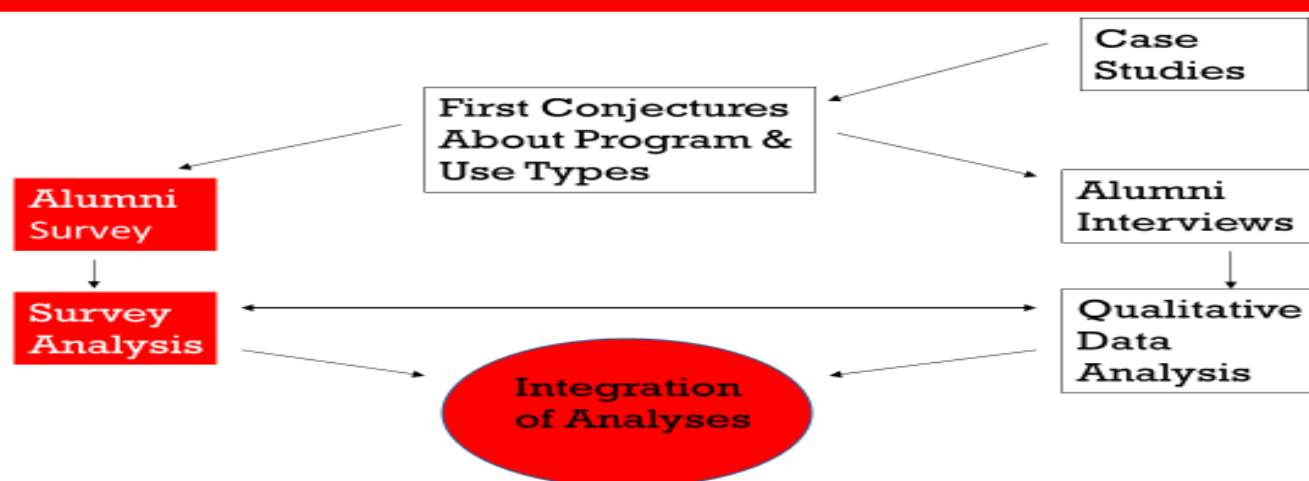
This paper asks what features of EdD programs contribute to graduates' use of research evidence. More specifically we ask:

- What does graduates' use of evidence look like?
- What factors best explain that use?

Research Design

Because of the dearth of previous research, we employed an iterative, exploratory, mixed methods, multi-case design.⁶

EXPLORATORY SEQUENTIAL ANALYSIS OF HOW EdD TEACHES EVIDENCE USE



To examine evidence use, we surveyed alumni from all four programs and interviewed a sample of those surveyed.

INSTITUTION CHARACTERISTICS AND RESPONDENTS

Site	Arizona State	Portland State	Michigan State	Boston College
Dissertation Type	Individual	Individual	Group	Group
Program Enrollment	190	91	60	50
Alumni Surveys	141	27	36	61
Alumni Interviews	17	3	6	3
Faculty/Administration Interviews	8	7	11	8
Current Student Interviews	7	6	8	6

- **Institutions:** We studied four EdD programs that were members of the Carnegie Project on the Education Doctorate (CPED). Programs were broadly distributed across the country. We chose two programs with individual dissertations and two with group dissertations. In three programs, graduates had recently won the CPED dissertation of the year award.
- **To obtain data on factors influencing evidence use,** we used the alumni survey and site visit data. Because this was an exploratory study, we conducted institutional site visits that included interviews with students, faculty, and administrators; observations of class sessions; and document collection. Survey instruments reflected site visits and past research.
- **Analysis:** Qualitative coding began with hypothesis-generating memos written after site visits and were iteratively clarified and standardized by the research team. Coded data were used to develop structured program case that were member-checked with selected interviewees. Alumni interviews were similarly coded and used to identify research use themes. Survey analysis was used to examine these themes. Factor analysis validated constructs that were part of the survey design. These were then used in regression and path analyses to explore how program features influenced use .

Findings, Evidence Use:

We expected to find three types of evidence use: instrumental, use of evidence to guide decisions; conceptual, use for learning, to clarify thinking, or to generate awareness; and persuasive, to influence peers and superiors.⁷ Interviews identified all three types although persuasive use was directed downward to support implementation.

EXAMPLES OF EVIDENCE USE

INSTRUMENTAL: “What came up quite a lot is how will you use this with the special education population? It led me, to do research around that. What we found is that the ideas of computational thinking, critical thinking can apply in math and science. We adopted a curriculum that is pretty self-guided.”

CONCEPTUAL: “I was tasked to launch a program for teacher... growth, and observation. Last spring, as I sort of start to investigate that, I... turned to the research to find out what other people had done in settings similar to my own. I knew that it would be a fool's move to just dream up some structure of teacher observation without looking at what other people had already done.... I landed on the idea that offering teachers a lot of different ways to do that. I [read] about adult learning, that choice is imperative.... I kinda went into the idea of lesson study, and so I learned a lot of research about small groups.”

PERSUASIVE: “I was tasked with providing professional development to middle school math teachers struggling with how they could support English language learning students, so I shared information from an article with them in a professional development session as well as then teaching them the strategy.... They haven't necessarily embraced the entire process, but they've used aspects of the process.”

The survey identified one composite multiple-use factor.

FACTOR ANALYSIS: MULTIPLE USES OF EVIDENCE (How often have you used evidence to)	
Item	Factor Loading
Mobilize support for important issues	.692
Persuade others to agree with a point of view	.832
Adopt a new program	.695
Change the way problems facing your work setting were understood	.858
Find alternative solutions to problems facing your work setting	.828
Bring attention to an issue that your work setting has not yet faced	.693
Use data collection or analysis skills to study a problem or assess a program in the workplace	.721
Inform a continuous improvement process	.858
61% of variance explained Cronbach's alpha = .899	

The interviews illustrated how typical “histories of use” combined multiple types.

VIGNETTE OF MULTIPLE USES

The founder of a gifted and talented school in a major urban district tells about how one book especially helped her conceptualize what the school's curriculum should be and what kinds of teachers she would need. It then helped her sell the idea first to district administrators, then to parents and finally to teachers (persuasive use). Finally, this process led to the start and continuation of the school (instrumental use)

Findings: Influences

The site visits suggested that two factors contributed to evidence use.

- **Formal instruction:** Students not only learned how to understand and conduct research but had opportunities to use these skills in applied settings.

FORMAL INSTRUCTION: THE EQUITY AUDIT

The equity audit is a procedure for school districts to assess how the distribution of teacher quality and programs affects the distribution of educational outcomes. In two programs students do such audits in real schools and share the results. One student said, “[I] a look at our AP courses... [T]here was a large discrepancy in terms of the percentage of white students, Caucasian students who took AP courses compared to our minority students. That course introduced some conversation and based on that research.... One of the sticking points was pre reqs.... A lot of our conversation since then in the district has turned to eliminating some, if not all of those pre reqs for those classes and encouraging kids to take the AP classes.”

- **Social interaction:** All programs taught students in cohorts that allowed students to interact often and learn from each other as anticipated by social practice theory.⁸

Student Interaction	“I have to say that we have bonded very quickly and we utilize each other already in our day-to-day ‘perations in our own buildings. If something comes up, there's an email sent out, “Does anyone have any background or experience in this?””
Interaction with Faculty	“One of my professors was talking about what I was doing with my [dissertation] problem or what I thought was the problem and he said... ‘maybe that's not the problem. There's a part of that you have to let go.’ And obviously I did not like that answer..., but after that it was probably the best thing I could have heard.”

- The individual dissertation approach reinforced formal instruction by helping students learn to apply research skills and findings to a “problem of practice.” Group

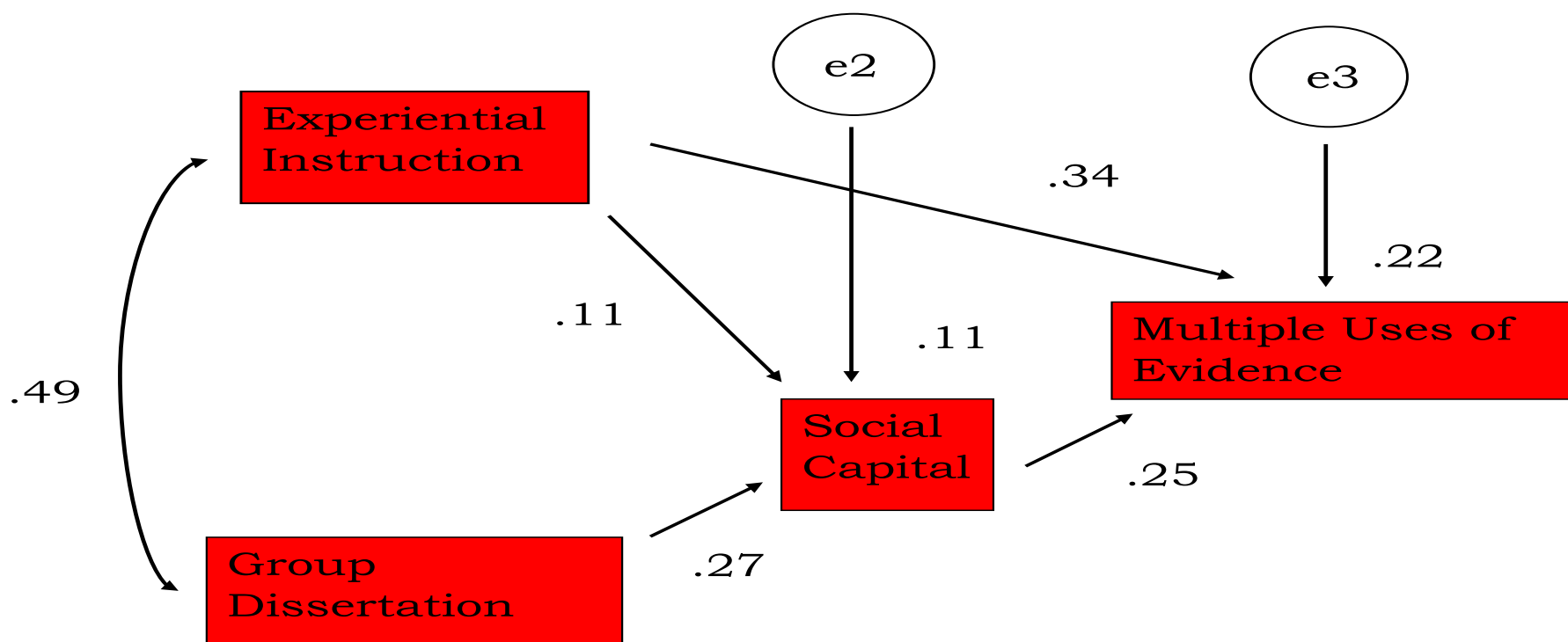
INDIVIDUAL DISSERTATION

“Since I’m in charge of facilitating a district wide college and career readiness program I knew it was going to be something related to that.... We employ college students as tutors and mentors There was really no solid plan for training them.... That was a deficit that would benefit our district..., and it was something I needed to do... I didn’t know what I was going to do with that.... I started to think about looking at the research [on] blended learning or online learning. And I went with a blended learning model. That was kind of the next evolution.... Then I came up with some preliminary research questions that were really bad... because I didn’t really know what I was doing.... Now I have... pretty solid research questions with.... Just through the courses, this program really just scaffolds the whole process. We were writing our first chapter that first summer, ... And then, as we were learning the methods, we had to write a version of chapter three.”

GROUP DISSERTATION

“[Student Name] found the Harvard study ... So, we were back and forth. We want to look at turnaround. We want to look at someone who's had success. We want to kind of peel back what it looks like, but we didn't really know what we were talking about. [The Harvard study] reminded me of the Honig stuff. I'm like, ‘Whoa.’ And then within the Harvard study, of course, Honig was cited. Autonomy was talked about as sort of a strategy that they had implemented, but actually this study looked more closely at their extended learning time and the impact that that had. It was a quantitative study. That wasn't where we wanted to go really. I think between the [Harvard] work and the Honig work and the idea that we got to see how someone put a study together in one place, and it kind of said, ‘Oh, I think we can maybe kind of make this work.’”

The survey analysis identified aspects of the formal program (guided experiential opportunities to conduct research) and social interaction (peer academic bonding, advisor bonding) that supported these observations. The group dissertations indirectly contributed to developing social practices that support evidence use.



Path Analysis: Factors Predicting Multiple Uses of Evidence

Conclusions:

This first study of how EdD programs “teach” evidence use has identified factors that contribute to that outcome. These include instruction that is rigorous, concrete, and tightly linked to problems where graduates use evidence in their work. It is also collaborative, requiring joint problem solving among students and with faculty guidance. These findings must be interpreted in light of the study’s limitations including the challenges of being an early study of this issue and examining only a few, higher status institutions with limited opportunities for field work and a modest population of graduates to survey. Nevertheless, this work offers useful insights for future program planning and additional research.

Footnotes

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