

THE CARNEGIE PROJECT ON THE EDUCATION DOCTORATE
AT DUQUESNE UNIVERSITY

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**Scholarship for Schools and Design-Based Research:
Framing the Argument for CPED @ Duquesne^a**

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Notes:

a. Distributed at the meeting of the Organization of Institutional Affiliates of the American Educational Research Association in Washington, D.C., 1 October 2007. Made available also to participants at the Nashville Convening of the Carnegie Project on the Education Doctorate at Vanderbilt University's Peabody College, 25 October 2007.

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Working Papers by CPED @ Duquesne, a collective authorship, reflect the work on many faculty and administrators in the School of Education. Working papers are used as internal documentation of design deliberations, design proposals, and the testing of prototype designs. Working papers document the arguments—the claims, reasons and evidence, warrants, and qualifications—that emerge from the design cycles that are employed in CPED @ Duquesne. The arguments comprise data within the design research protocol that drives CPED @ Duquesne. Therefore, before quoting material in this or any CPED @ Duquesne Working Paper, please contact the Primary Investigator to determine if a revised or published version is available.

Scholarship for Schools and Design-Based Research: Framing the Argument for CPED @ Duquesne

Purpose

1. The purpose of this working paper is to argue the claim that Duquesne's School of Education is engaging the Carnegie Project on the Education Doctorate through a frame that is consistent with our school's identity and, within that frame, focusing our work through the lens of design-based research.
2. The Carnegie Project on the Education Doctorate is essentially a design project that seeks to transform the doctoral preparation of educational professionals. In order for the Carnegie Project on the Education Doctorate to succeed, new learning environments for those who aspire to practice education must be designed and tested.
3. The designs will be developed and tested within the context of each participating university. Therefore, an extraordinary opportunity exists to compare designs across contexts. The opportunity exists also to investigate—within and across institutions—how the design work is engaged: how assumptions about practice and scholarship are revealed and challenged; the methods by which data are consulted, generated, and rendered into evidence to drive designs; the theoretical as well as the practical consequences of designs. Overall, the Carnegie Project provides an opportunity to examine how the future of doctoral preparation in education is being envisioned, developed, implemented, and tested (see Golde, 2007; Golde & Walker, 2006; Shulman, Golde, Bueschel, & Garabedian, 2006; CPED @ Duquesne, 2006).

Focus

4. Duquesne's vision for the education doctorate is framed by an element of our identity as a School of Education: *Scholarship for Schools*. We have set within that frame a lens to focus our CPED work. The lens is design-based research. The frame and the lens that focus CPED @ Duquesne are addressed in turn.

The Frame

5. Our frame is "Scholarship for Schools", an element of the identity of Duquesne University's School of Education. The faculty established the School's identity as comprising three related elements: Educational Leadership; the Spiritan Tradition of Caring¹; and Scholarship for Schools. The third element is essentially a function of the first two.
6. We view CPED—the effort to "reclaim education's doctorates"—through the frame Scholarship for Schools. Scholarship for Schools means that as a faculty of education, we seek to engage in research that serves schools and especially the people who live and learn in them. Even those research agendas that are highly theoretical or philosophical interrogate how what is learned from those agendas can serve schools as human organizations, populated by both those who serve and those who are served.
7. Scholarship for Schools can be viewed as a form of the scholarship for teaching and learning (SoTL). As stated in an earlier CPED @ Duquesne working paper:
The scholarship of teaching and learning (SoTL) is "a concept of moral action, aimed at cultural change" (Shulman, 2002, p.vii). Over the last two decades SoTL has evolved into the bedrock for serious investigations of the teaching-learning process (see Boyer, 1990; Huber, 1999; Huber & Hutchings, 2005; Hutchings, 2000, 2002; Huber & Morreale, 2002). The

moral claim that underlies SoTL is what Shulman (2002) called the *pedagogical imperative*, an obligation that comes with messing around with teaching and learning. Having signed on to mess with teaching and learning, we are obligated to make our CPED efforts “public and thus susceptible to critique. It then becomes community property, available for others to build upon.” (Shulman, 2004, p. 43). SoTL—and its underlying moral claim—is the reason why our [CPED effort] includes developing and utilizing a design-based research protocol. (CPED @ Duquesne, 2007).

8. As a frame, *Scholarship for Schools* reveals what we see when we look at research opportunities, partnership opportunities, and program improvement. How we see is focused by the lens we have set in that frame.

The Lens

9. The lens we have set within our frame of *Scholarship for Schools* focuses on the continuous effort to design and test learning environments: environments that serve the learning of students, to be sure, but also the learning of teachers, staff, administrators, parents, and the communities in which schools exist. In order to serve learning in schools, we design and test learning environments and we do so in context. For these reasons, the lens that focuses how we serve learning in schools is design-based research.
10. The lens of design-based research fits well within the frame of *Scholarship for Schools* and for three reasons: it situates decisions about teaching and learning in context; it acknowledges continuous change and, therefore, the need for continuous design and testing; and it demands scholarly argument.
11. Design-based research (DBR) is an emerging approach to educational scholarship. It is not a new methodology. Indeed, it makes use of existing methods of data collection and analysis: quantitative, qualitative, mixed methods. What DBR “brings to the table” of educational research is a way of engaging scholarly efforts to improve learning.
12. Design-based research can be viewed as a set of standards by which designs for learning should be developed and tested. Among those standards are, first, the requirement that designs be informed by theory and empiry* (empirical backstory??) and second, that designs inform theory and empiry (Barab & Squire, 2004; Cobb, 2001; Cobb, Confrey, diSessa, Lehrer & Schauble, 2003; Collins, 1992; Dede, 2005; diSessa & Cobb, 2004). According to the Design-Based Research Collaborative (2003, p.5), “[D]esign-based research, which blends empirical educational research with the theory-driven design of learning environments, is an important methodology for understanding how, when, and why educational innovations work in practice.”
13. *(The term “empiry” [or the phrase “empirical backstory”] is used here to connote a source of information that extends beyond published educational research to include unpublished, but well-documented, experiences of those who have participated—in a variety of capacities—in a learning environment, e.g., an extant doctoral program that is undergoing reform.)
14. As an approach, DBR helps us focus not only on what we design for learning, but how, when, and why what we design works in practice. DBR fits with our imperative to engage in *Scholarship for Schools*. And because CPED is one of our research programs in the School of Education, we are interrogating our designs in order to test how, when, and why our designs for the preparation our doctoral students serve learning in schools. Setting DBR as the lens within our frame allows us to question each design as follows: How will our doctoral

students—both during and after their programs of study—engage in Scholarship *for* Schools?

15. Framing our efforts in terms of Scholarship *for* Schools keeps us looking in the right direction. Focusing our gaze with the lens of design-based research helps us argue our designs. Designs to enhance the learning of our doctoral students and the learning they, in turn, will enhance in the schools they will serve.

Building the Capacity to Argue

16. Our CPED work is being carried out by inter-departmental groups of faculty and doctoral students. Each working group represents all of the doctoral programs in our School of Education as well as a potential doctoral program that is in its initial design cycle. It is a school-wide effort and that means two things: contextual diversity and...arguments. As long as we are going to argue anyway, we might as well argue well.
17. Design-based research helps us argue well. As we propose various designs for doctoral preparation, DBR requires us to document the theoretical and empirical antecedents of those decisions. Further, DBR encourages us to develop and test not only the designs themselves, but the “proto-theories” that are consequences of design decisions (Barab & Squire, 2004). The “standard” that design research inform theory is critical not only as a mechanism that drives continuous design and testing, but is critical also to advancing theory through ontological innovations (diSessa & Cobb, 2004).
18. Sound arguments are scholarly in nature; we are following the framework for scholarly argument provided by Booth, Colomb, & Williams (2003). Within that framework, claims are the starting point. The argument is built with reasons and evidence that support the claim. Evidence is warranted: shown to be relevant to the claim. And limitations of the claim are acknowledged.
19. Our designs of learning environments are claims. For example, suppose we design a series of performance assessments to replace the dissertation as the capstone for our Ed.D. programs. By proposing such a design, we have made a claim that performance assessments are a better capstone than a dissertation. We must justify that claim, i.e., we must build an argument: we must provide theoretical reasons and empirical evidence that warrant—in the context of the professional doctorate in education at Duquesne—the superiority of performance assessments over the dissertation. If our argument is compelling enough, we elect to implement our new design. (In which case our proposal becomes a prototype.) As we implement, we investigate whether data support or refute our claim, whether adjustments to the performance assessments are necessary, and what changes are required in the next design cycle.
20. Having built an argument around our claim, including the collection of data that are rendered into evidence to support or refute our claim, we follow the advice of Booth et al. (2003) and Shulman (2004): we must make our claim public, along with the theoretical and empirical antecedents as well as the theoretical and empirical consequences of that claim. In other words, we publish our claim, and the argument built around that claim, so that our proposed design and the test of our prototype design can be critically reviewed and used by others.
21. The lens of design-based research helps us to argue our designs (both before and after they are implemented) and through argument to engage the pedagogical imperative. Arguing within the frame of Scholarship *for* Schools, helps us operationalize our identity. Consequently, our CPED design work has the potential to model the pedagogical imperative

for our doctoral students and perhaps influence their formation in light of our identity. But that is an empirical question, one that we are eager to address.

Focusing our Arguments

22. Our frame and our lens determine what we see (and what we don't see) as design options for learning environments, but at what, exactly, are we looking? What are the objects of our focus, of our arguments?

23. At this stage of the work, the focus of our arguments are the design parameters that have been established for the Carnegie Project on the Education Doctorate:

- Scholarship of Teaching and Learning,
- Laboratories Of Practice,
- Signature Pedagogy,
- Core Curriculum, and
- Capstone Assessments.

The design parameters for CPED have emerged from previous research and action projects of the Carnegie Foundation for the Advancement of Teaching (see CPED @ Duquesne, 2007). Because they emerged within the context of other projects, and because many of our faculty (and almost all of our doctoral students) are unfamiliar with those projects and the literature that has grown up around them, the design parameters are not sufficiently understood at this point to support informed argument. (Evidence supporting this conclusion comes from feedback from our Research Advisory Council, an internal standing body representing all doctoral programs in the school).

24. Our strategy for building our capacity to argue is threefold: first, to introduce "working conceptions" of the CPED design parameters; second, to engage those parameters authentically, i.e., in ways that are congruent with the goal of CPED and with the frame and lens that focuses CPED at Duquesne; and third, to build a norm of argument for our work. Although each tactical element of our strategy is described in turn, it is important to note that the three tactics serve one strategy and, therefore, are being pursued simultaneously.

Working Conceptions of CPED Design

25. The effort to introduce "working conceptions" is focused on helping those unfamiliar with previous work of the Carnegie Foundation (e.g., the Preparation for the Professions Program and the Carnegie Initiative on the Doctorate) construct useable understandings of the design parameters or, as we have called them in our reports to faculty, "CPED Areas of Focus". To begin the process of constructing working conceptions, we have used questions to characterize the issues raised by the design parameters. What follows is a list of the design parameters (with "areas of focus" labels in parentheses) and examples of the questions we have used to introduce and, hopefully, facilitate the construction of working conceptions.

26. *Scholarship of Teaching and Learning* (we have kept this label on the assumption that SoTL is sufficiently familiar among faculty in higher education). An example of the questions we are using to facilitate a working conception of SoTL is: How should teaching and learning be studied—by us and by our graduates—and how should our learning be made public? It is important to note here that the working conception we seek is that SoTL is not only something we do as faculty in order to advance our teaching programs, but also something that our doctoral students who aspire to educational practice should be capable of executing themselves.

27. *Laboratories of Practice* (we have translated this parameter into an area of focus we are calling, initially, “Field-Based Learning”). Examples of the questions we are using to facilitate a working conception of laboratories of practice are: What experiences should our doctoral students have in the field? Should they, for example, move through “research rotations” that take them to the places where kids live and learn (see Berliner, 2006; Richardson, 2006)?
28. *Signature Pedagogy* (we have translated this parameter as “Signature Learning Experiences”). Examples of the questions we are using to facilitate a working conception of signature pedagogy are: What are the signature learning experiences that are pervasive throughout our programs, that persist across experiences? Medical students experience “rounds”. “Rounds” are a signature of medical education. What will be the signature of our doctoral preparation programs?
29. *Core Curriculum* (we have translated this parameter as “Core Knowledge and Formation”). Examples of the questions we are using to facilitate a working conception of core curriculum are: What should every doctoral student know and be able to do? And what is the moral compass that will guide how Duquesne graduates apply their knowledge and skills? Although the question on the moral formation of doctoral students was introduced in the Carnegie Initiative on the Doctorate as an element of stewardship (Golde, 2006) and has been addressed in the context of signature pedagogy (Golde, 2007; Shulman, 2005), we have attached it to questions of core knowledge in order to emphasize the centrality of formation within our frame of Scholarship for Schools. Note also that much of the work that has been done in this area has focused on research methods (e.g., Boote & Biele, 2005; Eisenhart & DeHann, 2005; Hostetler, 2005; Maxwell, 2006). Nevertheless, the “CID ripple effect” has produced several reconfigurations of additional core learning experiences in the professional doctorate as well (Dembo & Marsh, 2007; Shulman, Golde, Bueschel, & Garabedian, 2006).
30. *Capstone Assessments* (we have translated this parameter as simply “capstones”). Examples of the questions we are using to facilitate a working conception of capstone assessments are: Are dissertations for everyone? Are there other ways of qualifying our doctoral students who will contribute to professional practice? The idea is that there may be a series of assessments that would better prepare those who seek to enter professional practice and, simultaneously, account more compellingly for their preparation (Shulman, 2007).

Authentic Engagement

31. Useful and accurate conceptions of the CPED design parameters are necessary, but not sufficient. Our purpose is not simply to facilitate the construction of understandings. Our purpose is to argue our designs for a new kind of professional doctorate with care and insight. In order to achieve that purpose, we need to engage and use our understandings of CPED design not in isolation of but in the context of the work and the outcomes we seek to accomplish. Therefore, the second tactic of our strategy to build our capacity to argue is to “start with the end in mind” (Shulman et al., 2006).
32. CPED emerges at a time when the quality and value of doctoral preparation is in question. Indeed, at a time when schools and colleges of education are under attack and on several fronts. New conceptions of educational practice and new ways of preparing those who will lead educational practice (and those who will provide the research) are required. But what should that preparation look like? The CPED design parameters identify aspects of the professional doctorate that might and probably should look different than they do today. But

how do those parameters map onto the capacities and characteristics of those who will graduate from our new doctoral programs? Rather than start with the parameters and work forward toward the kind of graduate we seek, we are starting with the kind of graduate we seek and mapping backwards (Shulman, et al., 2006).

33. Although we will interrogate the CPED design parameters in order to propose ways to facilitate the learning of Duquesne doctoral students, we have begun by asking three questions:
- What characteristics and capacities should those who aspire to engage professional practice possess?
 - What characteristics and capacities should those who aspire to enter the academy possess?
 - What should be unique in the formation of our doctoral graduates?
34. We are asking the first two questions in an effort to distinguish our professional doctorates from our research doctorates. Although we recognize the possibility that there will be some overlap and perhaps shared learning environments, keeping the distinction in mind is helping us focus on the aspirations of students and address some of the criticisms of preparation programs in schools and colleges of education.
35. We ask the third question because it will help us operationalize our identity as a school; because it will help us address the emerging concept of stewardship (Golde & Walker, 2006); and because matters of the formation of educational professionals have the potential to affect the lives of children, their teachers, and the communities in which they are situated to an enormous degree.
36. By starting with the characteristics and capacities of those whom we will prepare, we can design learning environments with those ends in mind and we can test our designs to see how they contribute to the development of those characteristics and capacities. We can make claims and build arguments with a target in mind.

A Norm of Argument

37. The third tactic in the strategy to build our capacity to argue is to develop argument as the normative mode of discourse and deliberation in our CPED working groups. We are trying to develop a norm of argument in two ways: by using an argument framework to guide data collection and by feeding those data back to the working groups.
38. The first task of all of the CPED working groups at Duquesne is to “start with the end in mind”. Once our targets are sufficiently established, the groups will map backwards to the CPED design parameters. Starting with baselines, our data collection strategy is to document all deliberations in terms of the claims made, reasons given, evidence cited, and warrants provided. (In the case of warrants, we are developing methods by which unspoken warrants might be identified through emergent theme analysis and then tested independently though other methods such as latent semantic analysis [see Landauer, McNamara, Dennis, & Kintsch, 2007]).
39. By informing our working group colleagues that we intend to document the arguments made in the course of their deliberations and by having a “data collector” present for the deliberations, we hope to encourage members of the working groups to think about their discourse in terms of claims, reasons, evidence, and warrants. The conveners of the working groups will have gained experience in identifying elements of an argument and will

be encouraged to identify claims when they are introduced in the course of a discussion. Once identified, the reasons, evidence, and warrants can be pursued. The groups will also be encouraged to summarize each session with regard to the claims, reasons, evidence, and warrants. (In many cases, we expect a group summary to include a statement that evidence for a particular claim needs to be sought. Even so, such summaries will provide evidence that a norm of argument is developing within the working group.)

40. The summaries as well as notes taken by the data collector will be examined after each working group meeting. An “argument summary” will be constructed and given to the working group convener for the subsequent meeting. At the next meeting, the argument summary will be examined and corrected as the first order of business. In this way, we hope to facilitate the development of the norm and, not so incidentally, advance arguments from one meeting to the next rather than perseverating on one point over multiple meetings. The corrected summaries can be submitted to analyses within and across working groups and so document and inform the antecedents and consequences of designs, theoretically and empirically.
41. We recognize that the strategy to build our capacity for argument—and the tactics that constitute that strategy—are designs. We intend to investigate those designs and, by doing so, contribute to a literature for the Carnegie Project on the Education Doctorate that can affect professional preparation in our field.

From Design to Trials

42. To summarize, the claim made in this CPED @ Duquesne Working Paper is that our CPED efforts are focused by an element of the School of Education’s, viz., *Scholarship for Schools*, and design-based research. The design-based approach has further focused a strategic effort to build our capacity to argue. That capacity will serve not only our design work, but also our stated intention to investigate the process by which our designs are proposed and then tested as prototypes. The claims have been made and some reasons for making those claims have been given. However, evidence that will either support or refute the claims made here must still be garnered and examined.
43. As with all Working Papers generated through CPED @ Duquesne, we hope this one will serve to advance our design arguments. Other working papers—and the technical reports and publications that will derive from those working papers—will detail how well the designs outlined above will work. Even so, we see the outline presented here as potentially significant beyond our efforts to reform our doctoral programs.
44. CPED is a design project, an attempt to improve and enhance learning environments. Design-based research assumes that context is critical to the design of learning environments. It also requires, however, that the context include the theoretical and empirical assumptions that precede a design and the theoretical and empirical consequences of that design. It is the requirement to account for the theoretical and empirical context of designs that makes it possible to identify and study the essential qualities of effective learning environments.
45. CPED provides the opportunity to interrogate designs, their underlying assumptions, and their consequences across institutional contexts. If that interrogation can focus on fully formed and well-researched design arguments, we can hypothesize essential qualities of effective learning environments across variable contexts. If we are to achieve meaningful, large-scale investigations effective learning environments, we must generate well-justified

claims regarding what is essential to effective learning environments: essential in the right way and for the right reasons. Researching designs in context can help us argue not only essential aspects of learning environments but also how those aspects are essential and why and under what conditions they should be considered essential.

46. Randomized clinical trials, undertaken on a large enough scale, can yield statistically significant results, even when the differences are more superficial than essential, even when the proportion of outcome variance accounted for is overshadowed by error variance, and even when the outcome measure is misleading or even just wrong. The point is not that attempts to generate evidence via well-controlled, large-scale studies are misguided; they are not. Neither is the point that design-based approach to research is a panacea; it is, most emphatically, not. But design-based research can help us argue theoretically, empirically, and in context.
47. The point is that the evidence we marshal in support of our claims regarding sound learning environments helps us make decisions about how we design the teaching-learning process. If the goal is evidence-based educational decision-making, then we should seek methods that afford us the best opportunities to interrogate the data we generate and to interrogate how data are rendered as evidence. Design-based research, situated as it is within our frame of *Scholarship for Schools*, focuses our interrogations of evidence in ways that, we hypothesize, will help us interrogate designs for and measures of learning (as distinct from achievement, for example).
48. Perhaps our frame and focus will lead us along a path that starts at contextualized designs for learning, meanders through scalable prototypes, and directs us to randomized clinical trials. But we must get there through rigorous interrogation of the evidence used to support claims and quality of the warrants used to connect evidence to claims. We intend to argue not only design claims, but also the quality of the evidence that by which we test those claims. Should be fun.

Note

1. Duquesne University was founded by the Congregation of the Holy Spirit, the Spiritans. The Spiritans are an international missionary order of Fathers and Brothers who minister to the poor and disadvantaged. (For more information on the Spiritans, consult the Duquesne website: www.duq.edu.)

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