

The Usage of Mixed Methods within Public Administration Doctoral Dissertations

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Abstract

This study aims to answer these questions: How did public administration doctoral students combine qualitative and quantitative methods to conduct their dissertations? Which type of integration methods (simultaneous or sequential) are commonly used in public administration doctoral dissertations that employ mixed methods? Do they articulate the purpose of using that particular type of mixed methods? Is it easy to explicitly or implicitly acquire the type of mixed methods or not (clarity)? The study aims to understand the topic gradually starting from 2007 to 2011 and in doing so, this paper reviews fifty public administration doctoral mixed methods dissertations through 2011 to 2007. According to the finding, the percentage of dissertations that apply mixed methods approach is 3.3% of the total number of the dissertations in public administration which is 2,844 dissertations; 86% of those dissertations implement sequential mixed methods, while only 14% use simultaneous mixed methods type. Some researchers articulated the type of mixed methods clearly and the purpose which reflect their deep understanding of the methodology. However, the percentage of them is not high: 60% for the purpose and 62% for the clarity. The concept of mixed method began being used after 2005, yet, the study is limited to public administration doctoral dissertations that have been published during 2007-2011 to chase the progress of using this type of research method intensively and comprehensively. Consequently, more studies are needed to investigate the same questions of this study on a sample of dissertations under the same criteria but in different contexts such as a period of time (after 2011) or different cultures and then compare the results. Also, this study could open a window for more comparison of research methods between public and business administration.

The field of public administration is related to other social sciences such as politics, economics, public law and public finance. It is also close to business administration, but it differs greatly according to objectives and means. Because of these narrow views of public administration, some people believe that public administration is a tool to apply public policy, which is also related to the economic system. Perhaps more importantly public administration has been an active and ongoing area of inquiry and controversy since its birth and faces many challenges about its legitimacy as a fully developed discipline of study. These conflicts and debates have risen over the relevancy of the diverse epistemic and methodological traditions to provide an unanswered question: which type of methods serves the study of the field effectively?

Some scholars believe there is no best way to conduct public administration research. This belief is illustrated by examining the intellectual history and identity of the field of public administration through its diverse research traditions and current accomplishments (Ruccuci, 2010). Others, however, strongly suggest using mixed methods approach, which has emerged as a third paradigm for social research. Some scholars see mixed methods as "... a platform of ideas and practices that are credible and distinctive and that mark the approach out as a viable alternative to quantitative and qualitative paradigms" (Denscombe, 2008, p.270). Other researchers go on to see this approach of social inquiry as an important compromise to "...the contemporary debate about what constitutes valid, rigorous, and 'scientific' research" (Greene, 2005, p.207).

Östlund, Kidd, Wengström and Rowa-Dewar (2011) think the integration of qualitative and quantitative approaches cause much debate and there is an essential need for a rigorous framework for designing and interpreting mixed methods **research**. They state that there is a lack of pragmatic guidance in the research literature as how to combine qualitative and quantitative approaches and how to integrate qualitative and quantitative findings. Here, this paper aims to explore the usage of mixed methods within public administration doctoral dissertations and to chase the progress of using this type of research method intensively and comprehensively. The paper investigates and answers these questions: How do public administration doctoral students combine qualitative and quantitative methods to conduct their dissertations?

Which type of integration methods (simultaneous or sequential) are commonly used in public administration doctoral dissertations that employ mixed methods? Do they articulate the purpose of using that particular type of mixed methods? Is it easy to explicitly or implicitly acquire the type of mixed methods or not (clarity)?

There are few studies that examine the usage of mixed methods through bunch of research in one discipline. However, two studies were found that reflect that concept which are Östlund et al. (2011) and Truscott, Swars, Smith, Thornton-Reid and Zhao(2010). The Östlund's et al. (2011) study investigates the analytical approaches used in mixed methods in healthcare research. It aims to demonstrate the use of triangulation as a methodological metaphor for drawing conclusions from qualitative and quantitative findings. The study examines 168 studies, which mostly originated in the United States of America, the United Kingdom and Canada. The study concludes that parallel data analysis was the most widely used approach. While a number of studies used sequential data analysis, fewer studies employed concurrent data analysis. Ostlund's et al. study also reveals that the purpose of using a mixed methods design is rarely articulated.

Additionally, Truscot et al (2010) examines the occurrence of mixed methods research published in 11 prominent English-language international and U.S. national educational research journals from 1995 to 2005. 2,381 studies were reviewed by research teams in four educational disciplines: literacy, mathematics, social studies, and science. However, 332 (14%) of the articles examined were identified as using mixed methods. Results suggest little variation across disciplines and years in the number of studies using mixed methods. More importantly, they state that even though mixed methods are a reasonable approach to apply in educational research, it does not seem to be an increasingly popular research method.

Although there has been a recent increase of methodological articles, studies, book chapters, and books devoted to mixed methods research to date, there is no chronicled examination for the usage of mixed methods in doctoral dissertations. Thus embedded in this paper is the importance of taking the lead in this area. Moreover, selecting public administration doctoral dissertations to be examined extend the knowledge about how doctoral students deal with data to combine qualitative and quantitative methods and enhance their results. Since public administration is a social science discipline, this study may be considered a beneficial contribution not only in the field of public administration but also the entire social science.

In order to conduct the purpose of this investigation, the researcher uses systematic principles in searching for American public administration doctoral dissertations which employed a **mixed methods** approach and were published in the English language between January 2007 and November 2011. According to the results which are extracted from the library via ProQuest, there are ninety five dissertations that used mixed methods. The researcher, however, selects randomly from each year ten dissertations to end up with fifty dissertations (n=50) (see the Appendix). The researcher aims to apply random assignment by selecting odd numbers (1,3,5,7,..etc.) of dissertations to be examined from each year. However, the study covers most of the dissertations in 2007 since there are eleven dissertations. Each dissertation is reviewed to figure out how mixed methods approach was applied within it. Data are coded and calculated to provide percentages demonstrated within tables and graphs.

Here, the primary concern regarding the limitation is that the sample reflects only dissertations that the library via ProQuest provides. Additionally, the limitation of time forced the researcher to rely on fifty dissertations instead of the whole population, which is ninety five. This study is limited to only public administration doctoral dissertations to enhance the researcher's knowledge about how other doctoral students use mixed methods in their dissertations. Also, the study is limited to public administration doctoral dissertations that have been published during 2007- 2011. It has to be said that the researcher was planning to study a sample from 2005 to 2020 but it is found that almost no dissertations meet the criteria before 2007. Also, it was hard to cover all the dissertations among 15 years in addition to the fact that having the sample within five years will be more intensive and comprehensive. Finally, this study aims only to investigate three elements which are: types of mixed methods (sequential or simultaneous), purpose and clarity. In this study , while the purpose refers to why the researcher use that particular type of mixed methods, clarity means whether there is a statement reflecting the type of mixed method or how easy to detect the type of mixed methods from the content.

Review of the literature:

Mixed methods research is characterized as "...research that contains elements of both qualitative and quantitative approaches" (Rocco et.al ,2003). Creswell and Clark (2007) state that mixed methods studies "...may involve collecting and analyzing qualitative and quantitative data within a single study or within multiple studies in program of inquiry" (p. 8). Gadner & Richards (2004)

therefore stress the importance of providing the reader with information about how it is being mixed. They assert that "...the "mixing" may be nothing more than a side-by-side or sequential use of different methods, or it may be that different methods are being fully integrated in a single analysis"(p.141).

Many scholars see mixed methods as a tool to enhance research methods. In theoretical terms, choosing a combination of quantitative and qualitative methods provides a circular pattern of the process with a continued cycle, so this model neither allows theory at the beginning nor at the end of the study. Admittedly, alone, neither quantitative nor qualitative research can make a complete circle (Reamsa & Twaleb, 2008). On the other hand, the use of multiple methods of data collection "...allows for complementarity and a counterbalance of strengths and weaknesses of each technique" (Abowitz & Toole, 2010, p.114).

Hence, because mixed method studies use more than one method, applied either sequentially or simultaneously, these studies will gain richer and more comprehensive data. While Greene (2005) stresses that implementing mixed methods research helps the researcher gain deep understanding through the diversity of perspectives, Spratt, Walker and Robinson (2004) go on to say "...it could also provide more comprehensive answers to research questions, going beyond the limitations of a single approach"(p.6). On the other hand, such mixed-methods research consumes more time, money and efforts than a single method approach. Abowitz & Toole, however, state that the mixed methods approach "...improves the validity and reliability of the resulting data and strengthens causal inferences by providing the opportunity to observe data convergence or divergence in hypothesis testing" (p.116)

In mixed-method research, as with all research, the research question determines the theoretical drive and, accordingly, inductive/deductive direction guides the use of a reasonable methodological core (Newman, 2003; Creswell, 2003; Morse et al., 2006; Onwuegbuzie & Leeth, 2006). Morse, Niehaus, Wolfe and Wilkins (2006) emphasize the importance of the theory to derive the method of the study. They state that a quantitative study uses qualitative data with a deductive theoretical drive when the problem is not measurable, or when the study applies a new theoretical framework to 'prove' the researcher's schema. Conversely, a quantitative study with an inductive theoretical drive seems like a fishing trip, which means the researcher relies on series of deductive studies to explore the relationships (Morse et al., 2006). Moreover, they argue there are no equal components in the mixed methods approach but there is a core component and a supplementary one.

Consequently, many types of mixed methods design could be developed. Some of these methods can be found in the numerous examples of mixed methods studies that use a concurrent data analysis type to provide a complete view from both qualitative and quantitative methods. While some use data which is quantitatively and qualitatively collected separately and compared or consolidated in the interpretation stage (parallel type), others apply sequential data analysis for the purpose of informing (Onwuegbuzie & Teddlie, 2003). This study adopts the Morse et al. (2006) classification which relies on theoretical derivatives to create four types of mixed methods. These four types are presented with brief definitions and the purpose of using supplementary components as following:

Table I Summary of mixed methods types adopting in this study

Type	Definition	Purpose
QUAL + quan Simultaneous	Qualitative core component of the project (inductive theoretical drive) with a simultaneous quantitative supplementary component	Enrich description of sample understanding or explanation
QUAL → quan Sequential	Qualitative core component of the project (inductive theoretical drive) with a sequential quantitative supplementary component	Test emerging H, determine distribution of phenomenon in population
QUAN + qual Simultaneous	Quantitative core component of the project (deductive theoretical drive) with a simultaneous qualitative	To describe part of phenomena that cannot be quantified
QUAN → qual Sequential	Quantitative core component of the project (deductive theoretical drive) with a sequential qualitative supplementary component.	To examine unexpected results

This table is adopted from Morse et al. (2006, p.287 & .285)

It is obvious from the previous discussion and table that each type of mixed methods reflects specific purposes. In other words, if the theoretical term essentially determines the core method, there is at least one purpose for using the

supplementary method. Consequently, the researcher has to articulate these purposes in order to prove the accuracy of using that particular type of mixed methods employing in their dissertations.

Here, reviewing the literature helps the researcher in formulating the criteria of this study. It has to be noticed that before applying the criteria to the dissertations, the researcher reviewed a sample of ten dissertations selecting randomly in order to check the validity of the proposition that reading American public administration doctoral dissertations satisfies the evaluative criteria used in this study. The criteria have been adjusted to measure what is supposed to measure to meet the purpose of this study. Consequently, the researcher ends up with these seven questions as criteria to classify the dissertations:

- 1) Is it an American public administration doctoral dissertation?
- 2) Does it use both qualitative and quantitative data collected and analyzed?
- 3) Does the study implement mixed methods sequentially or simultaneously?

The purpose:

- 4) Does the study articulate the purpose from implementing that particular type of mixed methods?
- 5) Is there a statement clarifying why the researcher uses the supplementary method?

Clarity:

- 6) Is there a statement articulating the type of mixed method?
- 7) Is it easy to deduce the type of mixed methods from the content?

Finding and discussion:

Before examining each dissertation, the research courteously looks for the tendency of using mixed methods approach in public administration through the last five years. In doing so, the percentage of dissertations that apply mixed methods approach is calculated to be 3.3% since the total number of the dissertations in public administration is 2,844. More precisely, the percentage is between 2.21% in 2007 to 6.4% in 2011. According to these values, it is not hard to notice that using mixed methods is not what was expected from the literature review. It might be said that doctoral students tend to apply the mixed methods approach in their dissertation gradually. Yet, even though 2011 has a higher percentage of mixed methods dissertations, it has the least total number of dissertation, which is 233. On the other hand, 2009 has the highest numbers of dissertations, and mixed methods dissertations, however, this number has been questionably decreased by half in 2011. However, since the study covers the dissertations until November 2011, the researcher attributes this result to the lag between dissertation defense and publication. Table II, however, illustrates these numbers more clearly.

Table II Percentage of mixed methods public administration dissertations (2011-2007)

Year	Mixed methods dissertation	Total	Percent of Total
2011	15	233	6.44%
2010	21	414	5.31%
2009	22	575	3.65%
2008	16	548	2.91%
2007	11	496	2.21%



Although there are fifteen dissertations produced in 2011, only ten (66%) are examined. Eight dissertations used sequential types while the rest applied simultaneous types. Moreover, there are only thirty percent that give an explanation about the purpose of applying that particular type. Worse, only a couple of the dissertations have a higher degree of clarity. The researcher does find that Robbie Mitchell's dissertation *Representative Bureaucracy: A study of Association Between African Americans At the Senior Level and the Mid Level of the Federal Civil Service*, from Virginia Commonwealth University, has higher quality in providing information about mixed methods.

For instance, Mitchell emphasizes the type accurately as he articulated "The data in this study were collected and analyzed sequentially starting with the quantitative research, following by qualitative component. However, priority was given to the quantitative research portion of this analysis..." (p.36). He also explains that the mixed methods type is selected according to the purpose of the study which is more explanatory than exploratory. Unfortunately, most of the doctoral students in the sample do not articulate clearly and accurately why they use mixed methods in their dissertations.

Even though clarity is higher in 2010 than 2011, it is hard to say that mixed methods dissertations in 2010 are better than 2011. This is due to the reduction of linking between selecting the type of methods to the purpose of the study,

even though most of these dissertations use sequential mixed methods. Also, most of the dissertations devote more time to outlining the advantages of triangulation than to providing proper reasons behind selecting the mixed methods type. This finding indicates that there is lack of understanding methodological research. Admittedly, there are dissertations that reflect deep understanding of the research methods such as Washington States’s Jeffrey J. Smith’s *Air Force organizational change: Tracing the past---mapping the future* (2010), Nebraska’s Curtis Beck’s *Antecedents of servant leadership: A mixed methods study*, Phoenix’s Elizabeth Walsh’s *The development of comprehensive criminal justice leadership standards: A modified Delphi study approach*. Smith’s work, for instance looks specifically at organizational change within the United States Air Force (USAF) and articulates the purpose of the study very well and links it with the type of the mixed methods. He states that his paper “... attempts to explain, assess, and predict future organizational change” (p.76). Smith accomplishes this by “...using the theoretically based independent variables of external events, internal culture, and organizational leadership, case studies are developed using process-tracing to analyze historical USAF organizational change” (p.76). He goes on to say that his study is fundamentally based on a deductive method, theoretically informed, which begins with a theoretical explanation for a specific phenomenon and then attempts to investigate and test that idea comparing with hard data. Obviously, the type of method Smith employs is Quant then qual (sequential type).

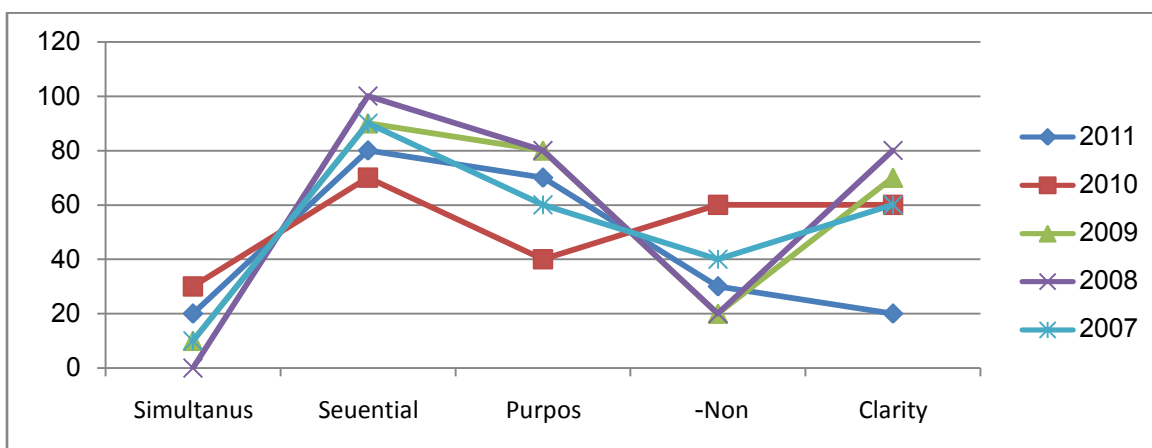
According to the finding in Table III and Figure II, most of the dissertations produced through 2009 – 2007 are sequential mixed methods types, and the tendency goes to the peak in 2008 where there are 100% of sequential mixed methods dissertations. Furthermore, according to the percentage of clarity and articulating the purpose, it is easy to notice that while 2008’s dissertations have more clarity than 2009, they are identical - both of them have 80% - in the ability to express the purpose of selecting the mixed methods type. 2007’s dissertations, however, has the least in both clarity and purpose.

Table III Findings

Year	Simultaneous	Sequential	Purpose		Clarity
			Yes	No	
2011	20%	80%	70%	30%	20%
2010	30%	70%	40%	60%	60%
2009	10%	90%	80%	20%	70%
2008	0%	100%	80%	20%	80%
2007	10%	90%	60%	40%	60%

n=50

Figure I Findings



There are many dissertations produced in 2009, 2008, and 2007 that are worthy to be noticed not only to express deficits that the researcher might make, but also to gratefully acknowledge others’ work. *Analyzing leadership styles of incident commanders* by Fox (2009) from Northcentral University is an example of misunderstanding mixed methods. In this study, different leadership styles such as transformational, transactional, and laissez-faire leadership are examined among incident commanders. This analysis focuses on incidents that utilized a unified command (UC), and investigates differences between disciplines in leadership styles. However, Fox does not employ any qualitative methods. The researcher notes that he collects data quantitatively, so, there is a question that has to be asked “did the researcher consider comparing the results with one of the qualitative methods?” Even though many scholars, such as Patton (1990),

define qualitative research and data as "...detailed descriptions of situations, events, people, interactions, observed behaviors, direct quotations from people about their experiences, attitudes, and beliefs"(p.22), detailed descriptions is one of the main pillars in quantitative study as well.

There are some dissertations that challenge the researcher to determine which type of mixed methods that is employed. For instance, Burgess (2009) aims to evaluate the policies that lead to substantial tuition variation at public land-grant universities by applying qualitative methods such as content and policy analysis, and quantitative methods such as multiple regression analysis and quantitative Pearson's r. He does not mention which method he implements first or whether he implements them together. Due to the blurriness, the researcher decides to not count it and extract it from the sample. On the other side of the spectrum, Seton Hall's Cogswell's (2009) dissertation *Impacts of Nebraska Legislative Policies on Selected Small Nebraska School Districts* is a clear and well organized dissertation. This clarity and ability to show the process of the study reflects the capability and knowledge that the researcher holds.

Furthermore, *Exploring the use of citizen satisfaction survey results in municipal policing* by Galardi (2008) from Northcentral University has some points which need to be addressed. Galardi does clearly state the type of methods "sequential mixed-methods design" and he elaborates on this by dividing the methodology into different phases: The first phase was quantitative, the second phase was qualitative, and the final phase compared results from the first two phases. The researcher, however, does not mention whether these phases are Quan- qual or vice versa. On the other hand if the methods have same weight - Quan-Qual-, it would be concurrent or parallel mixed methods instead of sequential mixed methods type. Moreover, the researcher did mention that the purpose for using mixed methods approach is to compare the results which allude to the importance to the study. This in turn further supports the idea that the study is concurrent or parallel mixed methods dissertation.

Conversely, in the dissertation *Understanding the financial status of a group of high performance athletes* by Harman (2008) from Brock University, Harman highlights clearly an essential point in dealing with mixed methods. He argues that the process for multiple method collection and analysis in his study is a slightly modified sequential quantitative - qualitative. This slight modification is founded on the fact that the researcher had access to both the quantitative and qualitative data (interview) on the same application then analysis was conducted respectively in a sequential manner. The purpose of the sequential method is articulated clearly and explains how the quantitative results assist in the explanation of the qualitative ones. Notably, this dissertation is a bedrock for how good dissertations should be written. Michigan State's Rinkus' (2008) *Rethinking urban storm water management: Identifying stakeholder attitudes toward watershed-based regulation and a proposed storm water retrofit in mid-Michigan* is another work to be emulated.

On the other hand, some of the 2007 dissertations caught the researchers' attention. The first of said works is, *Synchronous online citizen panels: Effects of process, deliberation, consensus, and decision confidence on panelist satisfaction* by from North Carolina State University. This dissertation considers a survey which has open-ended in addition to closed questions as mixed methods since the responses were interpreted narratively. Another 2007 dissertation that attracted the researcher is *An exploratory study of school climate and student behavior in thirteen Delaware public elementary schools* by Case(2007) from University of Delaware. This study examines indicators in 13 public elementary schools throughout the state of Delaware. Even though the author states that the study applies *mixed methods* exploratory research design, there is no mention to qualitative methods, which compels the researcher to delete it from the sample and use another one.

It has to be mentioned that there are dissertations in 2007 which are well-done such as: *Turnover of appointed county administrators in large American counties* by Tekniepe, Robert John, from University of Nevada, *Gauging learning in public sector organizations: A case study of the Penetration Rate Enhancement Program (PREP) of the Virginia Department of Social Services* by Pokharel, Mohan from Virginia Polytechnic Institute and State University, and *Representative bureaucracy and active representation: A search for missing links* by Gibran, Joan Marie from Tennessee State University.

Conclusion:

This paper has reviewed fifty public administration doctoral mixed methods dissertations from 2011 to 2007 to examine how doctoral students combine qualitative and quantitative methods. According to the finding, 86% of those dissertations implement the sequential mixed methods type while only 14% the simultaneous mixed methods type. Most of them use interviews as qualitative methods and surveys as quantitative methods. 8% use cross sectional methods, 10% observation and 6% apply semi- structured interview. It has to be said that most of them rely on Quan-

qual either sequentially or simultaneously more than vice versa. This finding might support the claim that “mixed methods covers for the continuing hegemony of positivism” (Giddings,2006,p.195).

In terms of purpose and clarity, the average of the dissertations that articulated the purpose is 60% while the clarity is 62%.It should be noted that some researchers articulate the type of mixed methods clearly and the purpose which reflects their deep understanding to the methodology. But most of them do not articulate the purpose or the type of mixed methods which consumed time to figure out which type is implemented and why. A worse situation is when the researchers refer to the reason from implementing a particular mixed methods type as a list of advantages of mixed methods in general or do not articulate it accurately or at least correctly. Yet it is questionable that doctoral students lack knowledge in mixed methods. The problem appears to lie in their advisors failure to address these methodological deficiencies. Therefore, the researcher urges scholars to do more studies that investigate the reasons behind the deficiency of mixed methods in dissertations. This can be achieved by tracking the curriculums of each university that provides defect dissertations, seeing if they have social research methods class or not, and analyzing the impact of advisors in doing the dissertation.

Admittedly, after reviewing the fifty dissertations, the researcher has realized the need of examining the construct validity. As it is stated previously, theory drives an inductive or deductive direction to guide the use of a reasonable methodological core and determine the type of mixed methods. It is found, however, some of the doctoral students do not demonstrate the idea that their methodological patterns correspond with their theoretical patterns to prove construct validity of their dissertations. This might be interpreted that the concept of mixed methods is not accepted widely in that area (2007-2011).Consequently, more studies are needed to address construct validity in the American public administration doctoral dissertations to compensate the shortcoming of this study. Additionally, more studies are needed to investigate the same questions of this study on a sample of dissertations under the same criteria but in different contexts such as a period of time (after 2011) or different cultures and then compare the results.

The mixed methods approach needs more studies to give a full framework, starting with the question of the study and ending with how to evaluate mixed methods studies. This paper is intended to serve as an introduction to essential issues in public administrations dissertations in order to construct effective research methods and to encourage researchers to more fully study the topic.

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Appendix Sample of the study

Access to knowledge created by information technology vendors and client staff work performance. Proquest Dissertations And Theses 2007. Section 0543, Part 0617 151 pages; [Ph.D. dissertation].United States -- Minnesota: Walden University; 2007. Publication Number: AAT 3278268.

An exploratory study of school climate and student behavior in thirteen Delaware public elementary schools Case, Jane N.. Proquest Dissertations And Theses 2007. Section 0060, Part 0514 244 pages; [Ph.D. dissertation].United States -- Delaware: University of Delaware; 2007. Publication Number: AAT 3291705.

An exploratory study of how policy research is used in the policy process by policymaker staff and public administrators

Anthes, Catherine Quigley. Proquest Dissertations And Theses 2007. Section 0765, Part 0617 170 pages; [Ph.D. dissertation].United States -- Colorado: University of Colorado at Denver; 2007. Publication Number: AAT 3267885.

At the doors of legality: Planners, favelados, and the titling of urban Brazil Donovan, Michael Geiger. Proquest Dissertations And Theses 2007. Section 0028, Part 0999 500 pages; [Ph.D. dissertation].United States -- California: University of California, Berkeley; 2007. Publication Number: AAT 3351781.

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