Journal of Public Affairs Education

The Journal of Public Affairs Education (JPAE) is the journal of NASPAA, the membership association of graduate education programs in public policy, public affairs, public administration, and public & nonprofit management. NASPAA has nearly 300 member institutions located across the U.S. and around the globe.

NASPAA is the global standard in public service education. Its Commission on Peer Review and Accreditation is the recognized accreditor of master's degree programs in the field.

NASPAA has been a national and international resource since 1970, by ensuring excellence in education and training for public service, and by promoting the ideal of public service. It accomplishes its mission through direct services to its member institutions and by

- Developing standards for master's programs in public affairs, and representing the objectives and needs of education in public affairs;

- Encouraging curriculum development and innovation and providing a forum for publication and discussion of education scholarship, practices, and issues;

- Building the authoritative source of data on public affairs education;

- Promoting public sector internship and employment opportunities for students and graduates;

- Partnering with practitioner professional organizations;

- Engaging globally with national and regional organizations involved with public affairs education.

Founded in 1995, *JPAE* was originally published as the *Journal of Public Administration Education*. H. George Frederickson was the journal's founding editor. The journal is hosted and edited by the Daniel J. Evans School of Public Policy and Governance, a NASPAA member school, selected through a competitive process. In addition to serving as NASPAA's journal of record, *JPAE* is affiliated with the Section on Public Administration Education of the American Society for Public Administration.

Contents

Editorial Perspectives

Articles

Book Review

Review of *American Surveillance: Intelligence, Privacy, and the Fourth Amendment*
by Anthony Gregory

Information for Submissions

Cover Photo

The School of Public Administration at the University of Central Florida, located in Orlando, offers courses in public administration, nonprofit management, urban and regional planning, research administration, and emergency management.

Cover and Interior Design

Val Escher   *Book design property of NASPAA.*

Editorial Perspectives

Merci et Au Revoir

David Schultz
Co-Editor

This issue marks my last as editor in chief or co-editor of the *Journal of Public Affairs Education*. To quote the Beatles, it has been a long and winding road, and I am grateful for the opportunity I had, the journey I have taken, the people I have met and worked with, and the path the journal will take in the future.

Over the years the theme most dominant in my editorial perspectives has been that of change. Whether quoting Heraclitus that "one cannot step in the same river twice" or reflecting upon the notion that the only constant is change, I have repeatedly discussed the idea that the challenge of public administration is confronting a world where constant change is the norm. There is no such thing as the one perfect public affairs curriculum, the single best way to be an administrator, or the only set of best practices that produce some Platonic good. Moreover, the landscape or jurisdiction of governance has and will continue to change because problems, people, and technology evolve. The problem for public affairs education in a global world is recognizing the power of plurality, that we need to embrace diversity in all its many meanings and develop multiple strategies to prepare the next generation of leaders. To that end, *JPAE* has offered a kaleidoscope of perspectives, techniques, studies, and recommendations regarding how to manage and confront change and move on with it. But in many ways, *JPAE* has also been a microcosm or case study in that effort.

I took over as editor-in-chief of *JPAE* in June 2010. Heather Campbell, then editor-in-chief at Arizona State University, the host institution, was moving to another school to take a job, and *JPAE* needed a new editor and host institution. With less than two months to produce the next issue of the journal—and without the benefit of the usual transition that normally accompanies a shift in editors—I became editor. Heather

and all the previous editors presented me with the privilege and responsibility of building on their fine work. With Kris Norman-Major as my managing editor, we assembled a staff and began the process of editing *JPAE*.

The journal we inherited is a far different one from the *JPAE* of today and the one that will begin under the next editor. When we took over, we received a box of hard-copy or printed manuscripts, the records for the journal were maintained in an Excel spreadsheet, and manuscripts themselves were submitted in print and we had to mail copies around to all reviewers. Oh, and NASPAA was then mainly a U.S.-based association named the National Association of Schools of Public Affairs and Administration. We received barely 50 manuscripts per year and our acceptance rate was about 50%. The articles that were published were good, but we were not as selective a journal as we could have been, and we were not listed in the Social Science Citation Index (SSCI).

Today we have an online manuscript submission system that replaced hard-copy manuscripts and the Excel spreadsheet. It also provides us with powerful metrics about the journal, revealing an initial acceptance rate of less than 10%. We have increased the number of submissions by 50% or more and added a book review section; and and will be rolling out a new case studies feature soon. We have published every issue under my tenure on time, and the journal has shifted to an international focus as NASPAA, now named the Network of Schools of Public Policy, Affairs, and Administration, has itself taken on an international focus. Our editorial board reflects that too. In the process of making all these changes, Hamline's time as institutional sponsor for the journal expired. The Evans School at the University of Washington took over, and I stayed on as joint editor with Marieka Klawitter.

In 2018, the journal enters a new era in two ways. First, my tenure as editor in chief or co-editor ends after nearly eight years, making me the longest-serving editor of *JPAE*. Second, 2018 will be characterized by a soon-to-be implemented partnership with the Taylor and Francis Group, which will now publish our journal. Until now we were self-published, limiting our impact factor, reach, and ability to secure inclusion in the SSCI. I approached Taylor and Francis last year about the affiliation and negotiated a preliminary agreement; a final agreement was recently concluded with NASPAA. Until now, we were one of the last journals unaffiliated with a publisher. Through Taylor and Francis's distribution channels, the journal will be available online and in hard copy. Journal access will also be provided free to NASPAA members. NASPAA will promote the current issue and select individual articles through its social media channels and through the "JPAE Messenger." All issues from 2004 through 2017 are available to NASPAA member schools in archived PDF format online. All back issues will be available through JSTOR.

I am so proud of what *JPAE* has become and could not have achieved what we have without my co-editors, copy editors, production staff, and NASPAA. I also thank my present and past editorial board members, editorial assistants, reviewers, and so many others who have made *JPAE* what it is. We have transformed the journal—brought about change—both in how we produce and distribute the journal and in terms of the altered landscape that defines public affairs education, NASPAA, and the world we live in. The next editorial staff are poised to do even greater things with *JPAE*, and I am excited to see where they take the journal.

Excellent scholarship and breadth of perspectives have defined my vision for the journal. I have sought to give as many voices as possible the ability to speak, rejecting orthodoxy as the model for what we publish. The articles in this last issue are testament to that vision.

Do public policy schools produce graduates with a genuine public service motivation and a preference for public sector employment? This is the research question posed in "Ethos Reinforced, Government Endorsed? Comparing Pre-entry and Post-entry Values, Motivations, Sector Perceptions, and Career Preferences of MPA Students in Asia," by Zeger Van der Wal. This article is fascinating because it tests a series of assumptions about our students and about the socialization process that may accompany public affairs education. In many ways, the article tests what impact our curriculum and teaching have not just on student knowledge but also on their interest in career choices.

Methodology is a staple class in public affairs curricula. Among the types of research is qualitative research, and while many of us are aware of the statistical programs available for us in quantitative analysis, few are familiar with similar software or tools for qualitative analysis. Alka Sapat, Lorena Schwartz, Ann-Margaret Esnard, and Emefa Sewordor's "Integrating Qualitative Data Analysis Software into Doctoral Public Administration Education" fills an important void in discussing this topic.

Many of us know about Myers-Briggs personality tests; they are a staple of human resources courses and hiring decisions. In "A Review of the Myers-Briggs Type Indicator in Public Affairs Education," John Sample discusses his experience using the MBTI in a graduate course in human resource management for students enrolled in an MPA program at large public university in the southeast United States. He offers suggestions for how to best use the indicator in class and what value knowing about personality types has for our field.

Many classes require students to develop a portfolio, but is the portfolio actually a good learning tool and, if so, under what circumstances? Naim Kapucu and Christopher Koliba's "Using Competency-Based Portfolios as a Pedagogical Tool and Assessment Strategy in MPA Programs" provides an opportunity to deepen our understanding of the various uses of the portfolio in teaching and student assessment, offering best practices for incorporating portfolios in our courses.

For years I have told my students that there are these amazing people called librarians who can be a student's best friend in helping research topics. My point is that librarians are critical personnel in higher education and they should be viewed as partners in teaching. This is exactly

the theme of "Undergraduate Research Needs: Faculty-Librarian Collaboration to Improve Information Literacy in Policy Papers," by Michelle C. Pautz and Heidi Gauder. They offer good insights into how to strengthen the partnerships of faculty with library staff.

Finally, this issue concludes with Michael Popejoy's review of *American Surveillance: Intelligence, Privacy, and the Fourth Amendment*, by Anthony Gregory. Popejoy describes the book as "well-written, detailed, and painstakingly researched, especially in its focus on the legal and constitutional concerns of surveillance and privacy and current challenges to the Fourth Amendment." For those interested in national securities issues, this is a book for you to read or use in class.

I hope you enjoy what you read in this issue. Equally important, I hope that for the nearly eight years under my editorship you have profited from the articles we have published and have in some way found them useful in being better teachers and scholars. I thank you for the privilege of having edited *JPAE* and look forward to what the new editors will do.

— *David Schultz*
CO-EDITOR

Journal of Public Affairs Education
HAMLINE UNIVERSITY
dschultz@hamline.edu

ABOUT THE EDITOR

David Schultz is a professor of political science at Hamline University and professor at the Hamline and University of Minnesota Schools of Law. He is a three-time Fulbright Scholar and the author of more than 30 books and 100+ articles on various aspects of American politics, election law, and the media and politics. Schultz is regularly interviewed and quoted on these subjects in the local, national, and international media, including the *New York Times*, *Wall Street Journal*, *Washington Post*, *Economist*, and National Public Radio. His most recent book is *Presidential Swing States: Why Only Ten Matter* (Lexington Books, 2015).

About Us

The Journal of Public Affairs Education (*JPAE*) is the journal of NASPAA, the membership association of graduate education programs in public policy, public affairs, public administration, and public & nonprofit management. More information about us is printed within this issue:

Contact Us

Online contacts. Send your questions, suggestions or comments to *JPAE*'s current editorial office housed at the Evans School of Public Policy and Governance of the University of Washington, located in Seattle, Washington, USA.

email address for questions, comments or suggestions . . . . .jpaeuw@uw.edu

article submission and peer review system . . . . .http:/www.edmgr.com/jpae

follow us on Twitter . . . . .https://twitter.com/JPAEJournal

Find More

Find articles and more online. Access free *JPAE* articles from NASPAA's website or discover what is available at *JPAE* through independent sources:

articles http://www.naspaa.org/initiatives/jpae/jpae.asp

abstracts *JPAE* is abstracted or indexed in JSTOR, EBSCO, Google Scholar, and Education Full Text Index.

ISSN 1523-6803 (formerly 1087–7789)

Ethos Reinforced, Government Endorsed? Comparing Pre-entry and Post-entry Values, Motivations, Sector Perceptions, and Career Preferences of MPA Students in Asia

Zeger Van der Wal

National University of Singapore

ABSTRACT

This article compares pre-entry and post-entry personal values, job motivations, sector perceptions, and career preferences of two cohorts of professional Master of Public Administration (MPA) students in Asia. The study triangulates data from surveys, focus groups, and exit interviews in a quasi-experimental setting. On the one hand, findings confirm that MPA programs attract students whose job motivations and sector perceptions are already skewed toward the public sector, particularly those enrolling directly from the public sector. On the other hand, overall appreciation of values associated with and preference for public sector employment goes down during the program, while preference for private sector employment goes up. Students with pre-enrollment public sector careers, however, have significantly higher levels of public service motivation at the moment of graduation than those with pre-enrollment careers outside government. The article concludes with implications of these findings for the study and practice of public administration education.

Do public policy schools produce graduates with a genuine public service motivation and a preference for public sector employment? This question has featured in recent debates on the raison d'être of public policy schools (Choo, 2014; Moynihan, 2014; Piereson & Schaefer Riley, 2013). What sparked the debate was a notorious—and ultimately successful—lawsuit by the Robertson family against Princeton's Woodrow Wilson School of Public and International Affairs. The founding donors were angry because the school increasingly churned out consultants and bankers rather than public servants, contrary to what the school's initial mission suggested. Other leading schools show a similar graduate profile (Piereson & Schaefer Riley, 2013). This article contributes to this debate by examining whether a public policy school in Asia fulfills its mission to produce leaders with high public service motivation who aspire to a career in—or close to—public service.

What does existing research tell us about public policy students? Studies show that such schools usually attract students with high levels of public service motivation, "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (Perry & Wise, 1990, p. 368), and appreciation of public values (Kjeldsen & Jacobsen, 2013; Rose, 2013; Vandenabeele, 2008). This, in turn, leads to preference for postgraduate public sector or nonprofit employment (Gabris & Davis, 2009; Redman-Simmons, 2008; Rose, 2013), although sectoral demarcations seem to matter less to the new, millennial generation (Schultz, 2016). However, as most studies are cross-sectional, they do not tell us whether values, motivations, and job preferences change during, let alone because of, public policy education. With few exceptions, studies employing longitudinal designs to track changes during enrollment (Kennedy & Malatesta, 2010; Newcomer & Allen, 2012; Stuteville & DiPadova-Stocks, 2011) show how attributes and attitudes change but not why they change (Kjeldsen & Jacobsen, 2013).

In addition, such studies target almost without exception students in the West, and there is a question as to whether their findings are easily transferable to major countries in Asia. For instance, a comparative study between Master of Public Policy (MPP) and Master of Public Administration (MPA) students from China and the United States shows that the former are driven more by extrinsic factors, whereas the latter are primarily driven by intrinsic motivators, given expected modest salaries and social status compared to the private sector (Infeld, Qi, Adams, & Lin, 2009). Indeed, government jobs have high stature in many East Asian and Southeast Asian countries (Infeld, Adams, Qi, & Rosnah, 2010; Norris, 2003), and they often provide better primary and secondary benefits than private sector jobs (Fan, 2007; Taylor & Beh, 2013; Xu, 2006). This finding may apply to MPA students in particular, as they often enroll with substantive working experience and a mind-set skewed toward a particular sectoral ethos (Infeld & Adams, 2011).

Elucidating how potential future leaders of some of the region's most emerging countries—like China, India, and Indonesia—view working life and evaluate various sectors is highly relevant, as these individuals will bring the "Asian century" (Mahbubani, 2008; Vielmetter & Sell, 2014) to full fruition in the years to come. So far, however, our field has viewed public administration in the Asian century mostly through a Western lens (Bice & Sullivan, 2014).

This article examines whether a 1-year full-time MPA program at a prominent public policy school in Asia affects students' values, attitudes, and preferences. A quasi-experimental setting subjected two cohorts of students to pre-entry and post-entry surveys, focus groups, and interviews. The following question guided the study: How and why do pre-entry versus post-entry personal values, job motivations, sector perceptions, and career preferences of MPA students at a public policy school in Asia differ?

This article first synthesizes existing literature on how educational and organizational socialization affect values and motivations and how education affects career preferences, listing hypotheses for empirical testing. Then the article explains methodology, the study sample, and how items for the questionnaire and focus group guide were derived. The article then presents quantitative and qualitative data and discusses findings by positioning them in the broader literature on the impact of public administration education. The article concludes with limitations of the current study and suggestions for further research.

THEORY AND HYPOTHESES

Effects of Organizational Environment on Values and Work Motivations

Previous studies have shown that organizational environments shape individual value perceptions and work motivations. Camilleri (2007) argues that the public service motivation of public employees is mainly the result of their organizational environment. Organizational characteristics, such as positive employee leader relations, job grade, organizational tenure, the

way individuals deal with others, and friendship opportunities at the workplace, associate positively with public service motivation (Kjeldsen & Hansen, 2016; Moynihan & Pandey, 2007; Ritz, Brewer, & Neumann, 2016). Bright (2005) also substantiates the positive association between organizational environment, values, and work motivations. He concludes that socialization mechanisms are present in public organizations. Furthermore, by surveying teachers from nine Flemish nonprofit teacher-training institutes about their work values and person-organization fit (Cable & Parsons, 2001; Kristof-Brown, 1996), De Cooman et al. (2009) conclude that individuals adapt their values depending on the organizational environment. Thus, socialization processes ensure fit between newcomers and organizations (cf. Jackall 1988).

Van Gelder and Dougherty (2012) also shed some light on the socializing effects of organizational environment. Using Moore's (1995) public value framework, they compare how public administration students with and without prior professional experience approach a particular design problem—developing a playground. They find substantial differences between both groups, especially in terms of understanding political context. Particularly, experience-based students were much more likely to exhibit what Moore argues helps to create public value, providing evidence for the effect of a public sector work environment on molding desired work values and attitudes.

A substantial number of studies explore the impact of employment sector on work motivations. Most literature in this field argues that public sector employees have higher levels of public service motivation than their private sector counterparts. For instance, by analyzing data from various large-employer surveys, Wright and Kim (2004) concluded that public sector employees have different motivations and expectations than their private sector counterparts, and this result is likely closely tied to the mission and goals of the organization (cf. Moynihan & Pandey, 2007; Van der Wal, 2017b).

Yet some findings run contrary to this notion, suggesting instead that employment experience has no significant impact on values and work motivations. In a large-scale survey, Andersen et al. (2011) find no difference in the general level of public service motivation between Danish physiotherapists in the public and private sector. This may suggest that employment sector has minimal impact on work motivations. De Cooman et al. (2009), in contrast, suggest that organizational socialization serves to enhance employees' personal work values and their organizations' values; the authors also note that attrition mechanisms occur simultaneously. In short, whether the individual stays or leaves, the organization depends on an employee's original fit with the organization. This, in turn, weakens the socializing effect of the organization on individuals' values and work motivations. To explore whether MPA students in the present study's sample enter the program with a different baseline level of public service motivation and inclination to pursue postgraduate public sector employment due to their prior work experience, this study tested the following hypotheses:

H1. Students with pre-enrollment public sector work experience will have higher levels of public service motivation and appreciation of values associated with public sector work than those with private sector or nonprofit sector work experience.

H2. Students with pre-enrollment public sector work experience will be more likely to prefer public sector employment after they graduate.

**Effects of Education on
Personal Values and Work Motivations**
Numerous studies have confirmed the socializing role of education in shaping individual values and work motivations. Hyman and Wright's (1979) classic study used data from 38 national polls and showed that education increases general knowledge, awareness of public affairs, receptivity to new information, and

information-seeking behavior. Kingston et al.'s (2003) study draws a similar conclusion. A secondary analysis of survey data from the U.S. General Social Survey (1991–1998) found that despite substantial mediating impacts of cognitive ability and socioeconomic status, there were strong educational effects on civil liberties, gender equality, social capital, and cultural capital.

In particular, Newcomer and Allen (2010, p. 208) delve into the socializing effects of public policy education in positively affecting individuals' levels of public service motivation (cf. Rose, 2013). Similarly, Stuteville and Di-Padova-Stocks (2011) and Kennedy and Malatesta (2010) acknowledge the positive impacts of public policy education on cultivation of values and ethics. Both studies call for greater emphasis on values and ethics in the curricula of public policy programs in the face of the new challenges brought by accelerated globalization.

However, Egerton's (2002) study, focusing on the efforts of tertiary education on social and civic engagement of young people, provides some contrary evidence. Although he found a significant difference of levels of civic engagement between young people who entered higher education and those who did not, he found little additional effect of education, concluding that the differences existed prior to higher education.

Likewise, through comparing the espoused value preferences between students and alumni from four professional programs at the University of Kansas, Edwards, Nalbandian, and Wedel (1981) found that students entering different professional educational programs appear to have different espoused value preferences. Nonetheless, there was a minimal difference between the values espoused by alumni and first-year students, suggesting that education may play an insignificant role in affecting value patterns. In the same vein, other studies suggest that different people-types are drawn to different degree programs in the first place, because of pre-educational socialization processes (Blau & Duncan, 1967; de Graaf & de Graaf, 1996; Ng, Gossett, Chinyoka, & Obasi, 2016; van Hooft, 2004).

Lastly, Kjeldsen's (2012) analysis of public service motivation levels of Danish students enrolled in different vocational education programs shows that the socializing effect of higher education depends on students' field of study. Although the estimated level of public service motivation among students in noncore public service studies increases with years of study, motivation levels of these students' public service counterparts stay the same across different educational stages. Thus, high levels of public service motivation among public policy students seem to be the result of an attraction effect.

Whether one's value perceptions and work motivations are the result of self-selection or socializing effects of education, and how one multiplies the other, is the subject of ongoing scholarly debate. To test whether taking an MPA program increases public service motivation levels and appreciation of values associated with public sector employment, the present study formulated the following hypotheses:

H3. Students will show a stronger appreciation of values associated with public sector employment at the end of their MPA program than at the start.

H4. Students will display higher levels of public service motivation at the end of their program than at the start.

Effects of Public Policy Education Programs on Career Preference

Whether MPP and MPA graduates are more likely—and perhaps, should be more likely—to join the public sector than the private or nonprofit sector has been debated by practitioners and scholars alike. For example, by surveying faculty of schools and departments that offer both MPP and MPA programs, Hur and Hackbart (2009) found that graduates are most likely to end up in the public and nonprofit sectors. In a similar vein, Infeld and Adams (2011) found that both MPP and MPA students preferred working in the public and

nonprofit sectors versus the private sector: both types of student were equally inclined toward having a career in which they were able to make "a contribution to the society" (cf. van der Wal, 2017a, p. 607). At the same time, however, Woolcock (2007) points out that many MPP graduates end up courting a broad array of employers who offer them "a modest salary, relative low-level responsibilities, and little long-term job security" (p. 5).

These studies provide important insights into the effect of public policy education on students' career preferences. However, it is not yet clear to what extent graduate sectoral employment preferences are actually guided—or reinforced—by students' education. Hence, testing the following hypotheses may provide useful contributions to the scholarly literature:

H5. MPA students will have more positive public sector perceptions upon graduation than at the start of their program.

H6. MPA students will choose the public or nonprofit sector as their preferred future sector of employment over the private sector.

H7. MPA students will display a stronger preference for public sector and nonprofit employment upon graduation than at the start of their program.

H8. Positive public sector perceptions are related to a preference for postgraduate public sector employment.

Types of Motivations Related to Government Employment

Although studies have consistently confirmed a positive association between preference for doing work that is useful to society and public sector employment, several studies have suggested that extrinsic rewards (especially financial rewards) also play a salient role in determining individuals' choice of career (Chen & Hsieh, 2015; Liu & Tang, 2011; Liu & Perry, 2016).

For example, surveying students from two top-tier US law schools, using a policy-capturing research design, Christensen and Wright (2011) suggest that public service motivation does not automatically increase employee attraction to or satisfaction with public employment. Instead, financial rewards still play a prominent role in an individual's job choice.

Lewis and Frank (2002) explore how individuals' demographic characteristics and the importance these people place on various job qualities influence their preference for employment in the public sector. The authors also find that the more strongly respondents valued high income, the more likely they were to prefer government employment. Ko and Jun's (2015) study about job motivations and career preferences of undergraduates in Singapore, China, and Korea found a positive association between a motivation to benefit society and a preference for public sector jobs among Singaporean and Korean students. Nonetheless, the authors also note that while intrinsic motivators are important, students' choice of public sector employment is in fact affected by a mixture of extrinsic motivators, such as career prospects, and students' perception of their own government.

Others have distinguished between public service motivation (intrinsic, idealistic motivators driving public sector employment) and public sector motivation (extrinsic motivators related to pay, stability, and job security). To examine how such motivations play a role in the choice for public sector employment, and how perceptions of government affect employment preference, the present study tests the following hypotheses:

H9. Students who prefer the public sector as a postgraduate sector of employment have higher levels of public *service* motivation than public *sector* motivation.

H10. Students who prefer the public sector as a postgraduate sector of employment have higher levels of *public sector* motivation than *private sector* motivation.

METHODOLOGY

Mixed Methods Quasi-experimental Design

The present study employed a mixed methods approach (e.g., Creswell, 2003) to show not only *if* MPA education affects the propensity toward values, motivations, and career preferences of future managers but also *why* this is the case, as well as how subjects word their motives and preferences for degree programs and future employment. So far, studies into student motivations, values, and preferences—or of managers, for that matter—are almost without exception quantitative in nature, with some exceptions (Pedersen, 2014; Ritz, 2015). As a result, we lack more substantive insights into the reasons and justifications for choosing degree programs and sectors of employment. To elicit such insights, the present study includes an open question in its questionnaire about the reason for sector preference, and survey data are complemented with data from focus groups and interviews (cf. van Steden, Van der Wal, & Lasthuizen, 2015; Van der Wal & Yang, 2015).

Usually, studies about the impact of educational programs use single-time cross-sectional data to explore whether perceived training effectiveness is positively correlated with dependent variables. As this study is interested in the change of values, motivations, perceptions, and preferences before and after training, "an experimental design that allows the comparison between a pretest and a posttest would be a more preferable method, as it provides a clearer time frame and causality" (Chen & Chen, 2016, p. 15).

Despite being frequently propagated, pure experiments are not widely employed in public administration studies due to legal, ethical, and budgetary concerns (Chen & Chen, 2016). A pure experiment requires both the random selection of treatment and control groups and a pre-test/post-test comparison for treatment and control groups (Wellington & Szczerbinski, 2007). In the present study, it would be both unethical and illegal to create a control group by excluding some students from completing their program. A quasi-experimental research setting, however, is feasible (cf. Grimmelikhuijsen, Jilke, Leth Olsen, & Tummers, 2016). While there are several types of quasi-experimental designs (e.g., post-test only design, nonrandom selection of control groups, time series, etc.), the most suitable one here is pre-test and post-test design without a control group. This method allows for making inferences about the impact of the intervention by comparing pre-test and post-test results (Wellington & Szczerbinski, 2007), in this case pre-entry and post-entry into the program. To reduce inference bias, this study further examines the relationship between pre-test and post-test difference and perceived program effect through qualitative data (focus groups, open survey questions, and exit interviews).

Sample and Respondent Selection

Study respondents are the 2013–2014 ($n = 58$) and 2014–2015 ($n = 39$) cohorts of students entering a full-time MPA program at a school of public policy at a highly ranked university in Southeast Asia. The program is directed toward midcareer employees with 6–8 years of working experience. Around 80% of participants are in their 30s; all of them had more than 5 years of working experience, with just two students clocking more than 10 years. Surveys and focus groups were conducted at the start of the degree programs, in August 2013 and August 2014. Surveys were conducted in person in the classroom, and missing respondents were approached online afterward. After meeting students who did not partake initially face-to-face, study researchers recorded a total of 97 respondents, reflecting a 100% response rate in both cohorts. The sample includes respondents from 15 different Asia-Pacific countries. China, India, Indonesia, and Singapore make up over 80% of the respondents. It is important to stress, however, that the aim of this research is not to compare countries, and the sample size does not allow for such a comparison. The limited generalizability of our findings beyond these two cohorts is clear. Table 1 provides basic respondent characteristics.

TABLE 1.
Respondent Characteristics

Respondent characteristics	Percentage	
Age		
20–24	1.0	
25–29	8.2	
30–34	41.2	
35–39	37.1	
40 and older	12.4	
Gender		
Male	60.8	
Female	39.2	
Sector of full-time pre-enrollment employment		
Public sector	70.1	
Private sector	19.6	
Nonprofit sector	10.3	
Preferred sector of postgraduate employment	**T = 0**	**T = 1**
Public sector	67.0	62.0
Private sector	17.6	22.8
Nonprofit sector	15.4	15.2

Note. N = 97

Questionnaire and Measures. The basic questionnaire included 11 questions on background characteristics, socialization factors, and preferred sector of employment; 13 questions on public and private sector work motivations; 10 questions about personal values associated with careers in both sectors; and 10 questions on sector perceptions. These questions, and how they are combined in variables, are discussed below. The Appendix provides descriptive statistics for all items used.

Items are included about both public and private sector work motivation to characterize the motivational profile of respondents. An important related theme in the literature is the contrast between intrinsic and extrinsic factors (Buelens & van den Broeck, 2007, p. 66; Karl & Sutton, 1998). Here, this study includes not just items on public service motivation but also items on extrinsic motivations classically associated with public sector work (cf. Perry & Hondeghem, 2008), as well as internalized positive views directed toward both sectors, being different from more general sector perceptions. After all, this study also wanted to test the socializing effect of working environments. Given that respondents already had substantive working experience, they may hold fairly classic public and private sector related motivations. In line with the mission of the school, however, public service motivations rather than public sector motivations would be expected to increase as a result of the MPA program.

This study used the following statements as measures of public sector work motivation: "contributing to society," "balancing work and

family obligations," and "an intellectually stimulating work environment." To measure an overall positive inclination toward the public sector, this statement was added: "It is best for society when the public sector is responsible for the provision of crucial collective goods, such as energy, public transport and safety." To measure public service motivation, the study included these statements: "meaningful public service is very important to me," "considering the welfare of others is important to me," and "being service oriented to others" (cf. Kjeldsen & Jacobsen, 2013; Rose, 2013). The private sector motivations used were as follows: "being successful," "a high salary," "total commitment to my employer," "having a good salary," "my career will be more important than family after graduation," "I like to be successful in creating innovative products and services," and "it is best for society when the market is given maximal leeway."

Respondents were asked to indicate on a 5-point Likert scale whether they considered the characteristics important, with answer categories ranging from "very important" to "not important at all." Respondents were also asked whether they agreed, again on a 5-point Likert scale, according to answer categories from "totally agree" to "totally disagree." Reliability tests for two of the three variables produced sufficient Cronbach's alpha reliability scores: .375 (public sector motivation), .618 (public service motivation), and .534 (private sector motivation). Public sector motivation is a newly constructed variable consisting of four items, combining intrinsic and extrinsic motivators, which may explain its low reliability. The variable is nevertheless included in the analysis here, to observe any differences between public service motivation and private sector motivation.

The literature on values shows a clear contrast between public and private values. Stackman, Connor, and Becker (2006) distinguish different personal values related to a career in private versus public sectors, as do Buelens and van den Broeck (2007). Based on these studies on value differences, the present study selected five public and five private values: equality, peace, self-sacrifice, justice, and compassion versus accomplishment, joy, prosperity, change, and power. The five public values were combined into the variable PUBVALUE and the five private values were combined into the variable PRIVVALUE, with high Cronbach's alphas: .790 and .698, respectively.

The present study measured negative and positive perceptions of government according to the following theses, negative and positive: "In general, government is very bureaucratic," "Those choosing a career in government are often less ambitious than those choosing a career in business," and "When you work for government, you are often caught in a web of political interests" (negative); "When you work for government, you can contribute positively to society," and "Government is a much friendlier working environment than business" (positive) (Taylor, 2010).

In the same vein, as the private sector is perceived to be more competitive than the public sector, and with a less collegial working environment, this study tested the following (negative) statements: "In the business sector, there is a lot of competitiveness between colleagues," "In the business sector, people often play 'dirty games' to maximize profit," and "When you are working in the business sector, you are only concerned with your own benefits and that of your company." The positive perceptions of the private sector are reflected in these statements: "In general, business works much more efficiently and effectively than government" and "In the business sector it is easier to get promoted to a better position." The present study combines the items for positive public sector perceptions with those for negative private sector perceptions into the variable POSPUB; in turn, this study combines positive private sector perceptions with negative public sector perceptions into the variable POSPRIV. Both combined variables produced sufficient Cronbach's alpha reliability scores: .527 and .601, respectively.

Lastly, in addition to mandating that respondents choose a preferred sector (public, private, or nonprofit), this study asked them, in an open

question, to state in one sentence why their preference lay with that sector. This allowed researchers to contextualize respondent preferences and to code, cluster, and rank their justifications; respondents could also express doubts or ambiguities.

Focus Groups and Exit Interviews. To add to the survey and gain in-depth understanding of students' views and choices, this study conducted four focus groups of between four and seven participants in each session, using the Delphi method (Rowe & Wright, 1999). Sessions lasted between 50 and 70 minutes. These focus groups were conducted with a combined total of 26 participants within two weeks after respondents took the survey. The format aimed to produce interactive, deliberative, and respectful (though not necessarily consensual) exchanges of views,

guided by three engagement questions and four exploration questions (e.g., Creswell, 2003; Morgan, 1988). Two key topics were discussed: views of working life in the public, private, and nonprofit sectors based on participants' experiences; and motives for applying to the program. At the end of the program, 10 exit interviews asked about the merit of the degree program and how the program had changed students' views of issues and sectors.

FINDINGS

Table 2 indicates that students enrolling from the public sector scored higher on public service motivation and positive public sector perceptions compared to those enrolling with private sector and nonprofit backgrounds; but public sector enrollees scored lower on public values and public sector motivation.

TABLE 2.

Students With (n = 68) and Without (n = 29) Pre-entry Public Sector Experience

Variables		Pre-entry, private or nonprofit		Pre-entry, public		t-test
		Mean	**SD**	**Mean**	**SD**	***p* value**
Public service motivation	Pre-entry (T = 0)	4.160	0.460	4.313	0.536	0.202
	Post-entry (T = 1)	4.120	0.499	4.338	0.501	0.065*
Public sector motivation	Pre-entry (T = 0)	4.466	0.339	4.429	0.439	0.692
	Post-entry (T = 1)	4.380	0.354	4.343	0.456	0.717
Private sector motivation	Pre-entry (T = 0)	3.557	0.446	3.602	0.535	0.689
	Post-entry (T = 1)	3.647	0.447	3.639	0.416	0.941
Public values	Pre-entry (T = 0)	7.855	1.680	7.742	1.349	0.729
	Post-entry (T = 1)	7.312	1.547	7.288	1.598	0.949
Positive public sector perceptions	Pre-entry (T = 0)	3.678	0.631	3.740	0.547	0.633
	Post-entry (T = 1)	3.704	0.520	3.736	0.530	0.794
Positive private sector perceptions	Pre-entry (T = 0)	3.518	0.518	3.426	0.643	0.512
	Post-entry (T = 1)	3.584	0.571	3.556	0.575	0.842
Future preferred sector of employment	Pre-entry (T = 0)	0.360	0.490	0.800	0.403	0.000***
	Post-entry (T = 1)	0.240	0.435	0.776	0.420	0.000***

Note. $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

However, at the time of enrollment, students were much more inclined to go back to the public sector after graduation. Differences for post-entry public service motivation and pre-entry and post-entry postgraduate sector preference are significant between those with and without public sector backgrounds. However, scores on all other public sector–related variables slightly decreased for public professionals during enrollment, while attitudes toward the private sector became slightly more positive. It should be noted that differences are small and nonsignificant.

As the findings in Table 3 show, the comparison between pre-entry and post-entry work motivations, sector perceptions, and employment preference for all students produced no significant differences. Significant differences can be seen only for values associated with public sector employment, with overall appreciation going down during the program. Moreover, postgraduate public sector preference slightly decreased as well.

Overall, however, respondents scored high on public service motivation and public sector motivation before they started the program, suggesting they were preselected into the MPA based on these motivations. Intriguingly, MPA students do value the statements "being successful" and "earning a high salary"— traditionally associated with private sector employment—arguably a region-specific finding.

TABLE 3.
Pre-entry and Post-entry Difference

Item	Pre-entry (T=0)		Post-entry (T=1)		t-test
	Mean	SD	Mean	SD	p value
Public service motivation	4.267	0.535	4.269	0.514	0.985
Public sector motivation	4.440	0.409	4.352	0.427	0.150
Private sector motivation	3.589	0.508	3.645	0.422	0.412
Public values	7.777	1.327	7.287	1.361	0.027**
Positive public sector perceptions	3.722	0.570	3.724	0.523	0.982
Negative public sector perceptions	3.453	0.608	3.558	0.571	0.228
Preference for public sector employment upon graduation	0.678	0.469	0.634	0.484	0.540

Note. $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$; $N = 97$

TABLE 4.
Post-entry Motivations of Those with Public Sector Preference

Public service motivation		Private sector motivation		*t*–test
Mean	SD	Mean	SD	*p* value
4.427	0.483	3.588	0.424	0.000***

Public service motivation		Public sector motivation		*t*–test
Mean	SD	Mean	SD	*p* value
4.427	0.424	4.408	0.439	0.607

Note. *p < 0.1, **p < 0.05, ***p < 0.01; *N*=60

In all, respondents displayed a public sector ethos and mind-set with no reinforcement occurring during the program.

Table 4 shows how students with post-entry postgraduate public sector preference score on the three types of motivations. Clearly, students with public sector employment preference have significantly higher public service motivation than private sector motivation; public service motivation and public sector motivation are almost equal.

Students Speaking Out: Pre-entry
This study categorized and coded 82 responses to the open-ended survey question, "Please describe the reason for your sector preference in one sentence," resulting in five main coding categories that are juxtaposed with the preference for employment sector as indicated by the respondents in Table 5. The numbers in parentheses indicate the number of statements corresponding with the particular code, illustrated by one exemplary quote reflecting the overall category.

In many ways, the qualitative survey data corroborate the quantitative data. Particularly, those who justify and explain their preferred employment sector by "wanting to work in service of others" and "making great impact" often see themselves working in the nonprofit sector as opposed to the public sector (those with private sector preferences could not be coded into these categories). In the end, job content, career opportunities, self-development, and "fit with the sector"—or sometimes, lack of fit, resulting in desire for a sector switch—and "serving others or society," were the most dominant categories.

Students Speaking Out: Post-entry
The present study coded 76 responses to the open-ended survey question, "Please describe the reason for your sector preference in one sentence," using the same categories as for the pre-entry responses. Compared to pre-entry responses, more students referenced career opportunities and the content of the job, with

TABLE 5.

Sector of Postgraduate Employment Preference Explained (Pre-entry vs. Post-entry)

Sector/ Reason	1. Job content, career opportunities, personal growth		2. Being of service to others	
	Pre-entry: 26	Post-entry: 36	Pre-entry: 10	Post-entry: 11
Public PRE-ENTRY 52 POST-ENTRY 47	"I value performance and result more than salary." (13)	"It provides an optimal balance of my preferred job nature, work scope, employment security and reasonable remuneration." (20)	"I think this gives most scope for creating the environment for others to flourish." (9)	"Giving back to the community that has served me well." (8)
Nonprofit PRE-ENTRY 16 PRE-ENTRY 13	"Diversity in careers." (4)	"More international, more diverse." (4)	"Can contribute directly to the society." (1)	"Apply what I have learnt and contribute to the community." (3)
Private PRE-ENTRY 14 POST-ENTRY 16	"I want to experience a more competitive working environment." (9)	"Business sector makes people grow faster." (13)		

Note. The numbers in parentheses indicate the number of statements corresponding with the particular code, illustrated by one exemplary quote reflecting the overall category.

the statements "serving the nation" and "fit with sector" being much less prominent. A small portion of students changed their sector preference from public to private; preference for nonprofit employment remained equal. Also, "fit with sector" decreased as a justification among all students, regardless of preference. This shows that students do open up to the possibility of other sectors and careers during their graduate program. Private sector preference, rising slightly as indicated before, is explained by students' having more dynamic and faster career and growth opportunities, even more so than at the pre-entry stage.

The number of students expressing preference for postgraduate nonprofit employment remained similar, but the biggest shift in justifications was from "fit with sector" to "serving others and society"; in short, classic motivations for government employment go up while sector preference remains stable.

TABLE 5.
Sector of Postgraduate Employment Preference Explained (Pre-entry vs. Post-entry) (continued)

Sector/ Reason	3. To serve the nation		4. Fit with industry/sector		5. Making greater impact	
	Pre-entry: 7	Post-entry: 5	Pre-entry: 30	Post-entry: 14	Pre-entry: 9	Post-entry: 10
Public *PRE-ENTRY* **52** *POST-ENTRY* **47**	"My country needs to build public sector capacity." (7)	"Public sector in my country is weak which needs more attention." (4)	"Familiarity with the process and system it works." (16)	"I have a good experience in public sector; the public policy course learnings would help me in working better in the same sector." (9)	"Provides me the opportunity to not stop at advocacy but also implement." (7)	"Public sector can change larger and more fundamental issues than private sector." (6)
Nonprofit *PRE-ENTRY* **16** *PRE-ENTRY* **13**		"Public participation seems to be the only way of moving forward in a democratic setup." (1)	"I relate to it the most." (9)	"Have good experiences and understanding of this sector." (2)	"I think it is the sector where I can have most impact." (2)	"In an NGO I wish to bridge gap in trust deficit between government and private sector." (3)
Private *PRE-ENTRY* **14** *POST-ENTRY* **16**			"Private sector dynamics are more close to my personality." (5)	"My domain of work is only in private sector." (2)		"I am able to contribute more through private perspectives." (1)

Note. The numbers in parentheses indicate the number of statements corresponding with the particular code, illustrated by one exemplary quote reflecting the overall category.

Pre-entry Focus Groups

Seven pre-entry focus groups, comprised of 26 survey respondents enabled questioning about some survey topics in a safe and collaborative environment (Eliot & Associates, 2005). Students were selected who had backgrounds from all sectors, with the majority being from the public sector. Student responses were coded for two main issues: (1) views on the public and private sector based on students' experiences and (2) reasons for choosing this degree (Table 6).

The numbers in parentheses indicate the number of statements corresponding with the particular code.

The focus group results complement the survey findings in two ways. First, students are at least as critical of the public sector as the private sector (indeed, the number of negative public sector views exceeds the number for the private sector). Second, the vast majority of statements about motives for choosing an MPA degree

TABLE 6.
Responses of Pre-entry Focus Groups

1. Views on private sector	2. Views on public sector	3. Why choose an MPA?
More prestige, meritocracy, and awarded performance (Positive, 11)	The right place for advancing public agendas and achieving public impact (Positive, 4)	Looking for skills upgrading and problem solving capabilities to increase career opportunities (14)
Competition and complexity can lead to overload and burnout, and business sector has questionable ethics (Negative, 8)	Public sector is ineffective, inefficient, corrupt, dominated by relationships, and not accountable (Negative, 11)	To elevate standing and gain promotion within current job (8)
		Did not have the background or means to seek an MBA (2)

Note. N= 26

emphasize a desire to upgrade skills and capabilities and to increase career opportunities, rather than express a particular passion for public service.

Post-entry Exit Interviews
In addition, 10 exit interviews were conducted with students immediately after they completed the post-entry survey, about a week before graduation. These interviews asked students what they took away from their degree program in relation to their initial expectations, whether the MPA experience changed their outlook on policy issues and sectors, and how that may affect their choice of postgraduate sector of employment.

The interview data displayed in Table 7 add three intriguing factors to the previous findings. First, it becomes clear that MPA students are indeed passionate about creating public value, but they do not necessarily view public sector employment as the proper or even most effective vehicle for doing so. Second, a related sentiment expressed by some students is that

private and social enterprises are more capable of facilitating such pursuits because such enterprises value initiative, assess performance based on merit, and allow more individual impact. Third, however, at the end of their program students overall feel enriched and better prepared to pursue their ambitions.

DISCUSSION
The overall findings lead to only partly accepting Hypothesis 1: public sector professionals do indeed enter the program with higher levels of public service motivation but with slightly less appreciation of public sector values than students with other professional backgrounds. The findings do, however, convincingly support Hypothesis 2: students with public sector backgrounds are significantly more likely to go back to the public sector than those with other backgrounds at the moment of entry, confirming socialization effects (Bright, 2005; Camilleri, 2007; Moynihan & Pandey, 2007; Ritz et al., 2016). However, the public sector preference at the moment of exit decreases for both groups, particularly for the non–public sector profes-

sionals. This finding challenges somewhat the mission of public policy schools to enhance or reinforce a love for public service.

Contrary to what was expected based on many other studies (Kennedy & Maletesta, 2010; Rose, 2013; Stuteville & DiPadova-Stocks, 2011; Van der Wal & Oosterbaan, 2010), values and motivations positively associated with public sector employment overall remained stable or decreased over the course of the degree program. Thus,

Hypotheses 3 and 4 must be rejected. At the same time, baseline levels were fairly high to start with, corroborating earlier findings about public-service-minded students being selected into programs that prepare them for public service careers (Kjeldsen, 2012; Kjeldsen & Jacobsen, 2013).

As expected, though, given the nature of the degree program, a large majority of students still prefer public sector employment upon graduation, leading to confirmation of Hypothesis 6.

TABLE 7.
Responses of Post-entry Exit Interviews

What are your key takeaways?	Were expectations met fully?	How do you view policy issues and sectors now?	How does this affect your choice of preferred sector of employment?
"Many skills were honed but most valuable were the discussions with other students about ethics and morality." "Discussions reach a level of depth that MBA programs cannot match; their students are thinking about where to make money next."	"Yes, I have changed and grown significantly." (Fully, 5)	"It has further sparked my interest in and passions for development work." "I have never come out of any class discussion biased toward one sector or another. I have come to believe though that the impact you can make is smaller in larger institutions."	"I want to pursue gender and development issues like before but not necessarily in the public sector." "I see a lot of potential in creating social innovation outside the usual public sector institutions." (Affected, 6)
	"Overall yes, but it could have been much more rigorous." (Partly, 5)		"It hasn't changed. I was in a social enterprise before enrolling here and I want to go back to social enterprise even more now." "I was in government and still want to work in government, because I care about environmental and economic issues and government has the most impact there." (Not affected, 4)

Note. $N = 10$

Such preference also correlates significantly with positive public sector perceptions, confirming Hypothesis 8. However, as both the percentage of students preferring public sector employment as well as the overall positive perception of public sector life slightly decreased during the program, Hypotheses 5 and 7 must be rejected.

The findings overwhelmingly support Hypotheses 9: those preferring postgraduate public sector employment at the moment of graduation have significantly higher levels of public service motivation than private sector motivation. But Hypothesis 10 must be rejected, as students preferring public sector employment report more or less similar levels of public service motivation and public sector motivation. This finding suggests a need for more research into how intrinsic and extrinsic motivations combine and compete (Chen & Hsieh, 2014; Infeld et al., 2009, 2010; Infeld & Adams, 2011; Perry & Liu 2014; Van der Wal 2015), how public sector motivation needs to be measured (given the low reliability scores of this study's variable), and how both types of motivations make up a complex mix that drives future public leaders, progressing as their careers evolve.

On a broader note, the findings on dynamics in sector preferences and motivational profiles in relation to sectoral aspirations align with dynamics in how careers develop: from traditional, linear careers within few organizations to boundaryless and self-directed careers characterized by a greater number of job and organization changes (Briscoe & Hall, 2006; Lyons, Ng, & Schweitzer, 2012; Lyons, Urick, Kuron, & Schweitzer, 2015; Parry, Unite, Chuddzikowski, Briscoe, & Shen, 2012). Indeed, younger generations in different parts of the world display increasingly protean career orientations, with a desire for interesting and meaningful work, personal growth, developing new skills, and high materialistic rewards rather than a specific sector preference (Ng et al., 2010; Schultz, 2016; Twenge & Kasser, 2013). As said, these developments pose questions for public policy schools about how "sector-specific" their degree programs and desired graduates should be and whether

sector-specificity is at all realistic and desirable in the years to come. Protean career dynamics will also lead to increased "sector switching" (de Graaf & Van der Wal, 2008; Hansen, 2014; Johnson, McGinnis, & Ng, 2015; Su & Bozeman, 2009).

LIMITATIONS AND FUTURE RESEARCH

This study has three key limitations and consequent implications for future research. First, given the small sample size of this study, the results are not generalizable to the 22 countries making up the continent of Asia, with their widely different political histories, cultures, religions, and demographics. The results may speak for China, India, and the Association of Southeast Asian Nations, in particular Singapore and Indonesia. Second, a related concern is that the public sectors of some Asian countries suffer from corruption and cronyism (Christie, Kwon, Stoeberl, & Baumhart, 2003), while Singapore is in many ways the exact opposite (Quah, 2011). This may affect students' perceptions about government capacity in these countries. However, this study's sample size and research aims do not allow for a rigorous between-country comparison at this stage. Follow-up studies with much larger samples and from more countries in the region are needed. Still, Singaporean respondents did not diverge widely from other respondents in their responses.

Third and finally, the long-term effects of a degree program on deeply held attitudes and perceptions may only surface after a few years and a renewed experience of working in (the same) agency and sector. Perhaps a year is simply too short a period of time for any effects to really take hold. Currently, the study author is working on longitudinal data collection mechanisms that will allow collection of data for up to two years after students finish their program. Such data would better establish both the long-term effect of the degree as well as a potential "shock effect" of postgraduate employment (cf. Blau & Duncan, 1967; Kjeldsen & Jacobsen, 2013). In addition, such data enable empirical mapping of the frequency of postgraduate sector switching.

On a more general note, future studies should use with caution research concepts and instruments devised in Western contexts, such as public service motivation, to study Asian contexts and instead construct new variables, scales, and measures to study phenomena in this region.

CONCLUSION

This research commenced with the following question: How and why do pre-entry and post-entry personal values, job motivations, sector perceptions, and career preferences of MPA students in Asia differ? The data show that respondents enter their MPA program with a strong public-sector-related motivational profile, appreciation of personal values associated with public sector employment, and largely positive perceptions toward working life in the public sector. Around 70% have a professional background in the public sector, and around 67% prefer to go back to that sector after spending their year in graduate school. However, it is also clear MPA students are not uniform in their preferred sector of employment, making it difficult to label them "future government leaders."[1]

Intriguingly, by the time students finish their MPA program, their public-sector-related values, motivations, and perceptions have slightly decreased, and some students who initially preferred public sector employment switch to a preference for business. This finding may worry public policy schools engaged in debates on whether they do an adequate job of producing graduates with a strong public service ethos and a preference for public service. At the same time, students aspire to careers characterized by public value creation, just not necessarily through government employment. Lastly, there are stark differences between students who come from the public sector and those who don't: the former have a stronger overall public-sector-oriented profile. Clearly, socialization by sector trumps socialization by degree program.

In addition, many students are fairly critical of government's capacity to tackle social issues and pursue public values and its ability to enact meritocracy and incorruptibility. This finding in particular differentiates respondents from their Western peers and points at a somewhat cynical or perhaps merely realistic view of public sector capabilities in many Asian countries (cf. Pandey & Jain, 2014; Van der Wal, 2017b). If and how MPA enrollment corroborated or even enforced such views is an intriguing question that merits further study.

The following are four key takeaways on the effects of MPA education on the attitudes and perceptions of respondents in this study:

1. Professional MPA students in this study are critical of, or at least realistic about, the capabilities and abilities of public sectors in the region; yet, the majority of respondents still choose to go back to public sector employment when they graduate, driven by a mix of public service motivation and public sector motivation.

2. Taking a 1-year MPA program did not enhance values, motivations, and perceptions positively associated with the public sector or preference for public sector employment; on the contrary, most of these indicators decreased slightly.

3. Such decrease could even be observed among MPA students with a professional public sector past. Public servants, however, display significantly higher levels of public service motivation compared to MPA students with private sector and nonprofit backgrounds and a significantly higher preference for postgraduate public sector employment, pre-entry as well as post-entry.

4. Overall, the vast majority of respondents expressed great passion toward creating public value and impact through their careers; however, many of them simply do not view the public sector as the exclusive or even the best place to have such an impact. So, even though ethos is hardly reinforced nor government unanimously endorsed, many future MPA students will spend the rest of their working lives contributing to their societies by addressing key policy challenges in their respective countries.

NOTES

1 More generally, a one-on-one relationship between study and career choice (and the expected preferences of the [future] employer) is increasingly and repeatedly questioned by former students; see, for instance, the online forum "MPA vs. MBA" at http://forums.degreeinfo.com/archive/index.php/t-11244.html.

REFERENCES

Andersen, L. B., Pallesen, T., & Pedersen, L. H. (2011). Does ownership matter? Public service motivation among physiotherapists in the private and public sectors in Denmark. *Review of Public Personnel Administration, 31*(1), 10–27.

Bayer, A. E. (1980). Review of the book *Education's lasting influence on values,* by H. H. Hyman and C. R. Wright. *Journal of Higher Education, 51*(6), 693–695.

Bice, S., & Sullivan, H. (2014). Public policy studies and the "Asian century": New orientations, challenges, and opportunities. *Governance, 27,* 539–544.

Blau, P. M., & Duncan, O. D. (1967). *The American occupational structure.* New York: Wiley.

Bright, L. (2005). Public employees with high levels of public service motivation who are they, where are they, and what do they want? *Review of Public Personnel Administration, 25*(2), 138–154.

Briscoe, J. P., & Hall, D. T. (2006). The interplay of boundaryless and protean careers: Combinations and implications. *Journal of Vocational Behavior, 69*(1), 4–18.

Buelens, M., & van den Broeck, H. (2007). An analysis of differences in work motivation between public and private sector organizations. *Public Administration Review, 67*(1), 65–74.

Cable, D. M., & Parsons, C. K. (2001). Socialization tactics and person-organization fit. *Personnel Psychology, 54,* 1–23.

Camilleri, E. (2007). Antecedents affecting public service motivation. *Personnel Review, 36*(3), 356–377.

Chen, C-A., & Chen, D. J. (2016). *Does training enhance new hires' self-determination in public service? A quasi-experimental study.* Paper presented at the *Public Administration Review* 75th Anniversary International Conference, Guangzhou, China.

Chen, C-A., & Hsieh, C-W. (2015). Does pursuing external incentives compromise public service motivation? Comparing the effects of job security and high pay. *Public Management Review, 17*(8), 1190–1213.

Choo, J. (2014, February 1). The role of public policy schools. *Global-Is-Asian.* Retrieved from http://global-is-asian.nus.edu.sg/index.php/the-role-of-public-policy-schools.

Christensen, R. K., & Wright, B. E. (2011). The effects of public service motivation on job choice decisions: Disentangling the contributions of person-organization fit and person-job fit. *Journal of Public Administration Research and Theory, 21*(4), 723–743.

Christie, P. M. J., Kwon, I. G., Stoeberl, P. A., & Baumhart, R. (2003). A cross-cultural comparison of ethical attitudes of business managers: India, Korea and the United States. *Journal of Business Ethics, 46,* 263–287.

Creswell, J. W. (2003) *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Crewson, P. E. (1997). Public-service motivation: Building empirical evidence of incidence and effect. *Journal of public administration research and theory, 7*(4), 499–518.

De Cooman, R., De Gieter, S., Pepermans, R., Hermans, S., Du Bois, C., Caers, R., & Jegers, M. (2009). Person-organization fit: Testing socialization and attraction-selection-attrition hypotheses. *Journal of Vocational Behavior, 74*(1), 102–107.

de Graaf, G., & Van der Wal, Z. (2008). On value differences experienced by sector switchers. *Administration and Society, 40*(1), 79–103.

de Graaf, N. D., & de Graaf, P. M. (1996). De invloed van socialisatie op leefstijlen: Tellen restricties uit het verleden ook mee? In H. B. G. Ganzeboom & S. Lindenberg (Eds.), Verklarende sociologie: Opstellen voor Reinhard Wippler (pp. 329–341). Amsterdam: Thesis.

Edwards, J. T., Nalbandian, J., & Wedel, K. R. (1981). Individual values and professional education implications for practice and education. *Administration and Society, 13*(2), 123–143.

Egerton, M. (2002). Higher education and civic engagement. *British Journal of Sociology, 53*(4), 603–620.

Eliot & Associates (2005). How to conduct a focus group. Retrieved from https://assessment.trinity.duke.edu/documents/How_to_Conduct_a_Focus_Group.pdf.

Fan, M. (2007, May 29). In China, a state job still brings benefits and bragging rights. *Washington Post*, p. A7.

Fowler, F. J. (2002). *Survey research methods* (3rd ed.). London: Sage.

Gabris, G. T., & Davis, T. J. (2009, June 6–8). *Measuring public service motivation in MPA students: Does the construct influence student perception toward the application of management techniques and role behavior in the public sector?* Paper presented at the IPSM Conference, Bloomington, IN.

Grimmelikhuijsen, S. G., Jilke, S., Leth Olsen, A. & Tummers, L. G. (2016). Behavioral public administration: Combining insights from public administration and psychology. *Public Administration Review, 77*(1), 45–56.

Hansen, J. R. (2014). From public to private sector: Motives and explanations for sector switching. *Public Management Review, 16*(4), 590–607.

Hur, Y., & Hackbart, M. (2009). MPA vs. MPP: A distinction without a difference? *Journal of Public Affairs Education, 15*(4), 10–27.

Hyman, H. H., & Wright, C. R. (1979). *Education's lasting influence on values*. Chicago: University of Chicago Press.

Infeld, D. L., & Adams, W. C. (2011). MPA and MPP students: Twins, siblings, or distant cousins? *Journal of Public Affairs Education, 17*(2), 277–303.

Infeld, D. L., Adams, W. C., Qi, G., & Rosnah, N. (2010). Career values of public administration and public policy students in China, Malaysia and the United States. *International Journal of Public Administration, 3*, 800–815.

Infeld, D. L., Qi, G., Adams, W. C., & Lin, A. (2009, June 6–8). Work values and career choices of public administration and public policy students in the U.S. and China. Paper presented at the IPSM Conference, Bloomington, IN.

Johnson, McGinnis, J., & Ng, E. S. (2015). Money talks or millennials walk: The effect of compensation on nonprofit millennial workers sector-switching intentions. *Review of Public Personnel Administration, 36*(3), 283–305.

Karl, K. A., & Sutton, C. L. (1998). Job values in today's workfoce: A comparison of public and private sector employees. *Public Personnel Management, 27*(4), 515–527.

Kennedy, S. S., & Malatesta, D. (2010). Safeguarding the public trust: Can administrative ethics be taught? *Journal of Public Affairs Education, 16*(2), 161–180.

Khojasteh, M. (1993). Motivating the private vs. public sector managers. *Public Personnel Management, 22*(3), 391–401.

Kingston, P. W., Hubbard, R., Lapp, B., Schroeder, P., & Wilson, J. (2003). Why education matters. *Sociology of Education, 76*(1), 53–70.

Kjeldsen, A. M. (2012). Vocational study and public service motivation: Disentangling the socializing effects of higher education. *International Public Management Journal, 15*(4), 500–524.

Kjeldsen, A. M., & Hansen, J. R. (2016). Sector differences in the public service motivation-job satisfaction relationship: Exploring the role of organizational characteristics. *Review of Public Personnel Administration*. doi:10.1177/0734371X16631605.

Kjeldsen, A. M., & Jacobsen, C. B. (2013). Public service motivation and employment sector: Attraction or socialization? *Journal of Public Administration and Theory, 23*(4), 899–926.

Ko, K., & Jun, K. N. (2015). A comparative analysis of job motivation and career preference of Asian undergraduate students. *Public Personnel Management, 44*(2), 192–213.

Kristof-Brown, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology, 49*, 1–49.

Lewis, G. B., & Frank, S. A. (2002). Who wants to work for the government? *Public Administration Review, 62*(4), 395–404.

Liu, B., Hui, C., Hu, J., Yang, W., & Yu, X. (2011). How well can public service motivation connect with occupational intention? *International Review of Administrative Sciences*, *77*(1), 191–211.

Liu, B., & Perry, J. L. (2016). The psychological mechanisms of public service motivation: A two-wave examination. *ROPPA*, *36*(1), 4–30.

Liu, B., & Tang, T. L-P. (2011). Does the love of money moderate the relationship between public service motivation and job satisfaction? The case of Chinese professionals in the public sector. *Public Administration Review*, *71*(5), 718–727.

Lyons, S. T., Ng, E. S. W., & Schweitzer, L. (2012). Generational career shift: Millennials and the changing nature of careers in Canada. In E. S. W. Ng, S. T. Lyons, & L. Schweitzer (Eds.), *Managing the new workforce: International perspectives on the millennial generation* (pp. 64–85). Northampton, MA: Edward Elgar.

Lyons, S. T., Urick, M., Kuron, L., & Schweitzer, L. (2015). Generational differences in the workplace: There is complexity beyond the stereotypes. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, *8*(3), 346–356.

Mahbubani, K. (2008). *The new Asian hemisphere. The irresistible shift of global power to the East.* New York, NT: Public Affairs.

Moore, M. H. (1995). *Creating public value: Strategic management in government.* Cambridge, MA: Harvard University Press.

Morgan, D. L. (1988). *Focus groups as qualitative research.* Newbury Park, CA: Sage.

Moynihan, D. (2014, June 11). Why policy schools really matter. Retrieved from the Association for Public Policy Analysis and Management: http://www.appam.org/why-policy-schools-really-matter.

Moynihan, D., & Pandey, S. (2007). The role of organizations in fostering public service motivation. *Public Administration Review*, *67*(1), 40–53.

Newcomer, K. E., & Allen, H. (2010). Public service education: Adding value in the public interest. *Journal of Public Affairs Education*, *16*(2), 207–229.

Ng, E. S. W., Gossett, C. W., Chinyoka, S., & Obasi, I. (2016). Public vs. private sector management: An exploratory study of career choice among graduate management students in Botswana. *Personnel Review*, *45*(6): 1367-1385.

Ng, E. S. W., Lyons, S. T., & Schweitzer, L. (Eds.). (2012). *Managing the new workforce: International perspectives on the millennial generation.* Northampton, MA: Edward Elgar.

Norris, P. (2003). Is there still a public service ethos? Work values, experience, and job satisfaction among government workers. In J. D. Donahue & J. S. Nye Jr. (Eds.), *For the people: Can we fix public service?* (pp. 72–89). Washington, DC: Brookings Institution Press.

Pandey, S., & Jain, N. (2014). Relation between personal values and corruption permissiveness of government servants in India and the moderating role of dissatisfaction with the financial condition of the family. *International Review of Public Administration*, *19*(2), 126–142.

Parry, E., Unite, J., Chuddzikowski, K., Briscoe, J. P., & Shen, Y. (2012). Career success in the younger generation. In E. S. W. Ng, S. T. Lyons, & L. Schweitzer (Eds.), *Managing the new workforce: International perspectives on the millennial generation* (pp. 242–261). Northampton, MA: Edward Elgar.

Pedersen, L. H. (2014). Committed to the public interest? Motivation and behavioral outcomes among local councillors. *Public Administration*, *92*(4), 886–901.

Perry, J. L. (1996). Measuring public service motivation: An assessment of construct reliability and validity. *Journal of Public Administration Research and Theory*, 6(1), 5–22.

Perry, J. L., & Hondeghem, A. (Eds.) (2008). *Motivation in public management: The call of public service.* Oxford, UK: Oxford University Press.

Perry, J. L., & Wise, L. R. 1990. The motivational bases of public service. *Public Administration Review*, *50*(3), 367–373.

Piereson, J., & Schaefer Riley, N. (2013, December 6). The problem with public policy schools. *The Washington Post.*

Quah, J. S. T. (2011). *Curbing corruption in Asia: An impossible dream?* New York, NY: Emerald Publishing.

Redman-Simmons, L. M. (2008, September). *Graduate students' attraction to government public service professions.* Paper presented at the Minnowbrook 3 Conference, Lake Placid, NY.

Ritz, A. (2015). Public service motivation and politics: Behavioural consequences among local councilors in Switzerland. *Public Administration, 93*(4), 1121–1137.

Ritz, A., Brewer, G. A., & Neumann, O. (2016). Public service motivation: A systematic literature review and outlook. *Public Administration Review. 76*(3) 414–426. doi:10.1111/puar.12505.

Rose, R. P. (2013). Preferences for careers in public work: Examining the government-nonprofit divide among undergraduates through public service motivation. *American Review of Public Administration, 43*(4), 416–437.

Rowe, G., & Wright, G. (1999). The Delphi technique as a forecasting tool: Issues and analysis. *International Journal of Forecasting, 15*(4), 351–381.

Schultz, D. (2016). Public affairs education for a new generation. *Journal of Public Affairs Education, 22*(1), 7–10.

Stackman, R. W., Connor, P. E., & Becker, B. W. (2006). Sectoral ethos: An comparison of the personal values systems of female and male managers in the public and private sectors. *Journal of Public Administration Research and Theory, 16*(4), 577–597.

Stuteville, R., & DiPadova-Stocks, L. N. (2011). Advancing and assessing public service values in professional programs: The case of the Hauptmann School's Master of Public Affairs Program. *Journal of Public Affairs Education, 17*(4), 585–610.

Su, X., & Bozeman, B. (2009). Dynamics of sector switching: Hazard models predicting changes from private sector jobs to public and nonprofit sector jobs. *Public Administration Review, 69*(6), 1106–1114.

Taylor, J. (2010). Graduate recruitment in the Australian public sector. *Public Management Review, 12*(6), 789–809.

Taylor, J., & Beh, L. S. (2013). The impact of pay-for-performance on the performance of Australian and Malaysian government employees. *Public Management Review, 15*(8), 1090–1115.

Twenge, J. M., & Kasser, T. (2013). Generational changes in materialism and work centrality, 1976–2007 associations with temporal changes in societal insecurity and materialistic role modeling. *Personality and Social Psychology Bulletin, 39*(7), 883–897.

Van der Wal, Z. (2011). The content and context of organizational ethics. *Public Administration, 89*(2), 644–660.

Van der Wal, Z. (2013). Mandarins vs. Machiavellians? On differences between work motivations of political and administrative elites. *Public Administration Review, 73*(5), 749–759.

Van der Wal, Z. (2015). All quiet on the non-Western front? A systematic review of public service motivation scholarship in non-Western contexts. *Asia Pacific Journal of Public Administration, 37*(2), 69–86.

Van der Wal, Z. (2017a). Future business and government leaders of Asia: How do they differ and what makes them tick? *Journal of Business Ethics, 142*(3), 603–616.

Van der Wal, Z. (2017b). *The 21st century public manager.* London: Palgrave Macmillan.

Van der Wal, Z., & de Graaf, G. (2007). The bureaucrat, the businessperson, and the perception of each other's values: Empirical notions on the other sector's most important organizational values. *Public Integrity, 9*(1), 45–62.

Van der Wal, Z., & Oosterbaan, A. (2010). Bestuur of Bedrijf: Waar willen studenten werken en waarom? *Bestuurskunde, 19*(2), 58–69.

Van der Wal, Z., & Oosterbaan, A. (2013). Government or business? Identifying determinants of MPA and MBA students' career preferences. *Public Personnel Management, 42*(2), 239–258.

Van der Wal, Z., & Yang, L. (2015). Confucius meets Weber or "managerialism takes all"? comparing civil servant values in China and the Netherlands. *International Public Management Journal, 18*(3), 411–436.

Van Gelder, M., & Dougherty, G. W., Jr. (2012). Do students with experience know that much more? Assessing in-service and pre-service differences in public administration students. *Journal of Public Affairs Education, 18*(2), 349–374.

van Hooft, E. A. J. (2004). *Job seeking as planned behavior: In search of group differences.* Unpublished doctoral dissertation, VU Amsterdam, Netherlands.

van Steden, R., Van der Wal, Z., & Lasthuizen, K. M. (2015). Overlapping values, mutual prejudices: Empirical research into the ethos of police officers

and private security guards. *Administration and Society,
47*(3), 220–243.

Vandenabeele, W. (2008). Government calling: Public
service motivation as an element in selecting govern-
ment as an employer of choice. *Public Administration,
86*(4), 1089–1105.

Vandenabeele, W. (2009). The mediating effect of job
satisfaction and organizational commitment on self-
reported performance. *International Review of
Administrative Sciences, 75*, 11–34.

Vielmetter, G., & Sell, Y. (2014). Leadership 2030:
The six megatrends you need to understand to
lead your company into the future. New York, NY:
AMACOM.

Waldner, C. (2012). Do public and private recruiters
look for different employees? The role of public
service motivation. *International Journal of Public
Administration, 35*(1), 70–79.

Woolcock, M. (2007). Higher education, policy schools,
and development studies: What should master's de-
gree students be taught? *Journal of International
Development, 19*(1), 55–73.

Wright, B., & Kim, S. (2004). Participation's influence
on job satisfaction. *Review of Public Personnel
Administration, 24*(1): 18–40.

Xu, Z. (2006). China: Public servant jobs all the rage.
Ohmy News. Retrieved February 17, 2010, from
http://www.english.ohmynews.com/articleview/
article_view.asp?no=331467&rel_no=1.

ABOUT THE AUTHOR

Zeger Van der Wal is an associate professor at the
Lee Kuan Yew School of Public Policy, National
University of Singapore. He leads the school's
research, teaching, and executive education
efforts in the areas of public management and
leadership, focusing on issues of good govern-
ance, ethics, and work motivation. He has
authored or coauthored more than 90 publica-
tions, including books and journal, magazine,
and newspaper articles.

APPENDIX

Descriptive Statistics of all Items

Work motivations	T = 0				T = 1			
	Min.	Max.	Mean	SD	Min.	Max.	Mean	SD
Being successful	1	5	4.31	0.712	1	5	4.32	0.694
Contributing to society	1	5	4.60	0.553	1	5	4.49	0.583
A high salary	1	5	3.80	0.786	1	5	3.96	0.588
Being service-oriented to others	1	5	4.03	0.822	1	5	4.01	0.840
Intellectually stimulating work environment	1	5	4.56	0.558	1	5	4.57	0.559
Total commitment to my employer	1	5	3.91	0.902	1	5	3.85	0.859
Balancing work and family obligations	1	5	4.58	0.674	1	5	4.47	0.669
Meaningful public service is very important to me	1	5	4.55	0.629	1	5	4.61	0.552
My career will be more important after graduation	1	5	2.40	0.986	1	5	2.57	1.107
Welfare of others is important to me	1	5	4.20	0.687	1	5	4.17	0.686
I like to create innovative products and services	1	5	4.12	0.794	1	5	4.27	0.678
It's best when the public sector is responsible for public goods	1	5	4.01	0.979	1	5	3.87	0.958
It's best when the market is given maximum freedom	1	5	2.99	0.984	1	5	2.90	0.979

Personal values	T = 0				T = 1			
	Min.	Max.	Mean	SD	Min.	Max.	Mean	SD
Fun	1	10	7.38	2.074	1	10	7.39	1.989
Achievement	1	10	8.34	1.734	1	10	8.63	1.627
Equality	2	10	8.41	1.645	1	10	7.78	2.431
Peace	2	10	8.54	1.628	1	10	7.90	2.132
Prosperity	1	10	7.83	1.715	1	10	7.71	1.827
Change	1	10	7.29	1.978	1	10	7.30	2.089
Power	1	10	6.72	2.343	1	10	6.99	2.068
Self-sacrifice	1	10	6.59	2.106	1	10	6.40	2.383
Justice	1	10	8.33	2.141	1	10	8.14	2.009
Charity	1	10	7.09	2.174	1	10	6.42	2.235

APPENDIX

Descriptive Statistics of all Items (continued)

Sector perceptions	T = 0				T = 1			
	Min.	Max.	Mean	SD	Min.	Max.	Mean	SD
"In general, government is very bureaucratic."	1	5	4.07	0.718	1	5	4.13	0.801
"In general, business works much more efficiently and effectively than government."	1	5	3.58	0.929	1	5	3.71	0.967
"When you are working in the business sector, you are only concerned with your own benefits and that of your company."	1	5	3.42	1.130	1	5	3.55	1.073
"Those choosing a career in government are often less ambitious than those choosing a career in business."	1	5	2.54	1.045	1	5	2.73	1.149
"In the business sector it is easier to get promoted to a better position."	1	5	3.19	1.029	1	5	3.20	0.997
"In the business sector, there is a lot of competitiveness between colleagues."	1	5	4.02	0.725	1	5	3.96	0.721
"When you work for government, you are often caught in a web of political interests."	1	5	3.91	0.919	1	5	4.02	0.798
"When you work for government, you can contribute positively to society."	1	5	4.07	0.824	1	5	4.02	0.766
"Government is much friendlier working environment than business."	1	5	3.13	0.914	1	5	3.12	0.942
"In the business sector, people often play 'dirty games' to maximize profit."	1	5	3.48	0.951	1	5	3.49	0.892

Integrating Qualitative Data Analysis Software into Doctoral Public Administration Education

Alka Sapat
Florida Atlantic University

Lorena Schwartz
Florida Atlantic University

Ann-Margaret Esnard
Georgia State University

Emefa Sewordor
Georgia State University

ABSTRACT

The quality of doctoral research has long been debated in the field of public administration, along with discussions about the need for improved methodological preparation. What is lacking, however, are discussions in public administration pedagogy about conceptual understandings regarding the use of computer-aided qualitative data analysis software (CAQDAS), pedagogical strategies, and student and faculty perspectives and experiences about the use of such software programs. This article attempts to fill this gap by focusing on ways in which CAQDAS can be integrated into doctoral public administration education, the possibilities and limitations of such software, and strategies that faculty and students can use in teaching and employing such software. We also draw on lessons learned from a collaborative research project that used a qualitative data analysis software program.

A number of public administration scholars have long been concerned about the quality of doctoral dissertation research in the field (see Cleary, 1992, 2000; McCurdy & Cleary, 1984; Perry & Kraemer, 1986; Stallings & Ferris, 1988; White, 1986a, 1986b). Methodological pluralism has been one of the features of this discussion, along with a call for increasing emphasis on qualitative research methods in public administration doctoral curricula. Recent research on public administration doctoral education shows that this call has been heard to a large extent. Stout (2013, p. 22) found that 51% of public administration doctoral programs offered a specific qualitative methods course in 2004–2005; that number rose to 71% in 2011–2012. While this increase bodes well for doctoral dissertation outcomes, there is still a lacuna of research on course content and ways in which knowledge and new developments in the field of qualitative research are being imparted to students.

This topic is particularly important given that past research has shown that case studies are very popular and that much research is inductive and qualitative in nature (Houston & Delevan, 1990; White, 1986a). As Stout (2013) notes:

> There is a strong preference for qualitative research in public administration, with the case study being a popular approach. This is quite common among practice fields and compelling arguments have been made for the validity and usefulness of case study, as well as other interpretive and critical approaches to naturalistic inquiry. However, the quality of research has been found lacking based on a diverse set of assessments and criteria. To move these research designs from mere description to analysis or diagnosis—to build theory, not just illustrate practice—qualitative research methods need improvement. (p. 21)

Improving qualitative research necessitates that public administration pedagogy stay abreast of key developments. One such key development in the field of qualitative research is the growing availability and use of computer-aided qualitative data analysis software (CAQDAS). Understanding when, why, and how to use such software would help prepare doctoral students for its appropriate use. However, despite the increasing use of CAQDAS by researchers and scholars of public policy and administration, deliberation about doctoral education and training in the use of appropriate qualitative data analysis programs lags behind. Apart from manuals or technical help provided by the producers of these software programs, discussions in public administration pedagogy about how to effectively prepare students to use CAQDAS is lacking.

Also missing are the student perspectives and experiences about the use of such programs and ways in which to learn them. This article attempts to fill this gap by focusing on ways in which CAQDAS can be integrated into doctoral public administration curricula, drawing on extant research on utilizing lessons learned from a colla-borative research project. We also incorporate student and faculty perspectives from that research project. At the time that this article was written, two of the co-authors were doctoral students in public administration and public management programs, and they have incorporated their experiences and insights.

The central questions we seek to answer are:

1. In what ways can knowledge of qualitative data analysis software be integrated into doctoral public administration education?

2. What are some strategies that faculty and doctoral students can use to effectively learn and incorporate CAQDAS?

To address these questions, we begin by briefly discussing CAQDAS and summarizing the different types of software available. Since there is considerable debate in the field about its usage, we then address how this debate can be presented to students as part of a structured course. We next discuss strategies for integrating knowledge of CAQDAS into doctoral classrooms and projects, focusing on the perspectives of both the instructor and the student. We conclude with a discussion of methodology and the appropriateness of methodological techniques in public administration doctoral education.

TYPES OF COMPUTER-AIDED QUALITATIVE DATA ANALYSIS SOFTWARE

As Rademaker, Grace, and Curda (2012) note, qualitative research has a long tradition, beginning in fields such as anthropology, with work by scholars such as "Boas, 1858–1942; Malinowski, 1884–1942; Mead, 1901–1978; and others" (p. 2). In contrast, the use of computers to aid traditional data analysis methods such as coding,[1] sorting, taking field notes, and writing memos, is relatively new; some programs were available and accessible to scholars in the 1980s, but options grew by the 1990s.

When CAQDAS was originally introduced to qualitative researchers, Weitzman and Miles (1995) developed a typology of these newly developing software programs to assist researchers in choosing the best program to meet their

research needs. Weitzman and Miles's typology divided the software programs into three main categories: (1) text retrievers/content analyzers that basically provide tools for the analysis of text and language, which include having a built-in thesaurus; (2) code and retrieve programs that let researchers code and retrieve sections of text, identify variables and topics for survey research, assist in identifying themes that fit within a range of issues and fields, and can be integrated into a variety of content analysis tools; and (3) code-based theory builders that allow researchers to apply thematic codes to data, which simplifies the writing and interpretation of that data and allows researchers to reduce that data along thematic lines by merging variables or concepts into higher-order themes (Lewins & Silver, 2009).[2] Today's software has muddled the distinction between the second and third categories (Lewins & Silver, 2009). Many software programs listed as code and retrieve programs are also listed as code-based theory builders. However, a variety of software programs are available in these three categories that serve the purpose of making a researcher's work easier as well as provide a means of showing the researcher's analysis more effectively (Lewins & Silver, 2009). What these software programs do not provide researchers is their "methodological or research framework" (Lewins & Silver, 2009, p. 3). Based on our research, some of the most popular CAQDAS programs (by type) are listed in Table 1.

APPROPRIATE APPLICATIONS OF QUALITATIVE SOFTWARE: SHOULD CAQDAS BE USED?

To integrate qualitative software into doctoral student education, one of the first issues to consider is its appropriate place and value for pedagogy and research. For qualitative researchers, the technological debate has long existed over issues related to recording interviews with tape recorders during field studies (Fielding & Lee, 1998; Gibbs, Friese, & Mangabeira, 2002; Weitzman & Miles, 1995) and the use of manual or computer-assisted methods for recording interviews (Welsh, 2002). These recordings distanced the researcher from the data because

instead of a researcher making handwritten notes during interviews, a typist or secretary was transcribing the recordings (Gibbs et al., 2002). However, the verbatim transcript gave the researcher the ability to think about and analyze the data more closely, to determine whether it supported his/her various analytic interpretations of the data. In addition, these verbatim transcripts provided an accurate record of interviews, which opened the door to other types of data analyses that required an accurate record to be kept (Gibbs et al., 2002).

The growth of qualitative software programs led to further debate among qualitative scholars about the advantages and disadvantages of using CAQDAS (Hutchison, Johnston, & Breckon, 2010; John & Johnson, 2000; Johnston, 2006; Richards, 1998; Richards & Richards, 1995; Weitzman, 2000). Some feared that CAQDAS would lead researchers to undertake analysis without comprehending the broader implications of techniques (Richards, 1998; Weitzman, 2000). Other concerns related to losing "closeness to the data" and not being able to maintain knowledge about the content (Fielding & Lee, 1998; Mangabeira, 1996; Richards, 1998; Weitzman & Miles, 1995). Overall, scholars worried that CAQDAS would become so automated and technical that it would not be able to reflect the researcher's interpretation of the human stories that were of primary concern (Kelle, 1995).

Nevertheless, there was growing recognition that CAQDAS is just one tool in a qualitative researcher's toolbox and that essential tasks by researchers, such as the ability to work through the data and develop evolving analyses, were still needed (Baugh, Hallcom, & Harris, 2010). As noted by Gibbs et al. (2002),

> the use of new technology still raises issues like what should be analyzed, how it should be analyzed and in what ways the knowledge and understanding gained are different and more or less well founded than those gained in more traditional ways. (n.p.)

TABLE 1.
Examples of Qualitative Software Programs

Software (year developed)	Brief description	Website
Text Retrievers/Content Analyzers		
TAMS Analyzer, or Text Analysis Markup System for Macintosh systems (Mac OSX) (2002)	• Allows researchers to assign ethnographic codes to data • Selected text can then be extracted, analyzed, and sorted through; data can be recoded, run, and refined, allowing researchers to generate reports about the coded data	https://www.sourceforge.net/projects/tamsys
Code and Retrieve Software		
Event Structure Analysis (ESA) and Ethno 2 (1988)	• Used in the analysis of sequential events to see how these events are logically connected using diagram testing • A composition analysis provides how people, things, and actions are linked by the events	http://www.indiana.edu/~socpsy/ESA
Theory-building Software		
AQUAD (1987)	• Looks for segments and allows researchers to label segments in texts, audios, photos, or videos • Researchers can write memos or insert annotations that link texts, audios, photos, or videos and word analysis to selected criteria • Segments can be retrieved and tables constructed using criteria	http://www.aquad.de/en
ATLAS.ti (1993)	• Popular software used for performing grounded theory and content analysis by letting researchers graphically examine the hierarchical and relational connections between the researcher's codes, documents, and memos • Has several options for attaching memos and comments to selected text segments, documents, and codes	http://www.atlasti.com/de
Dedoose (NA) (Web-based tool)	• Allows researchers to upload text, video, or audio • Color-coded highlighting and various user-defined categories • Imports and integrates qualitative and quantitative data from Word or Excel files and other formats • Provides for interrater reliability testing; Dedoose is only available through a monthly/annual subscription	http://www.dedoose.com
Hyper Research v. 2.6 (1997)	• Allows for the coding of any piece of data—text, image, audio, video, or PDF—and for automatic coding using keywords • Memos can be simultaneously created with codes and be included in reports or saved as separate documents • Allows researchers to summarize codes quantitatively or through models and allows complex descriptions of code relationships • Researchers can analyze and create reports based on selected codes so that subset studies can be created from the data saved in the program	http://www.researchware.com

TABLE 1.
Examples of Qualitative Software Programs (continued)

Software (year developed)	Brief description	Website
Theory-building Software (continued)		
MAXqda (1989)	• Allows researchers to import data from focus groups, interviews, online surveys, audio and video files, or social media • Material can be organized in groups and then linked to each other and shared among team members for comment • Coding can be done by dragging and dropping or done automatically • Extended transcription functions to adapt speed/sound volume • Project files can be exported into Excel/Word/images/other formats	http://www.maxqda.com
NVivo (1999) (Originally called NUD*IST)	• Helps organize and analyze non-numerical or unstructured data from a multitude of formats (rich text, video, Word, PDF, spreadsheets, Web, and social media) for detailed qualitative analysis and modeling • Search engine and query functions allow researchers to test theories, identify trends, and cross-examine information • Allows for network and organizational analysis, evidence-based research, discourse analysis, grounded theory, ethnography, phenomenology, and mixed methods research • Data can be exported and imported with applications like Excel, Word, SPSS, Survey Monkey, and EndNote	http://www.qsrinternational.com/nvivo-product
QDA Miner (2005)	• Offers on-screen annotation of texts and images; code splitting, merging, searching and replacing, or virtual grouping of codes • Allows memos/hyperlinks to other coded segments, files/websites • Geotagging and time-tagging geographic and time information to text segments or graphic areas, to create dynamic maps • Ability to analyze relationships both qualitatively and quantitatively by using numerical or categorical properties • The merging of multi-user input and checking interrater agreement through Free Marginal, Scott's pi, and Krippendorff's alpha, and creating a report and log of entries by multiple coders • Creation of a command log with an audit trail for transparency	https://www.provalisresearch.com/products/qualitative-data-analysis-software
Qualrus (2002)	• Can analyze text, web pages, images, audio and video sources • Uses intelligent coding advice that learns a researcher's coding tendencies; these code suggestions provide more reliability • Claims more reliable analysis by providing an objective standard to minimize individual coder differences and coding drift • Can code descriptions and values and attach memos to code segments. Frequencies and comparisons of occurrences of codes possible. • Reporting functions to incorporate all summaries and displays	http://www.qualrus.com

Other scholars have pointed out that when a researcher is traveling through the "early stages of annotating, coding and linking to more explicitly analytical stages," both traditional qualitative research and CAQDAS are equally critical and demanding (Bulloch & Rivers, 2011, p. 2), no matter one's position on the use of CAQDAS.

Research frequently involves a search for meaning, and researchers often attempt to make meaning from the data collected (Yanow & Schwartz-Shea, 2014). Qualitative research data such as interview transcripts, notes, and summaries may produce a large volume of text, depending on the size of the project. How the researcher decides to handle this text can also determine how "disorganized and messy" that data will become (Lewins, 2001, p. 303). Researchers often choose to use particular methodologies simply to improve efficient data management through the use of various CAQDAS software platforms (Cousins & McIntosh, 2005). Many CAQDAS packages offer similar tools, as illustrated in Table 1, but how they provide those tools varies (Lewins, 2001). Scholars review the data they have collected to determine the best method of using and presenting that data, whether in a peer-reviewed article, at a conference, or for a government agency. These scholars are facing the same questions: what understandings from the data need to be included and what is the best way to present these data? Related issues are concerns about validity, reliability, reflexivity, and the legitimacy of claims, all of which need to be presented and discussed with students in deliberations about the use of CAQDAS. Since these are the key issues that have been raised in extant research with respect to CAQDAS, they are discussed in more detail below.

Validity, Reliability, Trustworthiness, and Rigor
Scholars have debated validity and reliability in qualitative research for many years (Welsh, 2002). Researchers often use CAQDAS for organizing, categorizing, and searching data, especially if a data set involves large amounts of text (MacMillan, 2005). However, critics counter that terms such as *validity* and *reliability* may be misapplied in qualitative research and that more

appropriate terms are the *trustworthiness* and *rigor*, as well as quality of the data; but what remains essential to all is that the research is performed in a "thorough and transparent manner" (MacMillan, 2005, n.p.). As noted by Rademaker et al. (2012, p. 3), CAQDAS assists researchers in ensuring that their work is trustworthy and verifiable, not because the software creates rigorous analysis, but because the software is able to organize data in a manner that allows the researcher to link the data to various interpretations and themes. Thus, the methods chosen by a researcher to represent and analyze data are significant. Data management features of CAQDAS typically allow researchers to work with large data sets without diminishing complexities of the data, while still developing applicable analyses. However, some critics note that large data sets may cause researchers to emphasize the scale of their data rather than the robustness of their analysis (Seidel, 1991; Taylor, Lewins, & Gibbs, 2005).

In terms of its advantages, some scholars believe CAQDAS provides a higher amount of trustworthiness, rigor, and validity to data analysis because of its capacity to simplify the coding and analysis of data, which reduces researcher bias (Goble, Austin, Larsen, Kreitzer & Brintnell, 2012, n.p.). The reason researchers often give for using CAQDAS is the ability to provide proof of "the analytic process" through its notes and memo capabilities that are directly linked to the data (Goble et al., 2012, n.p.). These note and memo trails assist in achieving transparency and rigor in researchers' methodological choices and hold them accountable, while still allowing for innovative and effective use of data (Goble et al., 2012, n.p.). Similarly, Ryan (2009) notes that "software programs … enable researchers to make visible their methodological processes for a more 'trustworthy' study" (p. 158). It is assumed that researchers will choose their methodology because of fit with data and because it serves the means necessary to impart knowledge to others in their peer community (Prasad, 2005; Yanow & Schwartz-Shea, 2014).

What is important to stress to students is that the researcher is the ultimate instrument being

used in the research, as she or he has the most influence on the outcome (Miles, Huberman, & Saldaña, 2014). It may also be important to note that whether we use "thick descriptions," as Geertz (1973, 2000) identified, that are rich in context (Miles et al., 2014) or whether we decide to use quantifiable methods that show that there has been a significant correlation between *x* and *y*, we must provide a good, logical rationale for our choice and why our method is the best for the type of information we are seeking to demonstrate. Students need to be cognizant that the goal of research is to obtain a perspective of the context being studied, which can provide a comprehensive, wide-ranging, and consistent review of that material. This allows researchers to capture deeper understandings of the material being studied and in the long run be able to more precisely justify or support their interpretation (Miles et al., 2014).

Reflexivity
Reflexivity is another important issue that needs to be discussed while learning and using qualitative software. As noted by Yannow and Schwartz-Shea (2014), the knowledge that a researcher presents can be instrumental or reflexive. Woods, Macklin, and Lewis (2016) define reflexivity as a "researcher's self-awareness and understanding of what they bring to the research act: their capabilities, knowledge, experience, values, hopes, fears, as well as their epistemological and ontological assumptions" (p. 387). Scholars worry that researchers are choosing how they approach their research design, goals, and even their outcomes based on the types of software that may be available, or that they may prefer, or that they may be able to operate. Thus, reflexivity requires that researchers using CAQDAS acknowledge their awareness that the software has an impact on both their judgment and their actions (p. 387). CAQDAS may lead some researchers to use software to enhance reflexivity; on the other hand, it may also lead researchers to choose manual coding techniques rather than confront the learning curves and other limitations of CAQDAS (p. 397).

To use CAQDAS program features to enhance a researcher's reflexivity, Woods et al. (2016, p. 397) recommend that researchers document and monitor their processes by doing the following: (1) explaining their logic and tracking their reflexive thought in journals or logs by using timely memos; (2) recording their thoughts relating to their ideas and data; and (3) placing explanations regarding their analytical reasoning in memo sections next to coded text. Students should also note that it is nearly impossible without a great deal of investigation, research, respect, and critical theory to capture the importance of various cultural differences, symbolic meanings, hidden agendas, unspoken words, and unwritten words that a researcher collects in preparation of her or his research (Altheide, 1999). The richness of experience is what makes the review of documents, or films, or interviews of humans so difficult. The method of analysis becomes critical in determining how a researcher will present the data, and

> the challenge for the CAQDAS community…is to contextualise feedback within methodological orientations and translate this into software functionality. If both communities rise to these challenges, it should become clearer that CAQDAS packages can play a significant role in the furthering of social scientific knowledge. (Bulloch & Rivers, 2011, p. 2)

Thus, CAQDAS can support a researcher's reflexive actions, but to bring that about, researchers need to do the following: (1) pay attention to all data, including data that may be "inconvenient or otherwise not come to our attention" (Becker, 1998, p. 85); (2) be hyper-critical of their work and themselves (Rubin & Rubin, 1995, p. 227); and (3) consciously decide to use the tools available in these programs, such as memos (Woods et al., 2016, p. 397).

Advantages and Disadvantages of CAQDAS
In addition to the key concerns discussed above, the use of CAQDAS has been seen as useful and has been critiqued in a number of other ways. Given the rich debate that prevails regarding

TABLE 2.
Advantages of Using CAQDAS

Organization and Analysis

Data management & organization	• Assists in recording, storing, sorting, managing, and interpreting data, with features such as indexing all material related to a specific code contained in the data (Carcary, 2011; Fielding, 2000; Leech & Onwuegbuzie, 2007)
	• Allows researchers to sort and pick relevant material (Leech & Onwuegbuzie, 2007)
	• Enables graphical representations of data, which helps understand the data, analysis, and interpretation proposed by the researcher (Rademaker et al., 2012)
Tools & features of programs assist in coding, categorizing, analysis, & report writing	• Provides content search tools, linking tools, coding tools, query tools, writing and annotation tools, and mapping and networking tools (Carcary, 2011)
	• Significantly reduces transcription time by coding data in audio format, which can be ordered into themes or codes (Gibson, Callery, Campbell, Hall, & Richards, 2005)
	• Hypertext links can be used to navigate between codes and quotations within audio and video links and provide links to audio and video clips in final reports (Gibson et al., 2005)
	• Provides the ability to work with nontextual data such as pictures, video, and audio and assists in organizing, categorizing, and searching data, especially large data sets (Carcary, 2011)
	• Can directly import text into CAQDAS programs and export links into written reports, which enables the analysis and write-up of research findings early in the research process; this results in the researcher becoming closer to his or her data (Carcary, 2011)

Quality of the Research

Improves reliability, trustworthiness, & transparency	• May improve trustworthiness and confirmability, as it allows others to see how researchers have linked the data to various interpretations and themes (Rademaker et al., 2012)
	• Enhances reliability, as other researchers can verify the researcher's interpretations and trace a researcher's logic through her/his work (Carcary, 2011)
	• Enhances transparency when the researcher's ideas are documented and can be traced back
Reflexivity & rigor	• Enables more rigorous analysis by allowing researchers to try out and broaden coding categories without the fear that original categories will be lost; this allows for a rigorous analysis of the data (Rademaker et al., 2012)
	• Improves internal validity and reflexivity because CAQDAS assists researchers to continually reflect on their data during the coding process, to determine whether the coding is leading to the intended goals sought by the researcher; this process enhances the adoption of a constant comparative method (Carcary, 2011)
Auditability* & legitimacy	• Enables auditability, which can provide "evidentiary quality" often lacking in manually conducted research (Goble et al., 2012)
	• Ensures greater rigor and validity because of ability to simplify the coding and analysis of data, which reduces researcher bias (Goble et al., 2012)

Auditability is basically *replicability*, as the term is known in quantitative research, and introduces an identifiable process (Goble et al., 2012) that makes it appear more "scientific" and "legitimate."

TABLE 2.
Advantages of Using CAQDAS (continued)

Other Advantages

Facilitates group research	• Assists diverse scholars to collaborate in research and maintains accountability through group coding; reviewing through a group/team approach allows the team/group to learn and familiarize themselves with data (Rademaker et al., 2012)
	• Assists multiple authors to understand multiple perspectives (Rademaker et al., 2012); multiple coders can strengthen the trustworthiness of the findings via investigatory triangulation (Leech & Onwuegbuzie, 2007)
Applicability & versatility	• Text can be easily coded into new emergent concepts, categories, or themes (Leech & Onwuegbuzie, 2007, p. 578; MacMillan, 2005); can include social media and Web-based data
Allows for the comparison of large data sets	• Enables researchers to handle large volumes of data associated with meta-analyses or to maintain differently coded versions of a single data set, with a view to comparing and assessing different coding schemes (Fielding, 2000)

the use of CAQDAS, it is important to present students with its advantages and disadvantages for research. Table 2 lists some key advantages of using CAQDAS that have been discussed in extant research, grouped into three categories: organization and analysis, quality of the research, and other advantages.

While these advantages have led to the growing use of CAQDAS and the introduction of new software (shown in Table 1), there are some scholars who have critiqued this trend (Fielding, 2000; Goble et al., 2012; Rademaker et al., 2012). To assist students and researchers in deciding whether to employ CAQDAS in their research, Table 3 summarizes some disadvantages, grouped into three categories: concerns about coding, ontological and epistemological concerns and applicability, and other disadvantages.

If instructors wish to provide a graphical comparison of these key advantages and disadvantages, they can use Figure 1. However, in understanding these benefits and drawbacks, it is important to point out to students that a simplistic one-to one correspondence and comparison of advantages and disadvantages of using CAQDAS cannot be made.

INTEGRATING CAQDAS INTO PUBLIC ADMINISTRATION DOCTORAL PROGRAMS

If CAQDAS continues to be a key part of qualitative research, it is important that doctoral students in public administration learn to use the software correctly. As noted by Davis and Meyer (2009), a common misperception about qualitative software is that the program will analyze the data for the researcher (as quantitative software might). They point out that since it is the researcher who decides which features and codes to use and when, the researcher cannot be separated from the program; thus, they argue that it is essential to learn the software before using it. We contend that to effectively integrate CAQDAS into doctoral programs, faculty need to consider strategies both within and outside the classroom. We also note that there are strategies that doctoral students themselves could employ and need to consider with respect to qualitative software. With these aims in mind, we categorize two sets of strategies and considerations for effective integration: the first are those that faculty can use within and outside the classroom; the second are those that doctoral students can use in their own dissertation research or in team research projects with faculty and other students.
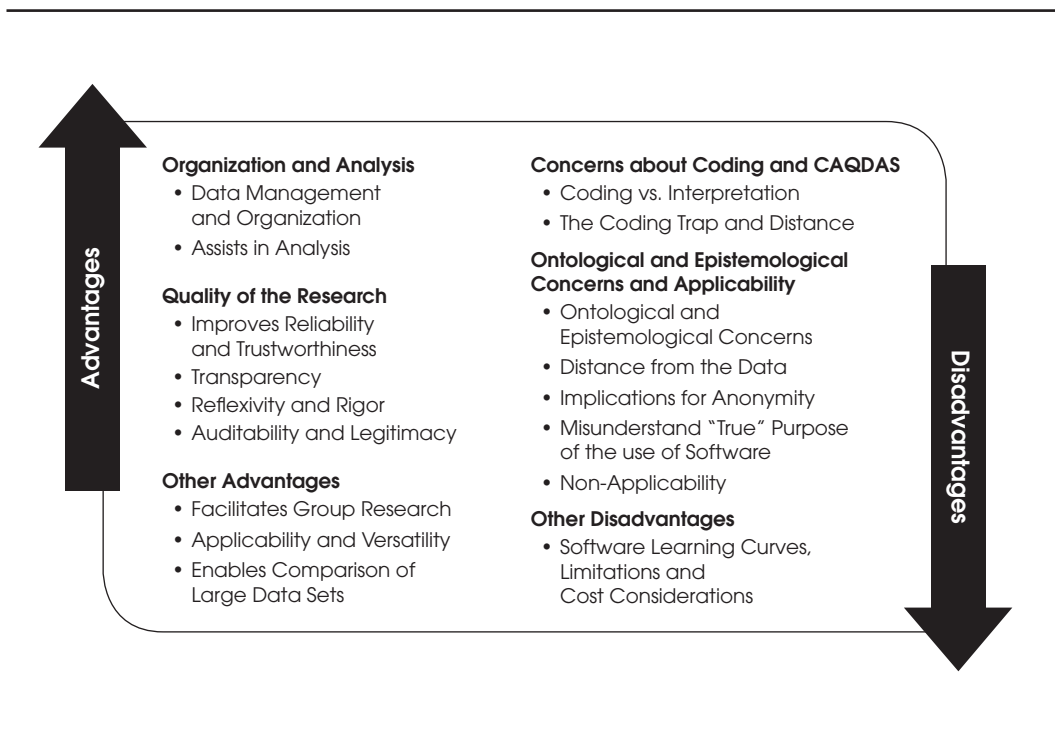
TABLE 3.
Disadvantages of Using CAQDAS

Concerns About Coding and CAQDAS

Coding vs. interpretation	• Over-metrification; not ideal for exploring narratives or linguistics on its own because essential meanings may not be codeable, as they are too large and encompassing (Fielding, 2000)
The coding trap & distance	• The temptation to code and quantify
	• Danger of being more process-oriented (focusing too much on coding) rather than outcome-oriented (focusing on theory and whole picture)
	• CAQDAS program designs—especially the code and retrieve programs—may shape the outcomes of the analytic process to assist researchers perform grounded theory research (Gibson et al., 2005); coding process can become an "electronic filing cabinet" because the capacity to delve into the analysis of the data has been seriously restricted by researchers' limited amount of time to fully analyze data (Fielding, 2000)
	• Can distance researchers from their data (Goble et al., 2012)

Ontological & Epistemological Concerns and Applicability

Ontological & epistemological concerns	• Richness and complexity of qualitative data may not readily fit software's quantification; can bias meanings (Goble et al., 2012)
	• Reflection on self-biases and situational awareness is a must in CAQDAS because of the ease of simply clicking and assigning themes and codes to data (Rademaker et al., 2012)
	• Not needed in hermeneutic phenomenology
	• The search for shared meaning and intercoder reliability may be seen as antithetical to qualitative and interpretive research processes
Nonapplicability	• Not applicable, according to some, to nonempirical interpretivist research (Fielding, 2000)
	• Coding as analysis activity does not need to occur in hermeneutic phenomenology but yet forms the basis of many CAQDAS programs
	• CAQDAS is a tool but it is not a methodology (Goble et al., 2012)
Distance from the data	• Can make some researchers feel overly familiar with the data, making theoretical analysis of the data more difficult; thus, there is a need to be reflexive and critical—not forcing square pegs into round holes (Rademaker et al., 2012)
	• Software complexity can push users to skimp on careful inspection of data before codes are assigned (Fielding, 2000)

Other Disadvantages

Implications for anonymity	• Using audio links or video links endangers anonymity, and the use of bleeping or editing of audio or visual links to preserve anonymity may interfere with the true meaning of the audio or video clip (Gibson et al., 2005)
Misunderstand "true" purpose of the use of software	• Learning in isolation or not in the context of qualitative methods can make researchers mistakenly view analytic features of packages as "qualitative analysis"; CAQDAS cannot be a substitute for analysis or be used on all qualitative methods (MacMillan, 2005)
	• Unrealistic expectation about what software can do tends to contribute to the myth that the software program is the method itself (MacMillan, 2005)

TABLE 3.
Disadvantages of Using CAQDAS (continued)

Other Disadvantages (continued)

Software learning curves, limitations, & costs	• Adds a step to time-consuming processes; use of CAQDAS is not a mainstream interest among methodologists (Fielding, 2000)
	• Often sees "text" as nothing more than data because of the pressure to provide evidence-based qualitative work
	• Learning the software, especially interrater reliability features, can be time-consuming
	• Some software requires special editing to cut audio files into separate files designated in the coding process; also, there is no industry standard for recording technologies and an underdevelopment of audio interfaces for CAQDAS software (Gibson et al., 2005)
	• Costs range from free (TAMS Analyzer) to up to $215 for student users and up to $1,340 for single-user licenses in university/nonprofit organizations (Center for Research Strategies, 2015)

FIGURE 1.
Comparison Summary of the Use of CAQDAS

Advantages

Organization and Analysis
• Data Management and Organization
• Assists in Analysis

Quality of the Research
• Improves Reliability and Trustworthiness
• Transparency
• Reflexivity and Rigor
• Auditability and Legitimacy

Other Advantages
• Facilitates Group Research
• Applicability and Versatility
• Enables Comparison of Large Data Sets

Concerns about Coding and CAQDAS
• Coding vs. Interpretation
• The Coding Trap and Distance

Ontological and Epistemological Concerns and Applicability
• Ontological and Epistemological Concerns
• Distance from the Data
• Implications for Anonymity
• Misunderstand "True" Purpose of the use of Software
• Non-Applicability

Other Disadvantages
• Software Learning Curves, Limitations and Cost Considerations

Disadvantages

Faculty Strategies to Integrate CAQDAS within and outside the Classroom

Strategies to integrate CAQDAS need to be grounded in the broader discussions of qualitative research. We consider some key approaches below.

Pros and Cons of CAQDAS and the Broader Perspective. As discussed above, there are several advantages and disadvantages to using CAQDAS. A good starting point is classroom discussion of the pros and cons of using qualitative software and presentation of the theoretical, conceptual, and methodological discourse around these issues in the field of public administration. What needs to be kept in mind is that qualitative software is a tool and should be used as such rather than letting it dictate the research question or findings. In particular, students need to be reminded that a balance needs to be struck between the inflection/richness/essential meanings conveyed through language and the coding. It is important to emphasize that the "interpretive process" and the decisions regarding research data and methodologies always remain in the researcher's hands (Lewins & Silver, 2009, p. 3).

Overcoming the Tactile-Digital Barrier and Avoiding the Coding Trap. Based on in-depth interviews with qualitative researchers, Gilbert (1999, 2002) notes that there are three levels of distance issues when working with qualitative data. The first is the *tactile-digital divide*, which occurs when people who are used to working with hard copies have to adapt to working on screens instead of paper. One may believe the tactile-digital barrier to have been largely overcome in a generation raised on computers. However, that might not be the case in a number of public administration doctoral programs, which tend to have many nontraditional students who have a great deal of field experience but who may not be as comfortable learning and using new types of software programs. Learning curves may therefore be steep depending on the composition of the class, and instructors should be cognizant of those issues and provide extra help if needed.

Once the tactile-digital barrier is dealt with, a second issue may arise. Due to the power of various qualitative software programs to undertake different types of analysis and their ability to link codes to relevant excerpts, users—particularly novice ones—tend to fall into a code and retrieve cycle or, as discussed above, *the coding trap* (di Gregario, 2003; Gilbert, 1999, 2002; Richards, 2002). This tends to occur when the student feels the compulsive need to code everything, because the software creates the expectation of coding and in many ways eases the process of coding. Gilbert (2002) notes that "participants became highly aware of the tendency to 'get sucked in' to coding" (p. 219). The coding trap tightens when the software user becomes so bogged down in coding that she or he cannot see the proverbial forest from the trees and tends to get too near-sighted and close to the data and coding, forgetting the broader picture and story being told by the data being analyzed. Scholars have long recognized this coding trap as a problem in qualitative research, but it is "worsened" by software that allows for easier coding and retrieval processes. Tactics to overcome this problem include reminders to be aware of the problem of near-sightedness and to make self-conscious efforts to step back from the descent into details (Bogdan & Biklen, 1992; Lofland & Lofland, 1995).

Instructors need to help students get past these barriers in order to move toward what Gilbert (2002) terms the third level, or the *metacognitive shift*. When users gradually adapt to confident software use, they are able to reflect on the process, including upon their own software use; they are able to correct errors; and they tend to make fewer mistakes, such as unmindful transformations of their data. Expertise developed with the software allows users to think more carefully about their work as they gain distance on a metacognitive level. As Johnston (2006) explains, users who do not reach the metacognitive level are like chess players who fail to think two or three moves ahead. Instructors can keep these levels in mind and strive to bring doctoral students to the metacognitive level in their use of qualitative software, by making them aware of these levels and of issues such as the coding trap.

Emphasizing Integration with the Study of Qualitative Research. To enable doctoral students to reach the metacognitive level, it is also important to integrate the use of CAQDAS into the learning of qualitative research itself. As Carvajal (2002) points out, departments often use the short-course approach to training that is described as being hands-on but that typically requires no prerequisite knowledge of qualitative methodology or methods. This leads to participants who typically work on someone else's data, and the focus shifts to technological rather than methodological aspects. Similarly, Johnston (2006) notes that departments often send graduate students for specialist training or bring in specialist trainers to teach specific software packages. She further writes that "it is impossible to teach students how to use the technical aspects of the software without talking about qualitative methods or to discuss the impact that software has had on the way we do qualitative analysis" (p. 382) and that students are also eager to fully understand the software. For these reasons, Johnston advocates fuller integration of qualitative methods and software training as part of a doctoral student's research training program.

The Scaffolding Approach. Integration of CAQDAS and attempts to reach metacognition levels can be helped by the scaffolding approach, which is a pedagogical technique. This technique is part of seven research-based principles for smart teaching recommended by a group of learning researchers at Carnegie Mellon University (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010). According to that research group, to become self-directed learners, students must learn to understand the demands of the task, assess their own knowledge and skills, plan their approach, monitor their progress, and adjust their strategies as needed. *Scaffolding*, a recommended strategy to help metacognition, refers to the process by which instructors provide students with cognitive supports early in their learning and then gradually remove them as students develop greater mastery and sophistication. This technique can be used to help integrate the teaching of CAQDAS both within and outside the classroom.

For instance, instructors can begin by presenting the context surrounding the growth of CAQDAS in qualitative research and deliberating on the issues discussed in the previous section. This can be followed by class exercises and assignments that ask students to research different types of software, present them to the class, and facilitate discussion and questions on their use. Once students are familiar with the context and different types of software available, they can choose either an open-source software or one available to them at the university; and students can be given class exercises to use the software to organize literature, code a short newspaper article or interview excerpt, or start a research diary memo. Other useful in-class exercises that can aid in the learning process are group coding of material to understand issues related to inter-rater coding and reliability. Once students are comfortable doing some of these tasks in class, the instructor can assign short at-home exercises. The in-class and at-home exercises can be linked to a larger project, such as a research paper that asks students to use CAQDAS while investigating a topic of their choice.

CAQDAS can be used in various ways: to facilitate literature reviews (di Gregario, 2000); to code interview data (Seale, 2000); to keep research journals (Johnston, 2006); to undertake analysis of narratives in policy documents and in other forms of qualitative research such as grounded theory approaches (Bringer, Johnston, & Brackenridge, 2006; Hutchison et al., 2010).[3] Students can also use CAQDAS to keep journals and communication memos. As Davidson and Jacobs (2008) explain, coding journals help to keep track of codes and changes in codes, while a journal on methodological and research issues can be used to record steps used and issues that pertain to overall methodological questions. Further, communication memos can be used to place hyperlinks in pertinent text, with memos that can be addressed to an instructor or to a dissertation advisor. These steps can help increase the transparency of research procedures.

A note of caution here is that faculty initiatives to integrate qualitative software in doctoral public administration programs require that faculty themselves become well-versed in the use of the software. Moreover, there needs to be support at the institutional level, either by departments, colleges, or the university. As discussed above, several software programs are available for use, but these range from being open-source to more expensive licensed programs. If the university has adopted a qualitative software program, access is likely to be available to the program or might be purchased for a reduced cost. Institutional support can also take the form of user-group discussions, technical support, and in-person and online discussion networks.

Doctoral Student Strategies and Considerations for Learning CAQDAS

While the number of public administration programs that offer courses in qualitative research methods has increased substantially, 30% of such programs still lack such offerings (Stout, 2013, p. 11). For students whose programs do not offer qualitative methods courses, or who are in programs where such courses are offered but in which there is no exposure to qualitative software, requests could be made for faculty members to introduce or discuss the software. Finding courses in other departments, such as schools of education, public health or nursing, where there is considerable reliance on qualitative research methods, should also be considered. Other potential strategies are for students to take it upon themselves to use the software for a research project and search for faculty members within or outside the department who could serve as a mentor. While limited in scope and problematic for reasons discussed above, free webinars and training videos offered by software manufacturers may serve as cost-free ways to learn how to use the software. Other alternatives are to volunteer or request assignment to a faculty member working on research using qualitative software.

Team Research Projects and Learning by Doing. Other avenues for students and faculty to learn CAQDAS are through research projects that allow for experiential self-learning. Hands-on experience with using qualitative software while conducting research, combined with reflection on the process, can provide opportunities for students to learn how to effectively use CAQDAS.

Here, we document some of our experiences with working on a collaborative multi-institutional project funded by the National Science Foundation (NSF). The purpose of this project was to understand organizational perceptions on collaboration among diaspora organizations and international nongovernmental organizations and involved conducting 78 in-depth semi-structured interviews across five study areas between January 2013 and June 2015. The interviews lasted an average of 45 minutes and emphasized several key themes: the actions of the organizations, resources, partnerships, and challenges, among others. Two doctoral students, from public administration and public management and policy programs, transcribed the interviews, and transcriptions were rechecked for accuracy by the faculty members. The transcripts were uploaded into Dedoose to code and analyze relevant excerpts for several themes (e.g., resources and partnerships).[4] Through a process of deliberation and reflection over numerous project team meetings held over several months, the team developed a coding scheme through both deductive and inductive coding techniques (Miles et al., 2014). We trained the coding team in order to attain an acceptable level of intercoder reliability, prior to engaging in the final coding and analysis. In addition, to ensure consistency, we devised guidelines for the team members to follow during their thematic coding and analysis of the transcripts. As discussed in Box 1, our experiences with this group research project enabled students and faculty participants on our team to explore various CAQDAS features, greatly enhancing learning.

Overall, students gained intimate knowledge of the data by being involved in almost all aspects of the research project, from the institutional review board human subject application, preparation of interview questions, and scheduling of interviews, to transcribing audio recordings

of interviews and coding, all the way through to developing an understanding and appreciation for interpretation of the data and for qualitative research methodology more broadly. We believe that immersing doctoral students in an actual qualitative research project that uses CAQDAS is both an effective and efficient way to teach and learn qualitative research methodology and achieve proficiency with the software. The students gained knowledge and practical skills by being engaged in almost all aspects and phases of the qualitative research project. This learning-by-doing exercise made the students more open to the potential value of qualitative research generally and to CAQDAS specifically in research methodology. Furthermore, the exercise instilled confidence in the students, who now feel adequately equipped to apply these research techniques to their own dissertation research; one student on this team embraced CAQDAS in a mixed methods dissertation unrelated to the NSF-funded team project.

BOX 1.
Main Software Features Used

Memos. The memo feature available in Dedoose was used by team members to input, organize and manage project notes. Team members used memos to record their thoughts throughout the stages of the research process within Dedoose. The memo feature also facilitated sharing of these notes with the rest of the group, both inside and outside of the Dedoose environment. During project meetings, the memos often formed the basis of discussion on such matters as code refinement, excerpting, and intercoder reliability. The memos therefore served as a convenient way to share and reflect on our individual CAQDAS experiences with the rest of the research team, which was important to the students' training in the CAQDAS research process.

Interrater Reliability and Training. The training center in Dedoose helps research teams assess intercoder reliability by establishing code application tests for research teams with multiple coders. Code applications across test takers can then be compared to determine the level of agreement. We used the training center several times, in an iterative process, until we achieved a desired acceptable level of reliability among coders, before proceeding to our final stage of coding. In the early stages of coding, we used coding samples to test our initial levels of agreement. Poor results (low intercoder scores) signaled the need for the team to revisit our shared understanding of codes and clarify requirements for code applications, and they suggested further refinement of the coding scheme. Dedoose's training center restrictions, which are necessary for calculating its built-in intercoder statistic (Cohen's kappa and pooled kappa), also led to extensive deliberation and additional research into how to ensure reliability, which furthered our understanding of reliability issues. It also led to debates among our team about some disadvantages and restrictions of the software and added to our understanding of the problems and limitations in using CAQDAS.

Data Management and Filtering. Dedoose's filtering capabilities were instrumental in maintaining perspective while working with a large amount of data (893 pages of text). This was especially helpful in ensuring that the two student researchers on the team did not become overwhelmed by the volume of data, particularly as this was their first experience with qualitative research. We made extensive use of the filtering feature to extract subsets of our coded data, isolate applications of specific codes for further analysis, and facilitate the preparation of an article on a well-defined, bounded theme for journal publication.

Quantifying Qualitative Data. We used the analysis tool to easily generate descriptive statistics from our qualitative data, including counts of applications of specific codes by some variable of interest to give a sense of the distribution of codes in our data set. While this was a useful tool, the team used it with caution, keeping in mind and reminding ourselves of some of the disadvantages of relying too much on frequency analysis, which could dilute the interpretive process we were engaged in.

Note. This project used Dedoose Version 6.1.18, a Web application for managing, analyzing, and presenting qualitative and mixed method research data. See www.dedoose.com.

While students may use these strategies, they should exercise caution. An understanding of the broader goals that the doctoral student wants to achieve should play a major role. First, the student needs to understand how CAQDAS aligns with his or her dissertation and broader research objectives. Second, the student needs to consider learning times, costs, and the feasibility of using CAQDAS for research and how it aligns with broader career goals. For instance, it can be useful to have this skill on a vita for an academic job, but it may not be as useful for the practitioner doctoral student. Third, doctoral students need to consider the epistemological approaches they want to pursue in their dissertations and future research when considering the amount of time they want to invest in learning the software in more depth.

CONCLUSION

The move toward the application of more sophisticated qualitative data analysis software continues, and doctoral programs in public administration need to prepare students for potential use of such software in qualitative methods classes. Regardless of ontological and epistemological orientations, the increased prevalence of CAQDAS behooves at least some discussion of the possibilities and limitations of such software and how it can be used, including discussions of its possible misuse. As noted by Gilbert (2002), reaching metacognition levels—when users achieve a more sophisticated level of expertise with the software—allows the user to gain analytical distance and to avoid the coding trap and undertake more reflective self-monitoring. To achieve this level and enable greater expertise, discussions of the use of CAQDAS need to be integrated more fully into doctoral public administration education. This article discussed several strategies that faculty can use and considerations that both faculty and students need to take into account to help integrate the use of such software into doctoral qualitative research methods courses.

As Stout (2013) notes, "Great advancements in the study and practice of qualitative research methods have been achieved in the last several decades, to which public administration scholars may or may not have availed themselves" (p. 21). While there is a need for more up-to-date research on the state of doctoral education and the content of current qualitative research methods courses in doctoral public administration programs, this article endeavors to present a first step in the discourse on ways to improve the qualitative methodological preparation of doctoral students.

NOTES

1 As Saldaña (2013) explains, *coding* is when a researcher assigns a "code" to identify meaning to a portion or piece of data—that is, interview transcripts, field notes, journals, drawings, photographs, video, e-mails, etc.—and then proceeds to link that idea or concept through cyclical acts of recoding. Those cyclical acts highlight, and assist researchers to focus on, salient features within the data in order to generate proper "categories, themes, and concepts, grasping meaning, and/or building theory" (p. 8).

2 Coding may allow the user to represent links among codes and to build higher-order classifications and categories or to frame and test theoretical propositions about the data. This is how these programs have become known as code-based theory builders (Lewins & Silver, 2009). Most of these programs enable creation of hierarchical network code trees, but some, like Atlas.ti and HyperResearch, allow for nonhierarchical network code trees as well (Lewins & Silver, 2009).

3 Students should, however, also be made aware of critiques of using CAQDAS for grounded theory, such as those provided by Glaser (2003).

4 Dedoose is a Web application for managing, analyzing, and presenting qualitative and mixed method research data. See www.dedoose.com.

REFERENCES

Altheide, D. L. (1999). Qualitative media analysis. In A. Bryman & R. G. Burgess (Eds.), *Qualitative research* (Vol. 2, pp. 235–255). London, UK: Sage.

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works: 7 research-based principles for smart teaching.* San Francisco, CA: Jossey-Bass.

Baugh, J. B., Hallcom, A. S., & Harris, M. E. (2010). Computer assisted qualitative data analysis software: A practical perspective for applied research. *Revisita del Instituto Internacional de Costos, 6*, 69–81.

Becker, H. (1998). Beyond the categories: Finding what doesn't fit. In *Tricks of the trade: How to think about your research while doing it* (pp. 83–85). Chicago, IL: University of Chicago Press.

Bogdan, R. C., & Biklen, S. K. (1992). *Qualitative research for education: An introduction to theory and methods* (2nd ed.). Boston, MA: Allyn and Bacon.

Bringer, J. D., Johnston, L. H., & Brackenridge, C. H. (2006). Using computer assisted qualitative data analysis software to develop a grounded theory project. *Field Methods, 18*, 245–266.

Bulloch, S., & Rivers, C. (2011, Spring). CAQDAS: Contributor to social scientific knowledge? *MethodsNews.* Retrieved from http://eprints.ncrm.ac.uk/1781/1/Bulloch%26Rivers_2011MethodsNews_Spring.pdf.

Carcary, M. (2011). Evidence analysis using CAQDAS: Insights from a qualitative from a qualitative researcher. *Electronic Journal of Business Research Methods, 9*(1), 10–24. Retrieved from http://www.ejbrm.com.

Carvajal, D. (2002). The artisan's tools: Critical issues when teaching and learning CAQDAS. *Forum Qualitative Social Research, 3*(2), article 14. Retrieved from http://www.qualitative-research.net/fqs-texte/2-02/2-02carvajal-e.htm.

Center for Research Strategies. (2015). Selecting software programs for qualitative data analysis. Retrieved from http://www.crsllc.org/assets/resource-selecting-software-programs-for-qualitative-data-analysis.pdf.

Clandinin, D. J., & Connelly, F. M. (1998). Personal experience methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (pp. 150–178). Thousand Oaks, CA: Sage.

Cleary, R. E. (1992). Revisiting the doctoral dissertation in public administration: An examination of the-dissertations of 1990. *Public Administration Review, 52*(1), 55–61. http://dx.doi.org/10.2307/976546.

Cleary, R. E. (2000). The public administration doctoral dissertation reexamined: An evaluation of the dissertations of 1998. *Public Administration Review, 60*(5), 446–455. doi:10.2307/976546.

Cousins, K., & McIntosh, W. (2005). More than typewriters, more than adding machines: Integrating information technology into political research. *Quality & Quantity, 39*, 581–614. doi:10.1007/s11135-005-3149-z.

Davidson, J., & Jacobs, C. (2008). The implications of qualitative research software for doctoral work: Considering the individual and institutional context. *Qualitative Research Journal, 8*(2), 72.

Davis, N. W., & Meyer, B. B. (2009). Qualitative data analysis: A procedural comparison. *Journal of Applied Sport Psychology, 21*(1), 116–124.

di Gregorio, S. (2000, September). *Using NVivo for your literature review.* Paper presented at Strategies in Qualitative Research: Issues and Results from Analysis Using QSR NVivo and NUD*IST, London, UK.

di Gregorio, S. (2003). Teaching grounded theory with QSR NVivo. *Qualitative Research Journal, 3*(Special issue), 79–95.

Fielding, N. (2000). The shared fate of two innovations in qualitative methodology: The relationship of qualitative software and secondary analysis of archived

qualitative data. *Forum Qualitative Sozialforschung/ Forum (FQS)*, *1*(3). Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/1039.

Fielding, N. G., & Lee, R. M. (1998). *Computer analysis and qualitative research.* London, UK: Sage.

Geertz, C. (1973). *The interpretation of cultures: Selected essays.* New York, NY: Basic Books.

Geertz, C. (2000). Thick description: Toward an interpretive theory of culture. In *The interpretation of cultures: Selected essays by Clifford Geertz* (pp. 3–30). New York, NY: Basic Books.

Gibbs, G., Friese, S., & Mangabeira, W. C. (2002). Using technology in the qualitative research process. *Forum of Qualitative Social Research*, *3*(2). Retrieved from http://www.qualitative-research.net.

Gibson, W., Callery, P., Campbell, M., Hall, A., and Richards, D. (2005). The digital revolution in qualitative research: Working with digital audio data through Atlas.ti. *Sociological Research Online*, *10*(1). Retrieved from http://www.socresonline.org.uk/10/1/gibson.html.

Gilbert, L. S. (1999). *Reflections of qualitative researchers on the uses of qualitative data analysis software: An activity theory perspective.* Doctoral dissertation, University of Georgia, Athens, GA.

Gilbert, L. S. (2002). Going the distance: "Closeness" in qualitative data analysis software. *International Journal of Social Research Methodology*, *5*(3), 215–228.

Glaser, B. (2003). *The grounded theory perspective II: Descriptions of remodelling of grounded theory methodology.* Mill Valley, CA: Sociology Press.

Goble, E., Austin, W., Larsen, D., Kreitzer, L., & Brintnell, S. (2012). Habits of mind and the split-mind effect: When computer-assisted qualitative data analysis software is used in phenomenological research. *Forum Qualitative Sozialforschung/Forum (FQS)*, *13*(2), article 2. Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/1709/3340.

Houston, D. J., & Delevan, S. M. (1990). Public administration research: An assessment of journal publications. *Public Administration Review*, *50*, 674–681. http://dx.doi.org/10.2307/976978.

Hutchison, A. J., Johnston, L. H., & Breckon, J. D. (2010). Using QSR-NVivo to facilitate the development of a grounded theory project: An account of a worked example. *International Journal of Social Research Methodology*, *13*(4), 283–302. doi:10.1080/13645570902996301.

John, W. S., & Johnson, P. (2000). The pros and cons of data analysis software for qualitative research. *Journal of Nursing Scholarship*, *32*(4), 393–397. doi:10.1111/j.1547-5069.2000.00393.x.

Johnston, L. (2006). Software and method: Reflections on teaching and using QSR NVivo in doctoral research. *International Journal of Social Research Methodology*, *9*(5), 379–391. doi:10.1080/13645570600659433.

Kelle, U. (1995). *Computer aided qualitative data analysis.* London, UK: Sage.

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly*, *22*(4), 557–584. http://dx.doi.org/10.1037/1045-3830.22.4.557.

Lewins, A. (2001). CAQDAS: Computer assisted qualitative data analysis. In N. Gilbert (Ed.), *Researching social life* (2nd ed.). London, UK: Sage.

Lewins, A., & Silver, C. (2009). Choosing a CAQDAS package. Retrieved from http://eprints.ncrm.ac.uk/791/1/2009ChoosingaCAQDASPackage.pdf.

Lofland, J., & Lofland, L. H. (1995). *Analysing social settings: A guide to qualitative observation and analysis* (3rd ed.). San Francisco, CA: Wadsworth.

MacMillan, K. (2005). More than just coding? Evaluating CAQDAS in a discourse analysis of news texts. *Forum of Qualitative Social Research*, *6*(3), article 25. http://www.qualitative-research.net.

Mangabeira, W. (1996). CAQDAS and its diffusion across four countries: National specificities and common themes. *Current Sociology*, *44*, 191–205.

Maynard-Moody, S., & Musheno, M. (2014). Stories for research. In D. Yanow & P. Schwartz-Shea (Eds.), *Interpretation and method: Empirical research methods and the interpretive turn* (pp. 338–352). Armonk, NY: M. E. Sharpe.

McCurdy, H. E., & Cleary, R. E. (1984). Why can't we resolve the research issue in public administration? *Public Administration Review*, *44*(1), 49–55. http://dx.doi.org/10.2307/975661.

Miles, M., Huberman, M. A., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage.

Paulus, T. M., Lester, J. N., & Britt, V. G. (2013). Constructing hopes and fears around technology: A discourse analysis of introductory qualitative research texts. *Qualitative Inquiry, 19*(9), 639–651. doi:10.1177/1077800413500929.

Perry, J. L., & Kraemer, K. L. (1986). Research methodology in the *Public Administration Review*, 1975–1984. *Public Administration Review, 46*, 215–226. http://dx.doi.org/10.2307/3110436.

Prasad, P. (2005). *Crafting qualitative research: Working in the postpositivist traditions.* Armonk, NY: M. E. Sharpe.

Rademaker, L. L., Grace, E. J., & Curda, S. K. (2012). Using computer-assisted qualitative data analysis software (CAQDAS) to re-examine traditionally analyzed data: Expanding our understanding of the data and of ourselves as scholars. *Qualitative Report, 17*(22), 1.

Richards, L. (1998). Closeness to data: The changing goals of qualitative data handling. *Qualitative Health Research, 8*, 319–328.

Richards, L. (2002). Qualitative computing: A methods revolution? *International Journal of Social Research Methodology, 5*(3), 263–276.

Richards, T. J., & Richards, L. (1995). Using hierarchical categories in qualitative data analysis. In U. Kelle (Ed.), *Computer aided qualitative data analysis* (pp. 52–61). London: Sage.

Rossman, G. B., & S. F. Rallis. (2003). Analyzing and interpreting data. In *Learning in the field: An introduction to qualitative research* (pp. 267–308). Thousand Oaks, CA: Sage.

Rubin, H. J., & Rubin, I. S. (1995). *Qualitative interviewing: The art of hearing data.* Thousand Oaks, CA: Sage.

Ryan, M. (2009). Making visible the coding process: Using qualitative software in a post- structural study. *Issues in Educational Research, 19*(2), 142–159.

Saldaña, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). London, UK: Sage.

Seale, C. F. (2000). Using computers to analyse qualitative research. In D. Silverman (Ed.), *Doing qualitative research: A practical handbook* (pp. 154–174). London: Sage.

Seidel, J. (1991). Method and madness in the application of computer technology to qualitative data analysis. In N. G. Fielding & R. M. Lee (Eds.), *Using computers in qualitative research* (pp. 107–116). London: Sage.

SocioCultural Research Consultants, LLC. (2015). Dedoose Version 6.1.18 [Web application for managing, analyzing, and presenting qualitative and mixed method research data, Los Angeles, CA]. Retrieved from http://www.dedoose.com.

Stallings, R. A., & Ferris, J. M. (1988). Public administration research: Work in PAR, 1940–1984. *Public Administration Review, 48*, 580–587. http://dx.doi.org/10.2307/975522.

Stout, M. (2013). Preparing public administration scholars for qualitative inquiry: A status report. *Public Administration Research, 2*(1), 11.

Taylor, C., Lewins, A., & Gibbs, G. R. (2005, December 12). Debates about the software. *Online QDA: Learning Qualitative Data Analysis on the Web.* Retrieved from http://onlineqda.hud.ac.uk/Intro_CAQDAS/software_debates.php.

Van Maanen, J. (1983). The fact of fiction in organizational ethnography. In J. Van Maanen (Ed.), *Qualitative methodology* (pp. 37–55). Beverly Hills, CA: Sage.

Weitzman, E., & Miles, M. (1995). *Computer programmes for qualitative data analysis: An overview.* London: Sage.

Weitzman, E. A. (2000). Software and qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 803–820). London: Sage.

Welsh, E. (2002). Dealing with data: Using NVivo in the qualitative data analysis process. *Forum Qualitative Research, 3*(2). Retrieved from http://www.qualitative-research.net.

White, J. D. (1986a). Dissertations and publications in public administration. *Public Administration Review, 46*, 227–234. http://dx.doi.org/10.2307/3110437.

White, J. D. (1986b). On the growth of knowledge in public administration. *Public Administration Review*, *46*(1), 15–24. http://dx.doi.org/10.2307/975438.

Woods, M., Macklin, R., & Lewis, G. K. (2016). Researcher reflexivity: Exploring the impacts of CAQDAS use. *International Journal of Social Research Methodology*, *19*(4), 385–403. doi:10.108 0/13645579.2015.1023964.

Yanow, D., & Schwartz-Shea, P. (2014). *Interpretation and method: Empirical research methods and the interpretive turn.* Armonk, NY: M. E. Sharpe.

ABOUT THE AUTHORS

Alka Sapat is a professor at the School of Public Administration, Florida Atlantic University. Her expertise encompasses disaster and crisis management, vulnerability analysis, resilience assessment, environmental policy, and methodology.

Lorena Schwartz is a PhD student in the School of Public Administration at Florida Atlantic University and is currently completing her dissertation. Prior to entering the doctoral program, she was a practicing attorney specializing in family and civil law matters.

Ann-Margaret Esnard is a Distinguished University Professor in the Department of Public Management and Policy at Georgia State University. Her expertise encompasses urban planning, disaster planning, vulnerability assessment, and GIS/spatial analysis.

Emefa Sewordor is a recent graduate of the Department of Public Management and Policy at Georgia State University. Her research interests include program evaluation, public engagement, and policy innovation and diffusion.

A Review of the Myers-Briggs Type Indicator in Public Affairs Education

John Sample
Florida State University

ABSTRACT

The Myers-Briggs Type Indicator (MBTI) is a trusted and widely used personality assessment, having extensive applications in curriculum development and research in the organizational sciences, including public affairs education. The MBTI is a reliable and valid assessment of personality that identifies four cognitive processes, eight dichotomous preferences, and 16 distinct personality types and may be applied to a variety of topics of interest in public affairs education, including curriculum development and classroom instruction, student career and occupational counseling, and for researching of issues and problems in public agencies and nonprofit organizations. This article reviews the author's experience using the MBTI in a graduate course in human resource management for students enrolled in a Master of Public Administration program at large public university in the southeast United States. Those who consider using the MBTI are cautioned to become knowledgeable, qualified, and certified in the ethical use of this personality assessment.

KEYWORDS

Myers-Briggs Type Indicator, curriculum development, service learning, team building, ethics

The effective practice of public affairs administration requires a variety of human interactions daily with people representing different interests and aspirations in a variety of contexts. These interactions are typically defined in the organizational sciences to include leadership, small and large group dynamics, interpersonal communication, and organizational behavior and development. Curriculum developers in public affairs education are encouraged to involve students in ways that foster self-reflection. The "self-enlightened" scholar-practitioner in public administration is well advised to know him- or herself in terms of a personal vision of public service that includes strategies for self-management of cognitive processes. One such instructional strategy is to utilize reliable and valid interpersonal assessments as an integral part of curriculum development. Denhardt, Denhardt, and Aristiguets (2015) have identified six such assessments, one of which is the Myers Briggs Type Indicator (MBTI).

The MBTI is one of the most trusted and universally used measures of "well person" personalities available today (Bayne, 2005; Quenk, 2009). General uses are reported in counseling and clinical settings, educational and learning settings, religious and spiritual contexts, and employee training, and management and organizational development in both the public and private sectors (Carskadon, 2002; Martin, 2015).

The MBTI has a rich tradition as a research tool, as documented by well over 1,900 published scholarly articles, 1,700 theses and dissertations, and more than 11,000 entries listed in the Center for the Application of Psychological Type (CAPT) searchable database (L. Abbitt, personal communication, April 25, 2016; Quenk, 2009). CAPT also publishes the *Journal of Psychological Type* that is devoted to researching type in a variety of contexts. Several high-quality reviews of research and applications of the MBTI in management and organizations were completed by Gardner and Martinko (1996) and Walck (1992). Carskadon (2002) provides abstracts for 56 articles related to management and organizational practices over a 25-year period from the *Journal of Psychological Type.*

The purpose of this article is to explore the theory and applications of the MBTI as they relate to curriculum development in public affairs education. The article begins with an overview of Jung's (1946) theory of psychological types and the MBTI (Myers & Myers, 1995), including a summary of MBTI theory as it relates to organization and administrative theory and applications for using the MBTI as part of curriculum development. Included in this article is the author's curriculum development experience with using the MBTI in a graduate classroom context. The article culminates in noting advice, cautions, and ethical issues in administering the MBTI, scoring it, and interpreting results.

OVERVIEW OF JUNG'S PERSONALITY TYPES

The mother-daughter team of Katherine Cook Briggs (1875–1968) and Isabel Briggs Myers (1897–1980) were consummate observers of people in everyday settings. They developed an initial version of the MBTI that was first published by Educational Testing Service in the 1940s based on Jung's theory of psychological types. In the ensuing decades of research and development, the MBTI has evolved into one of the most widely used assessment tools in the world for describing and understanding differences in people (Myers & Myers, 1995). Current forms of the MBTI are published by Consulting Psychologists Press and have been translated into more than 20 languages, and more than two million assessments are completed each year (Quenk, 2009).

Despite criticism of the MBTI on psychometric grounds (McCrae & Costa, 1989; Stricker & Ross, 1964), the assessment has established a record of reliability and validity when administered appropriately and ethically (Bayne, 2005). Reported internal consistency, reliability, and validity for the four MBTI functions are very acceptable according to Myers, McCaulley, Quenk, & Hammer (1998). Consulting Psychologists Press provides reliability and validation studies for current forms of the MBTI on its website (www.cpp.com).

Jung's (1946) theory of psychological type states that what appears to be random variation in human behavior has order and consistency and is therefore predictable. The MBTI assessment describes differences between normal healthy people, differences that can be the source of much misunderstanding, conflict, and miscommunication. Isabel Meyers identifies these strengths as "gifts" that are described as cognitive motivations, strengths, and potential areas for growth (Myers & Myers, 1995). These "gifts differing" describe the self and others in terms of strengths and their unique way of viewing and experiencing the world.

These four basic cognitive processes are used in both the external world and inner world to provide people with eight dichotomous ways of employing mental abilities:

- Extraversion and introversion (E and I) are attitudes that determine the source and direction of energy and focus of attention. Extraverts have a preference that focuses their energy on the outer world of human interaction and activity. Introverts have a preference that focuses their energy on their inner world and are energized through reflection and solitude.

- The sensing and intuition (S and N) dichotomies are cognitive functions of "perception" that determine the preference

for gathering or taking in information. Sensing types have a preference for relying on their five senses when gathering information. Sensors prefer concrete, factual, and practical application when taking in information. Their focus is on the past and the present. Intuitives perceive situational possibilities from a larger perspective and are more abstract and theoretical in terms of what could be and what is possible for the future. Hunches, flashes of inspiration, and insight are attributed to intuitives.

- The thinking and feeling (T and F) dichotomies are cognitive functions that determine an individual's preference for making decisions and coming to conclusions. Those with a preference for thinking use logic and analysis to come to conclusions. A decision has to "make sense" to a thinker. Those with a preference for feeling emphasize human values and potential effects of a decision on people. Feeling types rely on affect and empathy. A decision must "feel right" to a feeler.

- The judging and perceiving (J and P) orientations relate to the outer world. Judging types prefer decisiveness and closure that focus on organizing self and others in the outer world using either thinking or feeling. Perceiving types prefer flexibility and spontaneity, resulting in adaptation and free-flowing views of the outer world using perception (sensing or intuition). (Myers et al., 1998)

As people use their preferences in each of these four functional areas, they develop behaviors and attitudes that form lifelong preferences for interpersonal relationships and interpreting experiences in a variety of social and organizational contexts. These combinations of preferences produce different kinds of people who are interested in various preferences. Each psychological type has its own inherent strengths, as well as potential blind spots, which may explain the title of Pearman and Albritton's (2010) book, *I'm Not Crazy, I'm Just Not You.*

The 16 Personality Types

Given the eight possible preferences that compose an individual's unique personality type, there are 16 possible combinations of these preferences, resulting in 16 unique personality types. Completing the MBTI inventory provides the user with a four-letter summary for his or her personality type: E or I, S or N, T or F, and J or P. Distribution of the 16 personality types is not even among the 16 personality types; distribution varies according to characteristics associated with specific groups, such as teachers, executives in business and industry, sales representatives, mental health counselors, air traffic controllers, and so on.

Table 1 displays the number and percentage of personality types for two groups of managers in public organizations (Macdaid, McCaulley, & Kainz, 1986, p. 317). A third group is composed of 203 graduate students attending Master of Public Administration (MPA) class from 2013 to 2015. The distribution of these groups is consistent with private sector organizations in which the four corners of the type table (ISTJ, ESTJ, INTJ, and ENTJ) are typically overrepresented when compared to the general population. By way of contrast, counseling and social work professionals are overrepresented by INFJ, INFP, ENFP, and ENFJ personality types when compared to the general population.

For example, ESTJ describes a person who is energized by the external world (E), who prefers to gather practical information by sensing (S), whose way of coming to conclusion or decision making is thinking, and who adopts the preference of judging (J) to organize and structure his or her world. The dynamic qualities for each of the 16 personality types have a predictable order. The middle two functions (S and N; T and F) determine which function is dominant (i.e., most used, capable of development, and under conscious control). The dominant function for the ESTJ type is thinking, and the least preferred function is feeling (Quenk, 2009).

For example, consider two individuals whose four-letter MBTI personality type is either ESTJ

TABLE 1.
MBTI Type Table for Managers in City, County, and State Government and for MPA Students

ISTJ			ISFJ			INFJ			INTJ		
*N = 79	% = 30.74		*N = 16	% = 6.23		*N = 5	% = 1.95		*N = 19	% = 7.39	
**N = 138	% = 26.39		**N = 29	% = 5.40		**N = 8	% = 5.40		**N = 29	% = 5.54	
+N = 55	% = 27.09		+N = 11	% = 5.41		+N = 8	% = 3.94		+N = 15	% = 7.39	
ISTP			ISFP			INFP			INTP		
*N = 12	% = 4.67		*N = 4	% = 1.56		*N = 3	% = 1.17		*N = 10	% = 3.89	
**N = 25	% = 4.78		**N = 10	% = 1.91		**N = 8	% = 1.53		**N = 15	% = 2.87	
+N = 7	% = 3.44		+N = 5	% = 2.46		+N = 1	% = 1.49		+N = 8	% = 3.94	
ESTP			ESFP			ENFP			ENTP		
*N = 4	% = 1.56		*N = 4	% = 1.56		*N = 5	% = 1.95		*N = 4	% = 1.56	
**N = 14	% = 1.91		**N = 10	% = 1.91		**N = 18	% = 3.44		**N = 14	% = 2.68	
+N = 6	% = 2.95		+N = 3	% = 1.48		+N = 6	% = 2.95		+N = 5	% = 2.46	
ESTJ			ESFJ			ENFJ			ENTJ		
*N = 57	% = 22.18		*N = 10	% = 3.89		*N = 7	% = 2.72		*N = 7	% = 2.72	
**N = 119	% = 22.75		**N = 37	% = 7.07		**N = 13	% = 2.49		**N = 36	% = 6.86	
+N = 51	% = 25.12		+N = 9	% = 4.43		+N = 5	% = 2.46		+N = 8	% = 3.94	

Source. Reproduced and adapted by permission from Macdaid, McCaulley, & Kainz (1986, pp. 316–317).

* Subjects were 257 top-level city, county, and state government managers, 20% female and 80% male attending the institute from across North Carolina. Data collected by Ron Lynch of the Institute of Government, University of North Carolina at Chapel Hill from 1980 to 1983.

** Subjects were 523 public sector managers, 26% female and 74% male, attending the institute from across North Carolina. Data collected by Ron Lynch of the Institute of Government, University of North Carolina at Chapel Hill from 1980 to 1986.

\+ Subjects were 203 MPA students, 55% female and 45% male. Data collected by John Sample, Askew School of Public Administration and Policy, Florida State University, from 2013 to 2015.

or INFP. Not only are the four letters for the ESTJ and INFP types clearly opposites; as depicted in the type table (see Table 1), the individuals have a significant difference in the predictable order in which they each address problems or respond to others (Myers et al., 1998):

Predictable order	ESTJ	INFP
1. dominant	thinking	feeling
2. auxiliary	sensing	intuition
3. tertiary	intuition	sensing
4. least preferred	feeling	thinking

The following examples illustrate how Jungian psychological type and MBTI feedback might be used to explain and improve instructor-student interactions to better understand and predict student behavior in the classroom.

Imagine an instance in which an ESTJ student in an MPA class is confused about an assignment given by an INFP faculty member. Not only are they each opposite in terms of their MBTI preferences, but the predictable order, beginning with the dominant preference, is also opposite (thinking vs. feeling) and the inferior (least preferred) preferences are feeling and thinking. The probability of a satisfactory resolution is moderate to high if the INFP instructor extends natural warm feeling combined with a concrete and practical explanation for the ESTJ student. Given this scenario, the ESTJ student will attend more to concreteness in the explanation and less to warm feelings from the INFP instructor (Fornaciari & Dean, 2013). Both the instructor and the student should "flex" to each other's approach to communicating and resolving a problem to achieve a satisfactory resolution (Allen & Brock, 2000).

Further, assume the instructor is teaching an entry-level policy analysis class in an MPA program that has 20 students. If all students have completed a reliable and valid form of the MBTI, their data can be displayed on a type table like Table 1. The instructor would have a useful snapshot of the class in terms of students' personality types, including cognitive abilities. The instructor could use this information to create instructional strategies for individual students and to create diverse teams to accommodate decision making and learning styles. Dunning (2003) identifies eight learning styles associated with each personality preference, including concrete strategies for accommodating each learning style in traditional educational and adult learning settings.

Expanding this example further, academicians in public affairs administration may use robust research methods, psychological type theory, and MBTI type tables to analyze groups of people, such as city managers (Hanbury, 2001), air traffic controllers (Dollar & Schroeder, 2004), local elected officials (Vogelsang-Coombs & Miller, 1999), and employees of the Internal Revenue Service (Mani, 1992).

ORGANIZATION AND ADMINISTRATIVE THEORY

It is important to note that although managers in both the private and public sectors tend to be distributed to the four corners of the MBTI type table (as stated above), all 16 personality types may hold responsible positions as supervisors, managers, and executives in all types of organizations. The fact that STJs and NTJs are attracted to supervisory and managerial positions should not be interpreted as necessary for success. The individual's positioning in one of the four corners of the type table does not assume or imply advanced abilities, superior intellect, or prediction of effectiveness. Many successful INFP and ESFJ managers and executives hold responsible positions in a variety of organizations (Hammer & Huszczo, 1996).

Public organizations, including nonprofits, continue to be exceptionally fertile opportunities for the applications of personality type and the MBTI as a research tool for public affairs

educators. Topics include leadership, problem solving and decision making, stress and conflict resolution, strategic planning, management and organization development, and multiculturalism (Bayne, 2004). The following sections summarize selective research findings associated with the MBTI and organizations, including public organizations.

Problem Solving, Decision Making, and Strategic Planning

Personality type is predictive of organizational preferences for problem solving and decision making. Several researchers working independently determined that sensing-thinking (S-T) dichotomies and intuitive-thinking (N-T) dichotomies populate organizations (Gardner & Martinko, 1996; Mitroff & Kilmann, 1975). They concluded that sensing-thinking (S-T) dichotomies are more likely present among managers who value quantitative information systems. Underrepresented in the type tables are intuitive-feeling (N-F) types and sensing-feeling (S-F) types, who value subjective and humanistic environments.

Nutt (2006) investigated decision-making practices by managers in the public and private sectors, using an experimental design, simulations, and the MBTI to explore risk and decision making in developing budgets. Managers in the private sector placed much reliance on analytics and too little on bargaining, whereas those in the public sector displayed overreliance on bargaining. Public sector managers see bargaining with peers and subordinates as necessary, given the effort to develop budgets, and are led away from analysis because their decision culture does not support analysis, much less free up funds to carry out analysis.

Leadership, Management, and Organization Development

One of the most extensive uses of the MBTI in organizations continues to be for developing leaders, managers, and organizations (Sample, 2004; Sample & Hoffman, 1986) and for training teams to manage the change process in organizations (Hammer & Huszczo, 1998; Huszczo, 2004). Reynierse (1993) assessed

personality type by organizational level to determine the proportion and distribution of managers. He concluded from a sample of 1,952 that extraverted types, thinking types, and judging types were overrepresented compared to the general population. Lower-level managers were more likely sensing types; proportions of intuitive types increased with succeeding levels of management and intuitives predominated among executives. Organizations can be "psychologically typed," which enables employees and stakeholders to more effectively characterize the nature of a business, public agency, or nongovernmental organization (Bridges, 1992).

Hanbury (2001) developed a theoretical model to empirically test the effects of leadership and personality as they relates to the tenure of city managers. A national sample of city managers completed the MBTI and the Leader Behavior Analysis survey. Analysis of the data confirmed that the tenure of a city manager is a function of the manager's leadership effectiveness and personality compatibility with the expectations of the city council. In a follow-up analysis by Hanbury, Sapat, and Washington (2004), the researchers reaffirmed earlier findings that the "introverted, inwardly driven, perceptive leader or city manager who is adaptable to change and chaos experiences longer tenure" (p. 572).

APPLICATIONS FOR TEACHING IN PUBLIC AFFAIRS EDUCATION

The early development of the MBTI was based, in large measure, on data collected on college campuses. In the ensuing decades, colleges and universities continued to find broad applications for the MBTI (Provost & Anchors, 2003). This section reviews potential curriculum development and instructional uses for the MBTI in public affairs education.

Career and Employment Counseling

The MBTI is used in workforce development career and employment counseling for advising students and clients about vocational preferences, career family choices, and employment decisions (Kennedy & Kennedy, 2004; Martin, 1995). For example, *MBTI® type tables for college majors* (Schauhbut & Thompson, 2014) describes the relationship between personality preference and college majors. Each of the 59 MBTI type tables describes the relative frequency of each personality type within several college majors. These tables may be used to advise students as they search for potential college majors and by researchers studying the relationship between personality type, education, and issues related to public organizations.

Another important use for the MBTI is to predict attraction of a personality type to a specific occupation. *MBTI® type tables for occupations* (Schauhbut & Thompson, 2009) provides information on 250 occupations, each of which is associated with a descriptive code from O*NET (www.onetonline.org). O*NET is an online database that contains hundreds of occupational job summaries designed to assist students, job seekers, businesses, and workforce development professionals. The O*NET code provides descriptive and demographic information regarding a specific job summary.

It is important to note that most personality assessments, including the MBTI, have not demonstrated the ability to accurately predict future job performance and therefore should not be used as a stand-alone tool for employee selection (Cascio & Aquinis, 2010). Employers are subject to legal sanctions for using selection methods that intentionally or unintentionally result in prohibited employment practices that discriminate in the hiring process (Sample, 2007).

Multiculturalism

Although Jung (1946) believes that psychological types are attributed to an individual's genetics, it is also evident that society and culture establishes the way these preferences are expressed as behavior (Kirby, Kendall, & Barger, 2006). Researchers and practitioners in a wide variety of international contexts "report results very similar to those found by researchers and practitioners using the MBTI in the

United States" (Kirby & Barger, 1998, p. 371). In this regard, the MBTI has potential utility in public affairs education to assist faculty and students to understand that differences in personality are more universalistic and not just a Western construct. Instructors can use the MBTI to assist students in conceptualizing apparent stereotypic or ethnocentric thinking into an alternative framework for understanding cultural differences in terms of personality type and cognition.

The use of personality inventories in cultures other than the one in which norms have been developed requires caution and respect for diversity (Harris & Kumra, 2000). Harris and Kumra suggest that applying personality inventories to cultures that rely on "collectivism"—the close identification by people with strong ties to nationalism—may be problematic, because in assessing individual personality types, such inventories may conflict with norms based on collectivism.

Learning Style Preferences and Instructional Strategies

The MBTI has been used to identify learning styles of students and adults (Dunning, 2003; Salter & Evans, 2006). Lawrence (2009) identified the following characteristics of learning styles and personality type preferences that relate to learning:

A. Cognitive style in the sense of preferred or habitual patterns of mental functioning: information processing, formation of ideas, and judgments.

B. Patterns of attitudes and interests that influence what a person will attend to in a potential learning situation.

C. A disposition to seek out learning environments compatible with one's cognitive style, attitudes, and interests and to avoid environments that are not congenial.

D. Similarly, a disposition to use certain learning tools, to use them successfully, and to avoid other tools.
(pp. 38–39)

The MBTI is a predictor of learning style but cannot mandate how an individual will write, read, and study (Provost & Anchors, 2003). In addition to learning styles, many factors affect how a student behaves, including peer and environmental influence, learning environment, maturity level, self-motivation, and attitude. Thus, a perfect correlation between learning style and personality type is not possible. However, the MBTI can predict what kinds of environments, instructional tools, and behaviors hinder or encourage learning for a student's psychological type (Dunning, 2003).

Table 2 summarizes practical strategies for designing instruction for two students who have opposite personality types and learning styles (ESTJ and INFP). The recommended instructional strategies for these two students make sense for an instructor who is conducting one-on-one advising, counseling, or work with a student on a directed research project. This assumes that the student's learning style is known by both the instructor and student.

But what about designing instruction for graduate students in an MPA class when personalities are unknown? Assume for the moment that the distribution of MPA student personality types in a current semester mimic the distribution of personality types displayed in Table 1. This table is based on reported MBTI types of managers in North Carolina public organizations in the 1980s and for a group of MPA students from 2013 to 2015. It is reasonable to expect that the 1980s type table for public managers in North Carolina will be similar to the more recent distribution of MPA students. Note that in Table 1, the four corners of the type table (ISTJ, ESTJ, INTJ and ENTJ) display a noticeable and consistent pattern that highlight public managers.

Also of significance in Table 1 is the smattering of the remaining personality types. At first blush, this seems like good news—simply design instruction that focuses on the learning needs of the largest group of students, the ISTJ and ESTJ students. But what about the remaining

students from the remaining 14 personality types who require very different learning strategies, such as the INFP student? Does the instructor put the responsibility on this student to "flex" his or her learning style to accommodate the largest group in the class?

As stated earlier, each of the 16 personality types has a predictable order for development over a person's lifetime. ESTJs in the classroom are most comfortable using their dominate (thinking) and auxiliary (sensing) dichotomies when interacting with the instructor and other students, and they are less comfortable engaging their tertiary (intuition) and least preferred feeling (feeling) functions. Yet at some point in the ESTJ's career, maybe at the midpoint as a senior manager, sensing and intuition are necessary for success as a higher-level manager (Martin, 1995). This would suggest that curriculum development in public affairs education focus on the "whole person" over his or her lifetime (Dunning, 2003; Lawrence, 2009) by

providing a variety of challenging assignments for all personality types, not just for ISTJs and ESTJs.

Effective curriculum development and instructional design strategies create safe places to learn while at the same time incorporating challenging opportunities for students to recognize their less developed functions. Introverts can be challenged to speak more often in class discussions and in teams, whereas extraverts can be encouraged to act as gatekeepers that prompt introverts to participate more actively. Writing assignments can be designed to encourage concept mapping and theoretical frameworks (intuition) or debating, questioning, and synthesizing content (thinking).

Applying the MBTI to an MPA Graduate Course

The author has incorporated the MBTI in a required human resource management course for MPA students at a large public university in

TABLE 2.

Instructional Strategies that Promote Learning by Specific Personality Type

ESTJ	INFP
• Engage in practical, hands-on learning activities	• Look over what is to be learned to determine the scope of the topic and the amount of detail required
• Organize material logically and sequentially	• Set broad, long-term learning goals
• Accomplish tasks using a step-by-step approach	• Learn about ideas and concepts
• Find concrete examples	• Create a framework before learning facts or details
• Apply learning to day-to-day situations	• Link new concepts to other, already known concepts
• Focus on relevant facts and details	• Map out concepts to organize a topic
• Link theory to real life examples	• Look for inferences, patterns, or trends in information
• Find accurate and precise data	• Apply information learned to help people grow and develop
• Ask for clear and specific criteria for evaluation	• Develop strategies such as mnemonics for memorizing details
• Set and accomplish short-term realistic learning goals	• Create metaphors or analogies to aid memory

Note. Reproduced with permission from Dunning Personality Experts (D. Dunning, personal communication, June 26, 2016). Content retrieved June 1, 2016, from http://www.dunning.ca.

the southeast United States. The course is designed such that students must effectively participate in a team-based service-learning project in order to earn a satisfactory grade (Brazon & Brannon, 2011; Imperial, Perry, & Katula, 2007). Students who submit their service-learning hours receive a notation on their formal academic transcript. Students also complete a variety of assignments, including a brief of an appellate court case, several calculation projects that link theory to practice, and an open-book final examination. The author has created more than 30 teams for 203 students during the 3-year period 2013–2015.

At the beginning of the semester, students complete the 70-item Kiersey Temperament Sorter (KS II) (Kiersey, 1998), a shortened and reliable version of the MBTI (Hall, 2009). In this first phase of creating highly diverse teams, the author selects five to seven students for each team based on students' dominant MBTI function. For example, the dominant function for an ESTJ student is thinking; for an INFP student, feeling. In the second phase, team members are selected based on differences in culture, ethnicity, and gender. Students are assigned readings that explain psychological type theory and the author provides lecture and discussion opportunities at strategic times during the semester.

Students complete four short reflection papers during the semester that explore the workings of psychological type. For example, in the first reflection paper, students are asked to write about a work-related conflict or unresolved personnel issue that might be explained by differences in personality type. In the second reflection paper, students are asked to recall a team-based experience, a conflict, or other memorable event that might be explained by their MBTI feedback. In the third reflection paper, students are asked to suggest a potential change in personal behavior that would increase the student's team effectiveness. The fourth reflection paper is part of the final examination in which students use a behaviorally anchored rating scale for self-evaluation and reflection on the contributions of team members.

One student summarized her team experience with the following comment:

> Completing the [MBTI] personality survey seemed like a silly academic exercise at first, but then as our team worked through the stages of Tuckman's [forming, storming, norming, performing] stages of team development, I began to realize that my behavior has an impact on others. Now I catch myself talking less, listening more, and have found my patience with others. It's OK when [international student's name withheld] struggles with his English because his understanding of stats is critical to our team project.

It should be noted that the reflection papers are submitted to the author for review and assignments of points; however, it is voluntary on the part of the student to disclose the contents of his or her reflection paper as part of planned team discussion at designated times throughout the semester. It has been the author's experience that many students are apprehensive about revealing the contents of a reflection paper for fear of embarrassment. Yet when the discussion begins, usually with animated laughter and comic relief, most teams settle into useful sharing about team behaviors that lead to "aha" moments. Occasionally, a team will have a "fair fight" that clears the air between two or more team members. The author refers to this phenomenon as "learning out loud."

During the semester, students are encouraged to use the MBTI as a framework to clarify intragroup experiences. The author keeps a practiced "ear" cocked to team discussions for relevant "chatter" that describes how well teams are progressing. In one instance, an international student was discovered to be very fluent in data management yet was very introverted and hardly participated as a team member. Once discovered, though, this student opened up; and when she spoke, everybody listened! When queried about this impressive change of events, the team extravert said, "I have learned to shut my motor mouth when [she] updates us because we are finally making progress." Other

team members laughed and nicknamed him "our high-verbal team member."

Applying the MBTI to Developing Public Affairs Policies

The development and analysis of public affairs policies is central to curriculum development and effective practice of public administrators in governmental and nonprofit organizations (Dunn, 2011). At a fundamental level, the development of public policy is a form of problem solving and decision making for which the MBTI offers useful insights. For example, introverted personality types "want to take time to think and clarify their ideas before they begin talking, while those who prefer extraversion will want to talk through their ideas in order to clarify them" (Huitt, 1992, p. 34). The dichotomies sensing-thinking (S-T), sensing-feeling (S-F), intuitive-thinking (N-T), and intuitive-feeling (N-F) have been used to research cognitive approaches to decision making.

According to Gardner and Martinko (1996) the S-T dichotomy prefers an impersonal, realistic, and bureaucratic approach to decision making, whereas the N-F dichotomy prefers personal idealism and a more fluid or organic approach. The N-T dichotomy prefers long-range strategic planning, whereas the S-F dichotomy plans more for the short term, with a focus on human relations. Mason and Mitroff (1973) and Kerin and Slocum (1981) also determined that there is a preference for the type of information valued by organizations. Sensing types want factual raw data, and intuitive types prefer stories and narratives. Thinking types prefer abstract information, and feeling type's value artistry. Each of the other dichotomies (S-F, N-F, and N-T) has a predictable set of biases when developing public policies (see Table 3). Given the preferences mentioned above, legislators and public administrators may demonstrate certain types of biases when developing and implementing public policy. For example, sensing-thinkers (S-T) may overly analyze data, a form of input bias, resulting in conservative policy recommendations (output bias) with little reanalysis (operational bias).

Recall that the sensing-thinking (S-T) preferences are depicted in the left-hand column of the MBTI type table (see Table 1). ISTJ and ESTJ comprise predominate personality types for public administrators and MPA students, followed by INTJ and ENTJ. Table 1 also includes those personality types most different from the predominant S-T and N-T. Sensing-feeling (S-F) and intuitive-feeling (N-F) preferences have a predictable set of biases that in turn predict the potential for continuing conflict and tensions when developing and implementing public policy. And lest we forget, there are numerous stakeholders (voters, taxpayers, interest groups) who are subject to public policies who expect to influence the public policy-making process.

Given the potential for conflict and tension in policy development, the author has used the following small-group exercise to explore the impact of personality type. Small groups are created in which the students share S-T, S-F, N-T and N-F preferences for decision making. Each team also includes an equal mix of extraverts (E) and introverts (I). The author (i.e., instructor) assigns each team to create an operational policy, such as "Encouraging the use of alternative energy sources, such as solar and wind power, by subscribers of coal-fired traditional electricity in a municipality." The final product is then summarized in the classroom (e.g., on a white board). Included in the summary are suggestions for communicating the policy to internal and external stakeholders. After the team presentations, the author uses Table 3 to discuss the potential for bias in policy development. Depending on time constraints, new teams of five to seven students representing all four decision-making preferences meet to discuss the issue of bias and how to create public policies that are more inclusive.

ADMINISTERING THE MBTI

Use of the MBTI is restricted and requires the user to be minimally "qualified by education" by an accredited university or college. Those who plan to purchase and use the MBTI must have completed a course in psychological tests

TABLE 3.
Potential Bias When Developing Public Affairs Policies

Potential Bias	Sensing-Thinker (S-T)	Intuitive-Thinker (N-T)	Sensing-Feeler (S-F)	Intuitive-Feeler (N-F)
Input bias (gathering information)	May ignore patterns in favor of specific facts Relies on logical procedures	May ignore information that differs from analytical model or plan	May ignore factual data in favor of opinions of others	May ignore factual data in favor of symbols, imagery, and metaphors
Output bias (generating alternative solutions)	Relies on what has worked in the past	Relies on information that confirms analytical model	Relies on options that have broad political support	Relies on value-based analogies and novel ideas
Operational bias (source for decision)	Relies on standardized practices that provide structure	Prefers a logical approach that is visionary, conceptual, and future-based	Takes cues from people in the workplace for his or her needs and wants	Prefers a values-based experience that forms a vision

Source. Modified and adapted from Gardner and Martinko (1996); Myers, McCaulley, Quenk, and Hammer (1998); and Haley and Pini (1994).

and measurements. Additionally, it is not unreasonable for instructors to become certified by creditable vendors such as Consulting Psychologists Press (CPP) or Center for the Application of Psychological Type (CAPT). Certification provides an additional level of knowledge and skills necessary for competent and ethical use of the MBTI in the classroom.

Instructors and researchers in public administration who have an interest in applying the MBTI in the classroom or as a research tool are additionally encouraged to explore the resources available from CPP and CAPT. CPP publishes three forms of the MBTI and offers individualized reports for work styles, teams, decision making, stress and conflict. In addition to certification training, CPP provides various instructional materials.

CAPT has existed since 1975 to promote Jung's theory of psychological types. A wealth of resources is available from its online catalog of publications and online searchable database, including the archives of the *Journal of Psychological Type.* The CAPT database also references scholarly journal articles, books, training, and conference reports.

Balancing privacy and confidentiality in the facilitation of MBTI programs is an important ethical issue (Fields & Reid, 2006). According to McCaulley (2000),

> Answering the MBTI is optional.…As the MBTI spreads through an organization [or in the classroom] and is used with teams, the consultant [instructor] should make sure that individuals give permission for sharing results on a type table or in type-alike groups. In actual practice, when the MBTI is well taught, most people are pleased to share type information. Consultants [and instructors] need to be prepared, however, for accommodating those who are not willing to share their types. (p. 130)

Finally, it is paramount to understand that the client (student, employee, manager) is the best judge of the accuracy of his or her MBTI type preference. The four letters from a valid MBTI assessment are an initial hypothesis to be verified or modified by the student or client.

CONCLUDING COMMENTS
Use of the MBTI in curriculum development and in management and organizational contexts has reached worldwide proportions. With

such widespread use comes a potential for abuse in the administration and interpretation of an individual's feedback scores. Instructors are implored to use reliable, valid, and accepted forms of the MBTI and to avoid the temptation to use short forms available from a variety of Internet sources, which are often unreliable and have questionable validity. Further, instructors should not infringe on international copyright laws by making unauthorized copies of the MBTI and scoring forms.

Used properly, the MBTI is an important curriculum development tool for linking individual differences to a graduate course that includes a structured service-learning project. The MBTI offers a useful framework for understanding the behavior of self and others in a team environment. In the context of curriculum development, the MBTI is valuable not simply to raise awareness of individual differences but as a means for integrating and engaging students in a learning framework that spans a full semester.

ACKNOWLEDGMENTS

REFERENCES

Allen, J., & Brock, S. A. (2000). *Health care communication and personality type.* London, UK: Routledge.

Bayne, R. (2004). *Psychological types at work: An MBTI perspective.* London, UK: Thomson.

Bayne, R. (2005). *Ideas and evidence: Critical reflections on MBTI theory and practice.* Gainesville, FL: Center for Applications for Psychological Type.

Brazon, B. E., & Brannon, M. L. (2011, June). *Using a team-based service learning project to support to community business in a project management course.* Paper presented at 2011 Annual Conference and Exposition, Vancouver, BC. Retrieved from https://peer.asee.org/18744.

Bridges, W. (1992). *The character of organizations: Using Jungian type in organizational development.* Palo Alto, CA: Consulting Psychologists Press.

Carskadon, T. G. (2002). Celebrating our 25th anniversary: A grand synopsis of 400 studies in psychological type. *Journal of Psychological Type, 60,* 1–64.

Cascio, W. F., & Aquinis, H. (2010). *Applied psychology in human resource management* (7th ed.). New York, NY: Prentice Hall.

Denhardt, R. B., Denhardt, J. V., & Aristiguets, M. P. (2015). Managing human behavior in public and nonprofit organizations. Los Angles, CA: Sage.

Dollar, C., & Schroeder, D. J. (2004). *A longitudinal study of the Myers-Briggs personality types in air traffic controllers.* Washington, DC: U.S. Department of Transportation, Federal Aviation Administration, Office of Aerospace Medicine.

Dunn, W. N. (2011). *Public policy analysis* (5th ed.). New York, NY: Routledge/Taylor and Francis Group.

Dunning, D. (2003). *Introduction to type and learning.* Mountain View, CA: Consulting Psychologists Press.

Fields, M. U., & Reid, J. B. (2006). *Shape your program: Tips, teasers, and thoughts for type trainers.* Gainesville, FL: Center for Applications of Psychological Type.

Fornaciari, C. J., & Dean, K. L. (2013). I, S, T, and J grading techniques for ES, NS, FS, and PS: Insights from the MBTI on managing the grading process. *Journal of Management Education, 37*(6), 828–853.

Gardner, W. L., & Martinko, M. J. (1996). Using the Myers-Briggs Type Indicator to study managers: A literature review. *Journal of Management, 22*(1), 45–83.

Haley, C. V., & Pini, R. (1994). Blazing international trails in strategic decision-making research. In *Proceedings of the Myers-Briggs Type and Leadership: An internal research conference* (pp. 19–23). College Park, MD: National Leadership Institute.

Hall, J. L. (2009). Cognitive styles mapping: Expanding the efficacy of group work in MPA courses. *Journal of Public Affairs Education, 14*(4), 493–513.

Hammer, A. L., & Huszczo, G. E. (1996). Teams. In A. L. Hammer (Ed.), *MBTI applications: A decade of research on the Myers-Briggs Type Indicator.* Palo Alto, CA: Consulting Psychologists Press.

Hanbury, G. L. (2001). *The function of leadership styles and personality types among city managers: An analysis of "fit" and tenure.* Unpublished doctoral dissertation, Florida Atlantic University, Boca Raton, FL.

Hanbury, G. L., Sapat, A., & Washington, C. W. (2004). Know yourself and take charge of your own destiny: The "fit" model of leadership. *Public Administration Review, 64*(5), 566–576.

Harris, H., & Kumra, S. (2000). International management development: Cross-cultural training in highly diverse environments. *Journal of Management Development, 19*(7), 602–614.

Huitt, W. G. (1992). Problem solving and decision making: Considerations of individual differences using the Myers-Briggs Type Indicator. *Journal of Psychological Type, 24*, 33–44.

Huszczo, G. E. (2004). *Tools for team leadership.* Palo Alto, CA: Davies-Black.

Imperial, M. T., Perry, J. L., & Katula, M. C. (2007). Incorporating service learning into public affairs programs: Lessons from the literature. *Journal of Public Affairs Education, 13*(2), 243–264.

Jung, C. G. (1946). *Psychological types* (trans. H. Godwin Bayne). New York, NY: Harcourt Brace.

Kennedy, R. B., & Kennedy, D. A. (2004). Using the Myers-Briggs Type Indicator in career counseling. *Journal of Employment Counseling, 41*(1), 38–43.

Kerin, R. A., & Slocum, J. W. (1981). Decision making and acquisition of information: Further exploration of the Myers-Briggs Type Indicator. *Psychological Reports, 49*, 132–134.

Kiersey, D. (1998). *Please understand me II: Temperament, character, intelligence.* Amherst, NY: Prometheus Books.

Kirby, L. K., & Barger, N. J. (1998). Uses of type in organizations. In I. B. Briggs Myers, M. H. McCaulley, N. L. Quenk, & A. L. Hammer (Eds.),

MBTI manual (3rd ed., pp. 367–384). Palo Alto, CA: Consulting Psychologists Press.

Kirby, L. K., Kendall, E., & Barger, N. J. (2006). *Type and culture: Using the MBTI instrument in international applications.* Mountain View, CA: Consulting Psychologists Press.

Lawrence, G. D. (2009). *People types and tiger stripes.* Gainesville, FL: Center for the Applications of Psychological Type.

Macdaid, G. P., McCaulley, M. H., & Kainz, R. I. (1986). *Myers-Briggs Type Indicator atlas of type tables.* Gainesville, FL: Center for the Applications of Psychological Type.

Mani, B. G. (1992). TQM, management development in public agencies using the Myers-Briggs Type Indicator and the adjective check list: A retrospective case study in the IRS. *Review of Public Administration, 16*(4), 79–96.

Martin, C. R. (1995). *Looking at type and careers.* Gainesville, FL: Center for the Applications of Psychological Type.

Martin, C. R. (2015). Highlights from the past ten years and coming changes for the *Journal of Psychological Type. Journal of Psychological Type, 75*, 1–6.

Mason, R. O., & Mitroff, I. I. (1973). A program of research on management information systems. *Management Science, 19*, 475–487.

McCaulley, M. H. (2000). Myers-Briggs Type Indicator: A bridge between counseling and consulting. *Consulting Psychology Journal: Practice and Research, 52*(2), 117–132.

McCrae, R. R., & Costa, P. T. (1989). Reinterpreting the Myers-Briggs Type Indicator from the perspective of the five-factor model of personality. *Journal of Personality, 57*(1), 18–40.

Mitroff, I. I., & Kilmann, K. H. (1975). Stories managers tell: A new tool for organizational problem solving. *Management Review, 64*(7), 18–28.

Myers, I. B., McCaulley, M. H., Quenk, N. L., & Hammer, A. L. (1998). *MBTI manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.

Myers, I. B., & Myers, P. (1995). *Gifts differing: Understanding personality type.* Mountain View, CA: Consulting Psychologists Press.

Nutt, P. C. (2006). Comparing public and private sector decision-making practices. *Journal of Public Administration Research and Theory, 16*(2), 289–318.

Pearman, R. R., & Albritton, S. C. (2010). *I'm not crazy, I'm just not you. The real meaning of the 16 personality types.* London, UK: Nicholas Brealey Publishers.

Peterson, K., & Rutledge, M. (2014). Creating adaptive learners and organizations. *OD Practitioner, 44*(3), 10–18.

Provost, J. A., & Anchors, S. (2003). *Using the MBTI instrument in colleges and universities.* Gainesville, FL: Center for the Applications of Psychological Type.

Quenk, N. (2009). *Essentials of Myers-Briggs Type Indicator assessment.* New York, NY: Wiley.

Reynierse, J. H. (1993). The distribution and flow of managerial types through organizational levels in business and industry. *Journal of Psychological Type, 25,* 11–23.

Salter, D. W., Evans, N. J., & Forney, D. S. (2006). A longitudinal study of learning style preferences on the Myers-Briggs Type Indicator and learning style inventory. *Journal of College Student Development, 47*(2), 173–184.

Sample, J. A. (2004). The Myers-Briggs Type Indicator and OD: Implications for practice from research. *Organization Development Journal, 22*(1), 67–75.

Sample, J. A. (2007). *Avoiding legal liability for adult educators, human resource developers, and instructional designers.* Malabar, FL: Krieger.

Sample, J. A., & Hoffman, J. L. (1986). An evaluation of organizational development strategies using the MBTI as a management and organization development tool. *Journal of Psychological Type, 11,* 47–50.

Schauhbut, N. A., & Thompson, R. C. (2009). *MBTI® type tables for occupations.* Mountain View, CA: Consulting Psychologists Press.

Schauhbut, N. A., & Thompson, R. C. (2014). *MBTI® type tables for college majors.* Mountain View, CA: Consulting Psychologists Press.

Stricker, L. J., & Ross, J. (1964). Some correlates of a Jungian personality inventory. *Psychological Reports, 14,* 623–643.

Vogelsang-Coombs, V., & Miller, M. (1999). Developing the governance capacity of local elected officials. *Public Administration Review, 59*(3), 199–217.

Walck, C. L. (1992). Psychological type and management research: A review. *Journal of Psychological Type, 24,* 13–23.

ABOUT THE AUTHOR

John Sample is a retired associate professor from Florida State University, Tallahassee, where he taught graduate courses for the College of Education and the Askew School for Public Administration and Policy. His teaching and research interests focused on human resource management and development. He holds advanced certification in the administration and interpretation of the Myers Briggs Type Indicator from the Myers and Briggs Foundation and Consulting Psychologists Press.

Using Competency-based Portfolios as a Pedagogical Tool and Assessment Strategy in MPA Programs

Naim Kapucu
University of Central Florida

Christopher Koliba
University of Vermont

ABSTRACT

The development and use of the portfolio has become a critical feature of many Master of Public Administration (MPA) programs. The portfolio assignment has grown out of deepened appreciation of learning theory and the application of both performance measurement and management systems in MPA program curricula. The portfolio assignment as part of a capstone experience can contribute to the development of professional practitioners of public service. Based on review of the literature on the use of portfolios in professional degree programs and a case study of two MPA programs, this article seeks to deepen our understanding of the portfolio as an effective pedagogical tool and assessment strategy, and it offers conclusions about best practices in using portfolios.

In this era of mission-driven, performance-based assessment for professional master's degree programs, the public administration field has an opportunity to take on a leading role in integrating such assessment into evaluations of our academic programs. In response to these trends, when a Master of Public Administration (MPA) program goes through the accreditation process of the Network of Schools of Public Policy, Affairs, and Administration (NASPAA), it must demonstrate how its students meet the core professional competencies in our field, which include the ability to instill "the values that define the field: accountability, transparency, professionalism, equity, trust, and responsiveness—all in the public interest" (Raffel, Maser, & Calarusse, 2011, p. 70). As a response to the

growing need to develop rigorous, transparent, and ultimately useful tools to assess learning, the portfolio has emerged as an important feature of many MPA programs. As it grows in popularity, we must deepen our understanding of the best practices that have emerged in using the portfolio in various professional master's degree programs.

We apply these ideas to a living case and draw this conclusion: When portfolios are integrated into a capstone experience, they can be an effective way to assess student learning and a useful tool for assessing program effectiveness. For those programs seeking or obtaining NAS-PAA accreditation, courses are designed in part to incorporate common NASPAA curriculum

components, the goal being that that graduates demonstrate the following five core competencies: (1) ability to lead and manage in public governance; (2) ability to participate and contribute to the policy process; (3) ability to analyze, synthesize, think critically, solve problems, and make decisions; (4) ability to articulate and apply a public service perspective; and (5) ability to communicate and interact productively with a diverse and changing workforce and citizenry. Generating program-specific competencies and learning objectives in accordance with NASPAA guidelines allows faculty to identify the key skill sets and knowledge that students will obtain. Furthermore, focusing on specific skill sets and knowledge assists in the assessment process, in which educators determine whether students have achieved the necessary competencies (Hatcher et al., 2013; Kapucu, 2011).

Fitzpatrick and Miller-Stevens (2009) stipulate that program outcomes should be assessed through two principles: "(a) use of multiple measures and (b) involvement of faculty" (p. 18). Previously, programs have been evaluated based on course content, qualification of faculty, and surveys of stakeholders, but the authors note that there is increasing use of outcomes as indicators for program quality. Even though faculty have been reluctant to evaluate their degree programs, there is need to aggregate student performances in courses at the program level. The professional portfolio has emerged as one tool to accomplish this.

A professional portfolio is a collection of representative materials, capabilities, accomplishments, and reflections organized by students when seeking employment or professional development opportunities for public service. Planning and completion of portfolio content requires collaborative exchanges between students, faculty, and advising staff. Professional portfolios extend the reach of academic programs by providing students with a tangible product to use after the program has ended. The use of portfolios enables students to reflect on their learning (Powell, Saint-Germain, & Sundstrom, 2014). Taking into consideration the recent and growing interest in competency-based education, in

which students are specifically equipped with professional competencies (Aderman & Choi, 1994; Berrett, 2015), the use of portfolios is a step toward acknowledging the need for students to apply their knowledge to real-life issues and solutions. When the portfolio requirement is introduced early in an MPA program, students have several classroom and practicum opportunities to develop potential items for inclusion.

Portfolios in MPA programs, especially if developed using program core competencies and learning objectives, can help integrate program goals and curricula with professional career development for public service (Williams, Plein, & Lilly, 1998). The portfolio assessment method allows faculty to maintain the program's relevance and validate its "goals, training inputs, roles, tasks, competencies, skills, objectives, and specific performance statements" (Bawane & Spector, 2009, p. 384). Portfolios have been used in disciplines such as education, but their use in public affairs programs is not as common. This article reviews the literature on using portfolio assignments, discusses a process for portfolio assignment development, and gives examples of competency-based portfolios. We also look at portfolio use in two MPA programs.

LITERATURE REVIEW AND BACKGROUND

This literature review explores the use of the portfolio as a pedagogical tool and critical outcome assessment method. We review articles related not only to professional master's degree programs in public administration but also to those in education, health care, social work, and business administration.

Outcome Assessment Methods

Given the importance placed on the accreditation of professional academic programs, it has become imperative to provide rigorous methods for assessing learning outcomes. Williams (2002) notes that "NASPAA accreditation standards, university assessment processes, and program management have put an increased emphasis on outcome and performance measurement" (p. 45). Moreover, higher expectations are being placed on public administration programs themselves.

Public administration education must offer students opportunities to enhance their reflective, critical, and reflexive capacities, and to share and debate their views with one another and their faculty, through discussion and reflection on classic and contemporary writings and case studies, as well as on current issues. Students should have the opportunity to develop an understanding of the political and economic context in which governance is practiced, and of public administration's place in society. (Henry, Goodsell, Lynn, Stivers, & Wamsley, 2008, p. 123)

The UN Task Force on Standards of Excellence for Public Administration Education and Training (2008) has proclaimed similar high expectations for educational programs, focusing on the cultivation of higher-education institutions: "The institutions that educate and train these persons must be always striving for excellence because, most assuredly, better governance is fundamentally related to the more effective preparation of public administrators" (p. 4). Thus, higher-education institutions must integrate assessment methods into their continuous improvement processes and practices.

Exploring the origins of the then-burgeoning performance management movement in the United States, Jennings (1989) tied the increase in outcomes assessment to the demand for more accountability of public services. Jennings identified the first discussions and debates about assessment protocols in the 1960s and 1970s, as part of the advancement of program evaluation methods. In response to requests for tools and methods, NASPAA began to integrate outcome assessment into its strategic plan while also creating standards for public administration programs as a whole. These standards call for the creation of evaluation tools for use in formal programmatic assessment and to promote organizational learning.

At the time of Jennings's 1989 review of the assessment debate, surveys were the main assessment method in use. Surveys of student learners and their would-be and current employers were seen as an appropriate tool for obtaining students' perceptions of what they had learned and employers' needs vis-à-vis desired skill sets in the workplace. But Jennings identified a weakness in using surveys, as they "do not provide direct, independent evidence of the learning that takes place in a program. They measure perceptions rather than performance" (p. 443).

Several scholars have highlighted the wide use of surveys in student performance evaluation. Other scholars have noted the danger in foregoing a good if flawed assessment measure, like the survey, while no perfect measure exists:

> There has been an expansive but developing body of literature about the difficulty of developing good measures that will withstand the scrutiny of validation and statistical analysis. But it is very hard to develop perfect measures that encapsulate the complexity of MPA programs, and the search for the perfect measure may be accompanied by a danger of driving out a good measure. (Williams, 2002, p. 46)

Indeed, even if such a perfect measure does exist, it would likely have to "adjust to the context, information, and usefulness inherent in graduate education in public affairs and administration" (Williams, 2002, p. 47). Almost all measures are inexact and informed by social construction and elements of subjectivity. Ambiguity in measurement definition thus leads to the development of assessment rubrics, designed to quantify qualitative assessments.

Originating in K–12, rubrics have been integrated across disciplines and they serve several purposes (Fitzpatrick & Miller-Stevens, 2009). For example, such rubrics help students understand the requirements and expectations of an assignment and improve student performance. Rubrics also allow for constructive faculty feedback about student performance. In the field of public administration, rubrics have been used to assess reflective essays (see Koliba, 2004) and increasingly have been included in a portfolio assignment.

Rubrics generally consist of criteria for assessing performance and include the development and description of levels for each performance criterion (Fitzpatrick & Miller-Stevens, 2009). The use of rubrics not only clarifies to students what is expected from them in the learning process; it also helps align curricula with program goals and outcome. Use of rubrics as a means of collaboratively measuring learning outcomes, including in terms of portfolios, exists across professional fields.

Understanding the constraints of using surveys as a main assessment methodology, Durant (2002) proposed that a capstone course could assist in the evaluation process. A capstone course is usually the last course in an MPA program, which allows faculty to draw on all the material that students should have learned throughout the program and enables students to reflect on whether they have obtained the desired skill sets. Fitzpatrick and Miller-Stevens (2009) report on using a capstone course in the public administration program at the University of Colorado–Denver, because they wanted to find supplemental measurement tools besides surveys. The authors felt there was too much bias in the survey method: "Students' self-reports concerning knowledge and skills gained are certainly useful…but these measures fail to examine actual student performance.…Graduates, of course, feel that they have gained knowledge and skills…[however] assessing student outcomes requires multiple approaches" (p. 21). Using a carefully crafted, cumulative, and evidence-based professional portfolio assignment, developed based on achieving stipulated program competencies, addresses some of these concerns.

Using Portfolios in Professional Degree Programs

A review of the literature about portfolio development shows widespread application across professional degree programs. Although research on the use of portfolios in the field of public administration is limited, transferable information can be found in the education, health, social work, and business administration literature.

Professional education programs, K–12 to postsecondary, have used portfolios for multiple reasons. Portfolios enable students to collaborate with instructors to build their cumulative learning. Learning to develop and use portfolios assists new and in-service teachers in evaluating their own learning and provides direction for teaching enhancement (Bimes-Michalak, 1995, p. 53). Doctoral education programs also use portfolios, where they serve to "showcase student learning and experiences throughout formative and summative documentation" (Harvey, 2010, p. 1). In master's level programs, portfolios have been described as a key reflective practice: "It is the portfolio that provides the richest portrayal of student performance based upon multiple sources of evidence collected over time in authentic settings" (Kish, Sheehan, Cole, Struyk, & Kinder, 1997, p. 255). Kish et al. (1997) further view the portfolio as a chance to explore three key aspects of reflective thinking and learning: "the cognitive, the socio-emotional, and the moral elements of reflection" (p. 257).

Portfolios require students take on a critical role within their own assessment process. By definition, portfolios are constructed by individual students, each responsible for identifying evidence and providing a rationale for meeting or exceeding a learning standard. "When students are involved in the assessment process they learn how to think about their learning and how to self-assess key aspects of meta-cognition" (Davies & Le Mahieu, 2003, p. 142). A learner's taking responsibility for his or her own learning is a key reason that teacher education has embraced the portfolio as an assessment tool. When combined with a well-articulated rubric, portfolios provide the opportunity for students to reflect on the value and impact of their education.

Athabasca University's Master of Distance Education program conducted a pilot study using e-portfolios as an alternative to a comprehensive examination, and results—as understood by students and faculty—have been positive (Moisey, Hover, Kenny, & Koole, 2009). In these portfolios, students submitted

materials such as "course assignments, web sites, instructional materials, learning objects, postings in CMC discussion and other formal, informal and work-based experiences and products" (p. 1). Although portfolios have been embraced in the education field, Bimes-Michalak (1995) did discuss a hardship teachers faced in wanting clear-cut guidelines for portfolio creation verses allowing it to be a more organic, generative process. This tension between a tight versus loose structure for portfolio assignments is a persistent theme within the literature. Just as some find that loose structures work best, others believe that portfolios need rigorous guidelines to enhance their reliability and validity (Berryman & Russell, 2001).

Identifying core competencies has long been part of the graduate education in health care (McKenna, Connolly, & Hodgins, 2011). Drawing on the 11 core competencies of the International Union for Health Promotion and Education, McKenna et al. (2011) found that the use of competency-based portfolios in health care education helps students integrate knowledge gained from various courses. Also relevant, the guidelines of the Accreditation Council for Pharmacy Education states that a school or college's "system of evaluation should include demonstration and documentation of student learning and attainment of desired competencies in a variety of healthcare settings in student reflective portfolio format" (Plaza, Draugalis, Slack, Skrepnek, & Sauer, 2007, p.1). In health care education, portfolios with a standardized format have been found to help students bridge the gap between theory and professional practice (Plaza et al., 2007).

Portfolios in social work education have been used as a competency-based assessment tool, with emphasis on outcome assessment, student instruction, self-reflection, professional preparation, and curriculum enhancement. Indeed, in the social work field, portfolios are regarded as the highest form of knowledge and skill application for professional development. Portfolios in the field are differentiated as assessment-related or evaluative, reflective,

integrative, structured, process- or learning-related, and for showcasing professional skills (Alvarez, & Moxley, 2004; Fitch, Reed, Peet, & Tolman, 2008; Schuurman, Berlin, Langlois, & Guevara, 2012; Swigonski, Ward, Mama, Rodgers, & Belicose, 2006).

As an example, portfolio use at the Grand Valley State University School of Social Work is long-standing (Schuurman et al., 2012). The school reconfirmed its commitment to using portfolios after its Educational Policy and Accreditation Standards (EPAS) identified "ten core professional competencies and associated practice behaviors" (p. 1). Schuurman et al. (2012) describe how the school incorporates portfolios. Faculty review all undergraduate and graduate courses to ensure that coursework reflects the competencies, and the school then uses a capstone portfolio as an outcome measure. The school also uses electronic portfolios, so that they reflect process rather than a one-time event completed just before graduation. The portfolio, as part of the capstone seminar, is used to demonstrate the school's 10 EPAS competencies and is linked to an assignment and evaluation rubric. This enables students to use self-directed learning and to track their mastery of the competencies and associated practice behaviors. In the portfolio, the students present elements meant to demonstrate mastery of the competencies and practice behaviors, and faculty assess using a point scale: below expectation (0 point), meets expectations (1 point), and exceeds expectations (2 points). Students also self-assess their own competencies and provide a plan for growth after graduation.

Fitch et al. (2008) examine the use of portfolios at the University of Michigan School of Social Work and found that some portfolios demonstrated mastery of competencies, but some failed to meet expectations. This reflects on the students, but Fitch et al. (2008) comment that portfolios can also serve as a "diagnostic tool to aid in assessing program effectiveness" (p. 46). Thus, if students struggle to meet expectations vis-à-vis competency standards, some measure of responsibility lies with the academic program.

According to Alvarez and Moxley (2004), portfolios in social work education are often assessed using measures of comprehensiveness, integration of program materials, organization and professional presentation, and personal reflection. And for program-level assessment, portfolios have been used to redesign courses, shift credits assigned to specific courses, reassign faculty members, identify new competencies and reformulate existing ones, and change and reformulate assignments (p. 100).

Finally, regarding business education, there has been an increase in the use of portfolios as a tool for integrating theory and practice, in part as a response to the criticism that business schools fail to train students to respond to new economic and business sector realities (Scott, 2010). Scott (2010) suggests that reflective education—such as the portfolio—is necessary to enable Master of Business Administration (MBA) students to respond to an "increasingly complex organizational reality" (n.p.). Capstone courses—many with a portfolio element—aim to "integrate principles learned in various businesses courses and apply them is solving marketing problems" (Mummalaneni, 2014, p. 43). Indeed, the Association to Advance Collegiate Schools of Business, an accreditation body, promotes educational methods that document student learning. Such assessment is based on students' knowledge, skills, and abilities that require higher orders of learning. Portfolios (including e-portfolios) in capstone courses often aid in this assessment.

Using Portfolios in MPA Programs
Public administration programs have used portfolios both independently from and embedded within capstone courses. When well-structured and integrated with applied projects and other assessment methods, portfolios can provide opportunities for students to undertake real-life projects or case studies. Aligning rubrics (and/or self-assessment surveys) with an MPA program's goals is crucial, whether such assessment unfolds within a portfolio or some other activity, such as capstone projects.

Williams, Plein, and Lilly (1998) discuss how West Virginia University (WVU) integrated the portfolio assignment into its public administration curriculum. The school organized its portfolio process around six development areas: academic performance and course integration; leadership skills; applications, ethics, and professional standards; public service; and professional growth and continuing education. The portfolio was seen to embody WVU's philosophy and instructional mission. Williams et al. (1998) found that "the portfolio is much like other academic devices, such as research papers: some [students] do it well, some do not, some learn a great deal, others gain only a small amount" (p. 284).

Importantly, as Powell et al. (2014) found with the MPA Program at California State University, Long Beach, faculty can use the kind of detailed and nuanced information compiled in a portfolio as a student growth indicator and can discuss these observations and improve program performance in the process. This underscores the need for the measurement of outcomes to "engender organizational learning and improvement" (Fitzpatrick & Miller-Stevens, 2009, p. 27).

Key Features of Portfolio Use in Professional Degree Programs
This review of the literature allows us to distill a few central features that all high-quality portfolio processes should include. Portfolios enable both student-level assessment of competencies learned and, in many instances, faculty- and program-level assessment of the overall program and curriculum. At their core, portfolios link assessment to instruction and place the impetuous for demonstrating learning on students. Students take an active role in building their portfolios (Bimes-Michalak, 1995). In the process, students gain a deeper appreciation for their own learning and are able to articulate and reflect on, in their own words, how their academic learning has led to new knowledge, skills, and attitudes.

Across education in professional fields, portfolio structure and guidelines vary. One common

guideline is to use rubrics to make assessment criteria transparent and accessible to students. These rubrics are used to quantify subjective evaluations. A rating scale or rubric is often used for this purpose (Koliba, 2004). Later in this article, we provide as a case study an example of a portfolio rubric.

A second critical and common guideline is to incorporate a program's stated learning objectives (i.e., core competencies) into design of the portfolio tool and subsequent assessment of completed portfolios. Such competencies set a clear target for students to attain in terms of knowledge, skills, and attitudes. In their portfolio projects, students provide some form of evidence clearly tied to one or more competency goal, and they are evaluated using a rubric. The combined use of competencies and an evaluation rubric lies at the core of most capstone portfolio assignments reviewed here.

A third feature of most portfolios is a required standardized format. This may mean using a template to develop a hard-copy portfolio binder or, increasingly, employing an online format (i.e., creating an e-portfolio).

Beyond this basic foundation of three key features, portfolios vary depending on what types of evidence are available and allowable (whether more restricted or open sources of data and information). There is also some variation in the processes programs use to guide students as they approach, design, develop, and eventually use their portfolios. Some programs provide focused and consistent guidance, while others provide limited support. The case study later in this article involves intensive guidance and structure, which allows students to share and discuss evidence with peers and the instructor during the portfolio construction process.

The question of who evaluates a student portfolio is also subject to variation. In some programs, assessment falls to the capstone course instructor; in others, to a panel of faculty and/or other experts; in still others, to students' own oral defense. Another variant is for stu-

dents and faculty to evaluate the evidence and come to some consensus, which is how the programs in the case study below structure portfolio evaluation and grading.

Lastly, the use of portfolios for wider program assessment is a common theme and likely best practice, particularly if the capstone portfolio is a summative assessment used to manage institutional performance and effectiveness. Although the literature on such use of the portfolio is generally anecdotal, in our conclusion we suggest ways that programs can use portfolios for programmatic assessment.

CASE STUDY OF PORTFOLIOS IN MPA CAPSTONE COURSES

Drawing on the following framework, we now turn to presenting a case study of two MPA programs' experiences using a capstone portfolio:

- **Standardized format:** The portfolio is structured to standardize expectations and ensure efficiencies.
- **Rubric:** A well-structured rubric is used to assess student achievement of program learning competencies.
- **Learning competencies:** Explicit competencies are framed and used to assess learning outcomes.

In addition, we ask the following questions to determine the rationale behind various portfolio strategies employed: What is considered "evidence"? Who evaluates the portfolio? How is the assignment graded? How much guidance in portfolio development is provided? To what degree is there student-to-student sharing of draft portfolio entries? How are portfolios used in managing program performance?

The portfolio assignments devised by faculty in the MPA programs of the University of Vermont and the University of Central Florida grew out of extensive strategic planning undertaken over many years and culminating in the programs' accreditation (University of Vermont in 2013) and reaccreditation (University of Central Florida in 2012). This process began

with extensive review and revision of each program's mission, followed by application of NASPAA's core learning standards to that mission. The University of Central Florida used the University of Vermont's experience to build an MPA capstone portfolio guide and rubric based on a competency-driven curriculum.

Learning Competencies

The programs devised a series of capacities aligned with NASPAA's five required core competencies. To develop these capacities, the programs reviewed the literature, tapped the expertise of faculty, and used alumni survey data. Conceptually, each capacity aligns with one of NASPAA's core competencies. Learning objectives at this level are framed as a student's capacity to achieve a specific goal or objective. The Florida MPA program also sought feedback from a public administration advisory board in developing its desired capacities.

In the next phase of planning, faculty mapped their program's core curriculum against the stated desired capacities. Faculty considered assignments and learning objectives in each course in light of how they exposed students to each capacity. This led to discovering gaps in the curriculum, and the programs made several changes: an internship became required of all students at the Vermont program and strongly recommended at the Florida program; the programs placed a greater focus on specific capacities for specific courses; and they each designed a capstone experience that includes professional development and a learning portfolio as core requirements.

Rubric Construction

Drawing on principles of rubric development (see Koliba, 2004, for a review of this literature), a subcommittee of faculty led by the program MPA directors designed assessment rubrics for each learning capacity. These rubrics were refined over time. Appendix C describes the current set of rubrics used by the Florida program. All the rubrics are designed around a 4-point scale. In general, the lowest level of proficiency speaks to the student's "approach"

to the learning competency. As levels of competency rise, so do expectations for the quality and/or quantity of evidence. Generally, mastery of capacities increase as the student moves from a baseline ability; to articulation of core themes, practices, and principles; to a deeper ability to demonstrate application of the capacity to specific cases, contexts, and lived experiences. In certain cases, then, mastery of a capacity can be achieved only when a student demonstrates that she or he has applied core knowledge, skills, or attitudes to projects, past experiences, or planned activities.

The construction, review, and periodic revisions of the rubrics by faculty and MPA directors in both institutions serve as ongoing opportunities for deeper appreciation and refinement of each program's curriculum. This process has fostered many meaningful discussions around each program's identity and its contributions to professional education for public service.

Portfolio Structure

Both institutions decided to provide students with a very clear pathway to complete their portfolios, as students would need to demonstrate evidence of competency for each capacity (a 3 on the rubric). Appendix A consists of the guidelines given to students for constructing their portfolios; Appendix B is the template for the cover sheet that must accompany each piece of evidence in a student's portfolio.

What Is Considered "Evidence"? Embedded in the template are details regarding each program's definition of evidence and its evaluation process. Both institutions take a broad, experiential approach, in that the programs consider a student's written reflection on prior work or other professional experience to be a valid source of evidence. The developers of the capstone portfolio came to this conclusion after considering the value of prior experiences to student success. Although neither institution grants academic credit for past experience, encouraging student reflection became a way for students to incorporate prior experiences into present learning.

At both institutions, during the capstone course and in a workshop leading up to the capstone, faculty provide students with an overview of Kolb's Experiential Learning Cycle (Kolb, 1994). Students are taught to think of their experiences as a "text" from which to apply course concepts and learning competencies. Early in the semester at the Florida program, an expert from career services is often invited to share his or her perspective with the capstone students. Additional guidelines for professional portfolio development are also provided online early in the semester. These guidelines are then part of orientation and career-development workshops.

Who Evaluates the Portfolio and How Is the Assignment Graded? The programs take a dual evaluation approach (see Appendix B): both the student and the faculty member who teaches the capstone seminar assess each piece of evidence based on the learning rubric. The scores are averaged to achieve a final grade for each capacity. Students are also encouraged to meet and discuss their portfolios with their classmates during the semester. At the Vermont program, small groups meet periodically over the course of a semester to "workshop" their portfolio entries. The Florida program expects students to meet informally before submitting their portfolios. (We comment further on student-to-student sharing below.)

Both institutions require students to place their portfolios entirely online. Students use Blackboard or a similar online platform, such as Canvas). Final versions of each portfolio are also archived. With student consent, some portfolios are posted online or shared with new students.

How Much Guidance in Portfolio Development Is Provided? Both institutions provide students with a great deal of structure. Flexibility lies in the type of evidence students use to make their cases. Students have generally welcomed this mix of clear instructions and some flexibility in content.

To What Degree Is There Student-to-Student Sharing of Draft Portfolio Entries? Drawing on the value of reflective practices for learning,

both programs encourage students to share and assess elements of their portfolios prior to final submission, and both programs spend class time "workshopping" selected draft entries. The programs teach students to use a structured protocol to present to and obtain feedback from their peers. At times, the capstone instructor will join the small student groups in their discussions. Students report that the discussions stemming from the presentation of evidence and subsequent review are very helpful, particularly for those who have been proactive in completing their assignments. Based on our experiences, we believe very strongly in the effectiveness of providing students with opportunities to present and discuss their portfolio entries. Owing to time constraints, not all entries can be workshopped in class. We have heard reports of students carrying on similar workshops outside of class as well.

At the Florida program, students share their five- to seven-page portfolio reflections online with their classmates. Each student then briefly presents one of his or her classmate's reflections. First, they get a chance to comment on one of their classmates' reflections. Second, they hear another student's feedback on their own portfolio reflections. This session is usually a favorite among the students, and participants appreciate the professionalism of their peers. One student commented,

> Going back through all of our assignments for the past five years was enlightening. It reminded me of some of the projects I worked on that I had almost forgotten about and it showed me all the hard work that had gone into completing this program.

How Are Portfolios Used in Managing Program Performance? Both the Vermont and Florida programs review their portfolio processes every two years. To date in the Florida program, three different faculty have taught the capstone course and have made slight adjustments to the process. Reflecting on feedback from faculty and students, both programs reduced the competencies students are required to demonstrate in their portfolios from 18 to 15.

But students are required to provide evidence for all 15 (before, students could choose to demonstrate 15 of 18 possible competencies).

In the Vermont program, faculty reflections on the portfolio have led to changes in the program's internship learning contract, the selection of specific case studies in both capstone and introduction to public administration courses, and renewed emphasis on application of research methods for program evaluation. In this way, portfolio results are used as a guide for institutional effectiveness and performance management. Although we have not quantified student responses (i.e., we have not determined which capacities students rate highest on), we certainly could do so to improve the rigor of our analysis.

Faculty at both institutions recognize the educational value of portfolios and have used the outcomes of the portfolio assignments to remedy gaps in the curriculum, to design effective assignments, and to prepare students to succeed. The result has been concrete programmatic improvements. Thus, the portfolio's value as a summative assessment tool to improve pedagogy is clear.

Further, the value of experiential learning and student agency in the assessment of their own learning has been well documented as a highly valued pedagogical approach (Estes, 2004). In both programs, students report that the portfolio assignment enables them to see the big picture and benefit of the entire program for their professional development for public service. The portfolio assignment affords students well-rounded insight into previously completed projects and significant prior professional experiences. Students comment that they gain a deeper understanding of the education they have received and, as a result, enjoy improved self-confidence vis-à-vis obtaining future employment. As noted above, students especially enjoy the reflection portion of the portfolio assignment. Specifically at the Florida program, students recommend that we require reflection at the end of each course throughout the MPA program, matching this reflection assignment to the core competencies in preparation for the cumulative portfolio reflection assignment.

CONCLUSION

This review of the literature on the use of portfolios in professional degree programs and the application of certain key features of portfolios gives us an opportunity to deepen our understanding of the portfolio as an effective pedagogical tool in MPA programs. As the University of Vermont and University of Central Florida MPA programs reveal, the development and use of the portfolio has become a critical in each program's evolution. Stemming from a strategic approach to curriculum review and pursuit of accreditation, the portfolio has become a central feature of the student learning experience. Students are introduced to the portfolio assignment during program orientation and are reminded of the capstone course throughout their coursework, priming them for work on their portfolios. In addition, some students have approached their internship experiences with an eye toward mastering specific capacities and building evidence for their portfolios. At both the University of Vermont and University of Central Florida, we have also heard from students on the job market who have referenced their portfolios in job interviews and to shape their résumés, affirming Davies and Le Mahieu's (2003) assertion that portfolios have become an increasingly relevant document for use in job searches, formal conferences, and exhibitions.

The portfolio assignment has grown out of deepened appreciation of learning theory and the application of performance management systems to the execution of MPA programs. Although portfolios are labor intensive, both for the students who construct them and for the external evaluators who review them, the portfolio is a pedagogical best practice well suited to professional education. We encourage further research by MPA programs that seek to employ the portfolio in measuring student learning and professional preparation for public service.

REFERENCES

Aderman, B., & Choi, J. (1997). Job portfolio: "It's the door opener." *Adult Learning, 8*(4), 26–27.

Alvarez, A. R., & Moxley, D. P. (2004). The student portfolio in social work education. *Journal of Teaching in Social Work, 24*(1–2), 87–103.

Bawane, J., & Spector, J. (2009). Prioritization of online instructor roles: Implications for competency-based teacher education programs. *Distance Education, 30*(3), 383–397.

Berrett, D. (2015, May). New graduates test the promise of competency-based education. *Chronicle of Higher Education.* Retrieved from http://chronicle.com/article/New-Graduates-Test-the-Promise/230315.

Berryman, L., & Russell, D. (2001). Portfolios across the curriculum: Whole school assessment in Kentucky. *English Journal, 90*(6), 76–84.

Bimes-Michalak, B. (1995). You are about to enter … the "portfolio zone." *Education Digest, 60*(9), 53.

Davies, A., & Le Mahieu, P. (2003). Assessment for learning: Reconsidering portfolios and research evidence. In M. Segers, F. Dochy, & E. Cascallar (Eds.), *Innovation and change in professional education: Optimizing new modes of assessment; In search of qualities and standards* (pp. 141–169). Dordrecht, Netherlands: Kluwer Academic Publishers.

Durant, R. (2002). Toward becoming a learning organization: Outcomes assessment, NASPAA accreditation, and mission-based capstone courses. *Journal of Public Affairs Education, 8*(3), 193–208.

Estes, C. A. (2004). Promoting student-centered learning in experiential education. J*ournal of Experiential Education, 27*(2), 141–160.

Fitch, D., Reed, B. G., Peet, M., & Tolman, R. (2008). The use of Eportfolios in evaluating the curriculum and student learning. *Journal of Social Work Education, 44*(3), 37–54.

Fitzpatrick, J. L., & Miller-Stevens, K. (2009). A case study of measuring outcomes in an MPA program. *Journal of Public Affairs Education, 15*(1), 17–31.

Harvey, L. (2010). Ed.D. portfolios: An innovative way to align curricular, internship and work-site learning that supports the development and promotion of practitioner-leaders. *Dissertation Abstracts International Section A, 70*, 2822.

Hatcher, R. L., Fouad, N. A., Campbell, L. F., McCutcheon, S. R., Grus, C. L., & Leahy, K. L. (2013). Competency-based education for professional psychology: Moving from concept to practice. *Training and Education in Professional Psychology, 7*(4), 225–234.

Henry, N., Goodsell, C. T., Lynn, L. E., Jr., Stivers, C., & Wamsley, G. L. (2008). Understanding excellence in public administration: The report of the task force on educating for excellence in the master of public administration degree of the American society for public administration. *Journal of Public Affairs Education, 15*(2), 117–133.

Jennings, E. T., Jr. (1989). Accountability, program quality, outcome assessment, and graduate education for public affairs and administration. *Public Administration Review, 49*(5), 438–446.

Kapucu, N. (2011). Developing competency based emergency management degree programs in public affairs and administration. *Journal of Public Affairs Education, 17*(4), 501–521.

Kish, C. K., Sheehan, J. K., Cole, K. B., Struyk, L. R., & Kinder, D. (1997). Portfolios in the classroom: A vehicle for developing reflective thinking. *High School Journal, 80*(4), 254–260.

Kolb, D. A. (2005). *The Kolb learning style inventory— version 3.1: Self-scoring and interpretation booklet.* Boston, MA: Hay Resources Direct. Retrieved from http://learningfromexperience.com/media/2010/08/tech_spec_lsi.pdf.

Koliba, C. (2004). Assessing reflection assignments for public affairs courses: Implications for educating reflective practitioners. *Journal of Public Affairs Education, 10*(4), 295–309.

McKenna, V., Connolly, C., & Hodgins, M. (2011). Usefulness of a competency-based reflective portfolio for student learning on a Masters Health Promotion programme. *Health Education Journal, 70*(2), 170–175.

Moisey, S., Hover, D., Kenny, R., & Koole, M. (2009). E-portfolios: A viable capstone activity for graduate programs. Retrieved from Athabasca University: http://auspace.athabascau.ca/handle/2149/2054.

Mummalaneni, V. (2014). Reflective essay and e-portfolio to promote and assess student learning in a capstone marketing course. *Marketing Education Review*, *24*(1), 43–46.

Network of Schools of Public Policy, Affairs and Administration. (2013). NASPAA accreditation website. Retrieved from http://www.naspaa.org/accreditation/NS/index.asp.

Piskulich, C. M., & Peat, B. (2014). Assessment of universal competencies under the 2009 standards. *Journal of Public Affairs Education*, *20*(3), 281–284.

Plaza, C., Draugalis, J., Slack, M., Skrepnek, G., & Sauer, K. (2007). Use of reflective portfolios in health sciences education. *American Journal of Pharmaceu-tical Education*, *71*(2), 1–6.

Powell, D. D., Saint-Germain, M., Sundstrom, L-M. (2014). Using a capstone case study to assess student learning on NASPAA competencies. *Journal of Public Affairs Education*, *20*(2), 151–162.

Raffel, J. A., Maser, S. M., & Calarusse, C. (2011). Accreditation and competencies in education for leadership in public service. In D. C. Menzel & H. L. White (Eds.), *The state of public administration: Issues, challenges, and opportunities* (pp. 70–88). London: Routledge.

Rubai, N., & Calarusse, C. (2014). Preparing public service professionals for a diverse and changing workforce and citizenry: Evaluating the progress of NASPAA programs in competency assessment. *Journal of Public Affairs Education*, *20*(3), 285–304.

Schuurman, S., Berlin, S., Langlois, J., & Guevara, J. (2012). Mission accomplished! The development of a competence-based e-portfolio assessment model. *Assessment Update*, *24*(2), 1–14.

Scott, S. G. (2010). Enhancing reflection skills through learning portfolios: An empirical test. *Journal of Management Education*, *34*(3), 430–457.

Sprague, M., & Percy, R. C. (2014). The immediate and long-term impact of practicum experiences on students. *Journal of Public Affairs Education*, *20*(1), 91–111.

Swigonski, M., Ward, K., Mama, R. S., Rodgers, J., & Belicose, R. (2006). An agenda for the future: Student portfolios in social work education. *Social Work Education*, *25*(8), 812–823.

UN Task Force on Standards of Excellence for Public Administration Education and Training. (2008). *Standards of excellence for public administration education and training: Final report.* Brussels, Belgium: UN Department of Economic and Social Affairs/International Association of Schools and Institutes of Administration.

Williams, D. G. (2002). Seeking the holy grail: Assessing outcomes of MPA programs. *Journal of Public Affairs Education*, *8*(1), 45–56.

Williams, D. G., Plein, L. C., & Lilly, R. (1998). Professional and career development: The MPA portfolio approach. *Journal of Public Affairs Education*, *4*(4), 277–285.

ABOUT THE AUTHORS

Naim Kapucu is a professor of public policy and administration and director of the School of Public Administration at the University of Central Florida. His research interests are collaborative governance, emergency and crisis management, decision making in complex environments, social inquiry and public policy, and scholarship of teaching and learning. He teaches network governance, collaborative public management, emergency and crisis management, methodology, and leadership courses.

Christopher Koliba is a professor in the Community Development and Applied Economics Department at the University of Vermont (UVM) and director of the Master of Public Administration program. He is also a fellow at UVM's Gund Institute for Ecological Economics, an associate researcher with the Vermont Cancer Center, and an associate faculty member of the Vermont Complex Systems Center. He was a Fulbright Scholar, conducting research at the University of Colombo, Sri Lanka, during the spring of 2015.

APPENDIX A

CAPSTONE LEARNING PORTFOLIO GUIDELINES

Primary Objectives of the Portfolio
- To provide the student with an opportunity to reflect upon his/her graduate education and body of prior experiences.
- To provide evidence that demonstrates student attainment of core learning competency areas.

Format
- Completed portfolios will be evaluated based on self- and instructor assessment. Rubrics and other evaluative tools will be used in these assessments.
- Completed portfolios will be required to follow a specific format as outlined in these guidelines.
- Completed portfolios will need to be submitted electronically and in print as the culminating assignment of the MPA Capstone.

Acceptable Forms of "Evidence"

1. *Graded assignments from the Capstone or other courses.* A limited number of assignments can be revised. Original and revised versions of the assignment must be submitted together.

2. *Materials developed within internships experiences.* Any materials prepared for an internship site will need to be approved by internship site supervisor.

3. *Written reflections that ask a student to explain how she/he has attained this competency through graduate studies or prior experiences.*

4. *Any form of creative expression preapproved by the Capstone instructor.* Some examples of possible evidence in this area include visualization techniques found at http://www.visual-literacy.org/periodic_table/periodic_table.html#. Other forms of expression take the form of artwork, videos, photos, poetry, prose, etc.

5. *Any form of evidence proposed by a student will be considered.*

Competencies and Capacities to Be Covered
The list of competencies below is organized around five higher-order learning competencies that are required for NASPAA-accredited MPA programs. These five core areas are broken into sub-categories organized around the acquisition of skills and knowledge capacities.

> Example:　　1.　　Higher-order competency
>
> 　　　　　　　1.1　　Skill or knowledge capacity

Each completed portfolio will need to include evidence for at least *three* skill or knowledge capacities for each of the five higher-order learning competencies.

More than one capacity may be addressed in a single piece of evidence. For example, a graded assignment may be used to demonstrate satisfactory mastery of more than one capacity. In those cases where one piece of evidence serves more than one capacity, the evidence will only need to appear in the portfolio once. A written statement and a completed rubric for every capacity should be provided under the appropriate tab and direct the reader to where to find the evidence in other parts of the portfolio.

Use of Assessment Tools

Rubrics for each competency and capacity will be used by the student and the external evaluator to evaluate. Students will be asked to distinguish between the level of competency when he/she began the MPA program and the level of competency at the culmination of the graduate program.

Brief written assessments should include reflections on how the piece of evidence and other related experiences and accomplishments contribute to the student's personal assessment of each identified capacity.

Satisfactory levels of completion of a mean score of 3.0 or better over all 15 pieces of evidence presented in the portfolio will be required in order to obtain at least a B on this assignment. The following mean scores align with the following grades: 3.0 to 3.1, B; 3.1 to 3.2, B+; 3.2 to 3.4, A–; 3.4 to 3.7, A; 3.7 or higher, A+.

Portfolio Outline

I. Title page

II. Personal bio (one paragraph)

III. Current résumé

IV. Public governance
1.x Evidence
    Written self-assessment & completed rubric
1.y Evidence
    Written self-assessment & completed rubric
1.z Evidence
    Written self-assessment & completed rubric

V. Policy processes
2.x Evidence
    Written self-assessment & completed rubric
2.y Evidence
    Written self-assessment & completed rubric
2.z Evidence
    Written self-assessment & completed rubric

VI. Analyze, synthesize, think critically, solve problems, and make decisions
3.x Evidence
    *Written self-assessment & completed rubric*c
3.y Evidence
    Written self-assessment & completed rubric
3.z Evidence
    Written self-assessment & completed rubric

VII. Public service values
4.x Evidence
    Written self-assessment & completed rubric
4.y Evidence
    Written self-assessment & completed rubric
4.z Evidence
    Written self-assessment & completed rubric

VIII. Communicate and interact with diverse constituencies
5.x Evidence
    Written self-assessment & completed rubric
5.y Evidence
    Written self-assessment & completed rubric
5.z Evidence
    Written self-assessment & completed rubric

IX. Personal reflection about your future
    (5 to 7 pages)

X. Appendices

APPENDIX B

MPA CAPSTONE LEARNING PORTFOLIO: PIECE OF EVIDENCE COVER SHEET

Name: _____

TITLE/LABEL OF EVIDENCE

Type of evidence

Course assignment for (identify class):

Internship artifact for (identify internship):

Written reflection produced for the portfolio:

Other (explain):

Competency/capacity addressed: (insert full text of competency/capacity here)

Self-assessment

Score: _____

Criteria you have met: Insert text of rubric level attained here:

Instructor assessment:

Score: _____

Checklist

☐ Written assessment follows completed rubric

☐ Evidence is located after written assessment or may be found under another tab/page of the portfolio (add location)

☐ Additional supporting evidence included

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses

This rubric is used as part of portfolio development in the MPA capstone class at the University of Central Florida. The rubric aligns with the five central learning outcomes (core competencies) for the MPA program identified by NASPAA. Each of the five is then divided into fundamental criteria, which combined form the main competency. Students are assessed for different levels of attainment. At a *novice level*, the student understands the competency and associated objectives. At a *developing level*, relevant skills are being acquired. At a *proficient level*, relevant skills are being acquired and practiced with additional supervision or guidance. At an *accomplished level* (meets the standard and exceeds the standard), tasks are performed to demonstrate the competency. This instrument is intended for program-level use in evaluating learning and assessing competency development.

Competency		Level of Attainment			
		Novice	Developing	Proficient	Accomplished
1. Ability to lead and manage in public governance					
1a	**Develop expertise on local government**	Does possess limited capacity in understanding local government operations Does not demonstrate a clear understanding of what distinguishes government from businesses and nonprofits	Can provide a basic articulation of how different social sectors are governed Can explain in basic terms what governance is and why it is important to local government	Can illustrate how governance dynamics as they unfold within specific social sectors and across social sectors play a role in the execution of public policies in particular cases and local government contexts	Able to evaluate the tradeoffs and synergies that persist within sectors and across sectors Can make recommendation for the design of new governance arrangements for local government
1b	**Develop an ability to lead and manage within multiple networks of stakeholders**	Does not understand the basic operations of systems and networks Cannot explain why understanding public administration cases and contexts in terms of networks is important	Can provide a basic overview of what network structures are and illustrate how they are evident in particular cases and contexts	Able to undertake an analysis of a complex public administration issue, problem or context using basic network frameworks	Can apply network frameworks to existing cases and contexts to derive working solutions or feasible alternatives to pressing administrative and policy problems
1c	**Reinforce democratic principles and practices**	Does not demonstrate an understanding of the relationship between democratic principles in public administration	Able to explain in simple terms why accountability in public administration is important to democratic systems	Can illustrate how accountability in public administration in a democratic society persists within particular cases and contexts	Able to critique the extent to which a robust accountability framework in public administration is evident in particular cases and contexts

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses (continued)

Competency		Level of Attainment			
		Novice	Developing	Proficient	Accomplished
1. Ability to lead and manage in public governance					
1d	**Produce consensus or consent among diverse stakeholders**	Cannot provide explanations for why and how collaboration and conflict persists within individual organizations and between organizations in public service settings	Able to provide a set of examples of where collaboration and conflict persist within single organizations and between organizations	Can illustrate how collaboration and conflicts arise within organizations and between organizations, ascertaining how they come about and what maybe done to improve the effectiveness of collaborations and/or overcome conflicts in particular cases and contexts	Can not only illustrate the drivers of collaboration or conflict in specific contexts and cases, but can also prescribe solutions for conflict and/or avenues to foster deeper collaboration by using negotiations, for example
1e	**Model the skills and power of leadership (including transformational, transactional, and servant) and utilize principles of public management**	Cannot distinguish between command and control structures from horizontally arranged administrative structures Cannot generalize why one form of leadership is better than another	Can distinguish between types of leadership and surmise which types of authority are working in particular cases and contexts	Can illustrate how leadership persists within specific cases and contexts and level critiques as to the efficacy of particular administrative arrangements	Can not only illustrate how leadership plays itself out in specific cases and contexts, but can offer alternatives to those arrangements perceived to be less effective or efficient
2. Ability to participate in and contribute to the policy process					
2a	**Develop capacity to analyze political theory, policy process, and policy implementation**	Possesses limited capacity to utilize any political theory, policy process, implementation, and/or practice to explain observed phenomena	Possesses some capacity to utilize any political theory, policy process, implementation, and/or practice to describe observed phenomena	Employs political theory, policy process, implementation, and past experiences to describe and evaluate observed phenomena Employs this analysis to seek solutions	Can demonstrate a mastery over more than one political theory, policy process, implementation, or political experience and is capable of applying these frameworks to study and/or transform an existing situation
2b	**Analyze policy issues/problems using different methodologies**	Possesses limited capacity to systematically evaluate the effectiveness of specific policy tools or interventions	Has some exposure to carrying out policy analysis/evaluation, employing simple evaluation methods and approaches	Can undertake an independent piece of policy analysis, successfully rendering new insights and applicable findings for policy makers	Can employ sophisticated analytical techniques to render a policy analysis or evaluation that provides new insights and actionable items for policy makers

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses (continued)

Competency		Level of Attainment			
		Novice	Developing	Proficient	Accomplished
2. Ability to participate in and contribute to the policy process					
2c	**Identify and evaluate interests from multiple stakeholders in policy formation and communicate evidence-based policy information as a foundation for collaborative negotiations with diverse stakeholders**	Can isolate simple problems from solutions, but has difficulty identifying ill-structured problems	Possesses some capacity to define how problems are framed by different policy actors	Can demonstrate how problems are defined within specific policy contexts by multiple stakeholders and deconstruct the relationship between problem definitions and solutions	Can articulate how conflicts over problem definition contribute to complex/wicked policy problems and their solutions in a networked environment
2d	**Assess the political, legal, economic, institutional, and social environment and operation of public administration in the policy process (including concepts, theories, approaches, models, techniques, formulation, implementation, evaluation, and institutions)**	Possesses limited capacity to utilize any political theory and/or practice to describe observed phenomena Possesses limited capacity to utilize policy process to describe observed phenomena	Possesses some capacity to utilize any political theory and/or practice to describe observed phenomena Possesses some capacity to utilize policy process to describe observed phenomena	Employs political theory and past experiences to describe and evaluate observed phenomena and employs this analysis to seek solutions Employs a policy process approach to the study of observed phenomena	Can demonstrate a mastery over more than one political theory or political experience and is capable of applying these frameworks to study and/or transform an existing situation Employs a policy process approach to the diagnoses of a problem raised in real-life policy dilemmas
2e	**Design policy implementation methodology and actively engage with public sector employees and citizens to develop goals and strategies**	Possesses limited capacity to distinguish between policy creation and policy implementation phases of the policy cycle	Possesses a rudimentary understanding of policy implementation processes within specific contexts	Can undertake a detailed assessment of policy implementation within specific contexts	Is capable of comparing policy implementation processes across different policy domains and can decipher challenges to effective policy implementation processes

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses (continued)

Competency		Level of Attainment			
		Novice	Developing	Proficient	Accomplished
3. Ability to analyze, synthesize, think critically, solve problems, and make decisions					
3a	**Develop expertise in techniques used in managing government operations**	Can identify why strategic planning, budgeting, and sound fiscal management practices are important, but cannot analyze how and/or if such practices are being used within specific contexts	Can identify strategic planning, fiscal planning, and budgeting practices for a particular situation or context, but has limited capacity to evaluate the effectiveness of a manage-ment system	Can identify and analyze strategic planning, financial management systems, needs, and emerging opportunities within a specific organization or network	Can provide new insights into the financial management and strategic planning challenges facing an organization or network and can suggest alternative design and implementation scenarios
3b	**Appraise the concepts of social science research meth-ods, statistical analysis, and techniques; apply the skills to analyze public policies and government operations; and formulate a policy or managerial decision**	Can explain why it is important to undertake program/policy evaluation, but possesses limited capacity to actu-ally carry it out	Can provide a rationale for undertaking program and policy evaluation and explain what the possible goals and outcomes of such an evaluation might be	Can provide a detailed account for how a program or policy evaluation should be structured within the specific context	Can demonstrate the successful execution of a program or policy evaluation or the successful utilization of evidence to improve administrative practice
3c	**Create networked/ collaboration solution to complex modern problems**	Can explain in a vague or abstract way why it is important for public admin-istrators to value coalition and team building, but cannot provide specific explanations or justifications applied to particular contexts	Can identify instances in specific cases or contexts where a public adminis-trator successfully or unsuccessfully demonstrated a capacity to build teams or coalitions Possesses a basic level of under-standing of net-work dynamics	Demonstrates a capacity for successful participation in a team or coalition environment Can apply teaming and coalition-building concepts to describe the experience	Can point to example in which they have created and/or lead teams or coalitions Can apply teaming and coalition building concepts to describe the experience

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses (continued)

Competency		Level of Attainment			
		Novice	Developing	Proficient	Accomplished
3. Ability to analyze, synthesize, think critically, solve problems, and make decisions					
3d	**Identify, evaluate, and model best practices**	Can provide an explanation of why performance goals and measures are important in public admin-istration, but cannot apply this reasoning to specific contexts	Can identify the performance management considerations for a particular situation or context, but has limited capacity to recognize the effectiveness of performance management systems	Can identify and analyze performance management systems, needs, and emerging opportunities within a specific organization or network	Can provide new insights into the performance management challenges facing an organization or network and can suggest alternative design and measurement scenarios
3e	**Develop professional capacity in basic skills (including writing, speaking, analytical techniques, and critical thinking)**	Demonstrates some ability to express ideas verbally and in writing Lacks capacity to present and write consistently	Possesses the capacity to write documents that are free of grammatical error and are organized in a clear and efficient manner Possesses the capacity to present ideas in a professional manner Suffers from a lack of consistency in the presentation of material and expression or original ideas and concepts	Is capable of consistently synthesizing and expressing ideas verbally and in writing in a professional manner that communicates messages to intended audiences	Can demonstrate some instances in which verbal and written communica-tion has persuaded others to take action in solving problems

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses (continued)

Competency		Level of Attainment			
		Novice	Developing	Proficient	Accomplished
4. Ability to articulate and apply a public service perspective					
4a	**Develop a respect and demonstrate methods for authentic interaction with citizens, other governmental entities, and nonprofit and business communities**	Can explain in a vague or abstract way why it is important for citizens to be involved in the governance of their society, but cannot provide specific explanations or justifications applied to particular contexts	Can distinguish between authentic and inauthentic citizen participation in field contexts, but cannot articulate how participation can either become more authentic or be sustained in an authentic way	Possesses the capacity to describe how citizen participation can be undertaken within an authentic way that improves the democratic accountability of an organization or network	Can demonstrate having either (a) played a role in facilitating the authentic participation of citizens in a public administration context or (b) played an active role as an engaged citizen
4b	**Value and demonstrate commitment and professionalism and integrity in serving the public**	Possesses little to no capacity to think critically about and reflect deeply upon their own identify as a present or future public administrator	Can express both orally and in writing why they are pursuing an MPA and describe how the degree will help them achieve public service goals	Can express both orally and in writing how course concepts and learning competencies synthesize with their own life experiences in advancing public service	Can demonstrate capacity to undertake responsive practice toward the resolution of a real dilemma or toward the achievement of a public service goal in real-life settings
4c	**Communicate public interest based on ethical reasoning and democratic participation**	Can explain in a vague or abstract way why it is important for public administrators to act ethically, but cannot provide specific explanations or justifications applied to particular contexts	Possesses a basic comprehension of ethical behavior and decision making within public administration contexts, but cannot apply concepts to specific cases with any level of depth and insight

Can begin to articulate how they think of themselves as an ethical administrator | Can apply ethical concepts and frameworks to specific situations and contexts

Able to articulate how they view ethics as a professional competency | Able to diagnose an ethical dilemma, apply specific ethical frameworks to study it, and articulate ways of resolving the dilemma

Can clearly articulate their own ethical framework and cite examples of how it applies to past, present, or future practice |

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses (continued)

Competency		Level of Attainment			
		Novice	Developing	Proficient	Accomplished
4. Ability to articulate and apply a public service perspective					
4d	**Critique instrumental reasoning in order to promote social and economic equity and justice**	Can explain in a vague or abstract way why it is important for social and economic equity to flourish, but cannot provide specific explanations or justifications applied to particular contexts	Can explain why social and economic equity is important to public administration and can identify how social and economic equity or inequities persist within a given context, but cannot diagnose why the problem persists or how to address it	Possesses the capacity to describe and analyze social and economic equity/inequity within specific contexts Can offer suggestion for ways of improving inequitable situations	Can demonstrate having played a role in facilitating the improvement of inequitable situations through indirect or direct action
4e	**Incorporate and value principles of democracy, public transparency, and consensus building in the workplace when making decisions that directly impact the community**	Can explain in a vague or abstract way why principles of democracy is important for public administrators to act as effective leaders, but cannot provide specific explanations or justifications applied to particular contexts	Possesses a basic comprehension of principles of democracy within public administration contexts, but cannot apply concepts to specific cases with any level of depth and insight Can begin to articulate how they think of themselves as a leader	Can apply principles of democracy to specific situations and contexts Able to articulate how they views collaborative leadership as a professional competency	Able to apply specific principles of democracy to the study of a particular situation or context Can clearly articulate their own approach to collaborative leadership capacities and cite examples of how it applies to past, present or future practice

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses (continued)

Competency		Level of Attainment			
		Novice	**Developing**	**Proficient**	**Accomplished**
5. Ability to communicate and interact productively with a diverse and changing workforce and citizenry.					
5a	**Incorporate various communication tools and strategies (including written reports, brochures, e-mails, PowerPoint, and marketing plans) in the management of public service organizations**	Can explain why information technology (IT) is important to contemporary workplaces and public administration environments Possesses direct experience with IT, but little understanding for how IT informs professional practice	Can identify instances in specific cases or context where a public administrator successfully or unsuccessfully demonstrated a capacity to use IT to foster innovation, improve services or deepen accountability Analysis at this level is limited to descriptions and thin analysis	Can identify how IT impacts workplaces and public policy Can diagnose problems associated with IT tools, procedures, and uses	Demonstrates a capacity to view IT in terms of systems design Capable of working with IT professionals in identifying areas of need for IT upgrades, IT procedures and IT uses in real-life settings
5b	**Incorporate major concepts, skills, process, policies (including planning, classification, compensation, recruitment, selection, training, performance appraisal, labor relations, equal employment opportunity, and affirmative action) in public service human resource management**	Can explain why human resources are valuable to any undertaking Possesses limited capacity in describing the critical feature of successful human resource management	Can identify some major features of effective human resource management systems: staffing, performance evaluation, motivations and benefits Possesses limited capacity analyze the human resources issues relative to specific situations and contexts	Demonstrates a capacity to identify and manage the necessary human capital to carry out a task or function within specific contexts or situations	Can point to instances in which they have lead or initiated projects or systems designed to improve human resource management practices within a specific setting

APPENDIX C

Example Assessment Rubric for Portfolios in MPA Capstone Courses (continued)

Competency		Level of Attainment			
		Novice	Developing	Proficient	Accomplished
5. Ability to communicate and interact productively with a diverse and changing workforce and citizenry.					
5c	**Develop cultural competency and appreciation of diversity for collaborating with diverse stakeholders to produce consensus or consent**	Can explain in a vague or abstract way why it is important for public administrators to be culturally competent, but cannot provide specific explanations or justifications applied to particular contexts	Able to demonstrate knowledge of diverse cultures and groups Can express the value of differences and difference perceptions in the workplace Demonstrates an ability to openly discuss cultural differences and issues	Can explain how cultural awareness, cultural knowledge, and cultural skills are employed, or not employed, within specific cases for workplace productivity	Demonstrates a capacity to be aware of own behavior and its impacts on others, a capacity to understand how discrimination impacts for workplace experience and productivity
5d	**Negotiate interest-based resolutions with stakeholders experiencing conflict**	Can explain in a vague or abstract way why it is important for public administrators to value coalition- and team-building, but cannot provide specific explanations or justifications applied to particular contexts	Can identify instances in specific cases or context where a public administrator successfully or unsuccessfully demonstrated a capacity to build teams or coalitions Possesses a basic level of understanding of teamwork dynamics	Demonstrates a capacity for successful participation in a team or coalition environment Can apply teaming and coalition-building concepts to describe the experience	Can point to example in which they have created and/or lead teams or coalitions Can apply teaming and coalition-building concepts to describe the experience
5e	**Critique existing partnerships and promote engagement and interaction with citizens and nonprofit organizations, as well as collaborative efforts with other entities**	Can explain in a vague or abstract way the performance of networks, but cannot provide specific explanations applied to particular contexts	Can identify instances in specific cases or context where a network is effective or ineffective	Can formulate possible strategies for network effectiveness Creates engagement and is able to motivate people from other institutions and backgrounds	Demonstrates own capacity to analyze and network or take an active role in a partnership Has an emerging professional network, identifies important stakeholders and builds strategic relationships

Undergraduate Research Needs: Faculty-Librarian Collaboration to Improve Information Literacy in Policy Papers

Michelle C. Pautz
University of Dayton

Heidi Gauder
University of Dayton

ABSTRACT

To improve the quality of semester-long policy projects of upper-division political science students, a faculty member and research librarian collaborated to reframe the assignment in hopes of improving students' research skills and information literacy, revising the traditional one-way model of faculty sending students to the library to get information. The outcomes over the course of two semesters have been promising. Citations in two sets of student papers showed a remarkable increase in the number and quality of sources used. This suggests that when faculty work with librarians throughout the semester, such collaboration can improve students' information literacy and thus their coursework and overall learning.

With the opening of every semester, we faculty experience renewed hope that it will be this semester that our carefully devised research assignments will result in final projects that meet our expectations. But we are frequently disappointed, as we accept the reality that no matter how hard we work to scaffold an effective research project, something is still missing. We point to many reasons why student projects underwhelm us, from blaming tech-nology (cf. Rothenberg, 1998), to lamenting the disengaged and lazy student (cf. Bain, 2004; Bauerlein, 2008; Weimer, 2013), to wishing there were more time in the semester. There is no simple answer to this conundrum, but faculty self-reflection can add to the solutions we try.

After many semesters of teaching an upper-division political science elective in environ-mental policy and growing frustrated with the

results of a semester-long policy project, it occurred to one of us (Michelle Pautz) that a significant part of the problem was the type of sources and kinds of information that students were utilizing. As a result, a collaboration was started with the political science reference librarian (Heidi Gauder), aiming to improve student research skills. Instead of following the traditional model faculty sending students to the library to get information (cf. Marfleet & Dille, 2005), we began working together before the semester to revamp the entire policy project assignment, and we maintained those collaborative efforts throughout the semester. So far, we have been pleased with the outcomes, which has continued over two semesters in an environmental policy course. Based on our experience, we believe that when faculty and reference librarians work together throughout the semester, the result could potentially improve students' information literacy, their final writing projects, and ultimately their overall learning.

In this article, we discuss the project assignment and origins of our collaboration, situating our efforts in the broader literature about faculty-librarian collaboration and information literacy. We then describe the results of our work over several semesters as well as the specific environmental policy course and the semester-long project, detailing project results and discussing our information literacy assessment efforts to date. The final section turns to lessons learned and additional modifications we recommend for the future. While the project assignment under discussion here takes place in an environmental policy course, the project parameters could easily be adapted to any topical or applied policy course, offering broader implications for the teaching of public policy.

COLLABORATIONS BETWEEN FACULTY AND LIBRARIANS

The origins of our collaboration began after many semesters of trial and error with one course. Once a year, the faculty member typically teaches an upper-division environmental policy seminar in the Political Science Department of

a midsized, comprehensive, private Catholic university. Among the course's student learning outcomes are the ability to conduct policy research, analyze a particular environmental problem, craft a clear and concise policy option to address the problem, as well as to improve critical thinking skills and analytical writing capabilities. Although this course is an upper-division political science elective, it attracts a variety of students, including political science majors taking an advanced policy elective, environmental studies students interested in the topical area, and many students (sometimes more than half of the typical enrollment of 25) from the natural sciences and engineering programs who take this course to fulfill a general education requirement.[1] Often, this latter group has little to no background in government or public policy, as the course has no prerequisite. Student library research skills are likewise uneven. Many students have had at least a basic introduction to the scholarly research process and have passing familiarity with at least one library database, but few enter this course with the information literacy skills needed to effectively find, evaluate, and synthesize sources.

Given this student makeup, a policy project assignment was developed in which students apply the concepts and theories learned in the classroom to a particular environmental policy area that they take a position on and advocate for. This project evolved from, at first, students working individually and selecting their own policy topics to, later, students collaborating in groups to investigate a preselected, broad topic, culminating in a mock congressional committee hearing.[2] Making the assignment a group project arose from recognition that (1) producing a white paper of decent quality was challenging for individual students and (2) there are significant benefits to be gained from collaborative work and learning. Even so, the end results—the students' policy options white paper and hearing testimony—remained underwhelming. In particular, students seemed to struggle to understand just how complex environmental issues can be. This was evident in the lack of

diversity in the sources students used for information as well as the relevancy and appropriateness of those sources. With this realization and conversations with the political science reference librarian, a new version of the project was born.

Although it might seem an obvious collaboration—librarians and faculty—research demonstrates that cooperation is actually rare (Rader, 2002). It was not until the 1970s and 1980s that formal academic library instruction was offered and, to this day, much of that instruction is a "one-shot" session rather than an integrated, semester-long experience (Stevens & Campbell, 2008). These stand-alone sessions have obvious drawbacks, ranging from not enough time and too much content, to the difficulty in connecting pertinent library research information with the specifics of an assignment (Stevens & Campbell, 2008, p. 231). Yet, integrated library instruction leads to improvement in students' research skills (Daugherty & Carter, 1997). Further, Buchanan (2002), Fialkoff (2001), and others note that librarians play a critical role in helping students achieve information literacy and they should be fully integrated into the curriculum. Baxter (1986) notes,

> Students don't always know the degree to which librarians can help them with their research, so one important function of library instruction is teaching students that the subject specialist/reference librarian can serve as a 'trouble-shooter' in the maze of access tools and an ally in the literature search process. (p. 41, quoted in Stevens & Campbell, 2008, p. 234)

More recently, Shannon and Shannon (2016) affirmed the value of an embedded librarian presence for student research efforts.

These conclusions, combined with our own experiences with students, led us to collaborate on the semester-long project, and we found that such collaboration made for a better learning experience for all involved. We posit that information literacy might even improve as a result.

Information Literacy

In political science and public policy classes, achieving student understanding of a particular policy and the nuanced arguments for and against is paramount. And to reach such understanding, the accuracy and type of information that students use are critical. Thus, students must learn how to (1) get reliable information and (2) assess the accuracy of that information. These challenges span disciplinary boundaries and are frequently discussed broadly as *information literacy*. The Association of College and Research Libraries (2000) defines information literacy as "a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." Marfleet and Dille (2005) go further and explain that

> information literacy is the set of skills needed to find, retrieve, analyze, and use information. Information-literate people are those who have learned how to learn. They know how information is organized, where to find it and how to use it. They can also distinguish between sources of high and low quality information and therefore research more efficiently and with higher quality results. (p. 176)

This latter description is exactly what we want our policy students to be able to do as they critically engage policy issues.

While it may seem commonsensical that information literacy is essential in political science and public policy education, Williams and Evans (2008, p. 117) conclude that political science appears to lag in incorporating information literacy into its curriculum, an observation seconded by the Law and Political Science Section of the Association of College and Research Libraries (2008). Stevens and Campbell (2008) echo these assessments but note that trend may be shifting. Indeed, Turner's (2014) case study not only incorporated information literacy as a learning outcome but did so within the context of public service values and professionalism in the public sector. Hutchins (2003) describes assessment efforts to measure student learning

in a political science course, while Stevens and Campbell (2007) describe trying to integrate information literacy into an entire political science curriculum.

Regarding strategies to achieve information literacy, Buchanan (2002) notes four: (1) students should engage in group activities that require them to seek and evaluate information, (2) faculty should provide feedback on students' work to reinforce information literacy, (3) faculty should provide opportunities for students to apply these literacy skills in their assignments, and (4) students should be challenged with a "disequilibrium" experience so that they have to evaluate and seek new information. Marfleet and Dille (2005, p. 180) suggest that specific strategies can help students achieve information literacy, including those that emphasize research-related writing and the involvement of librarians in the instructional environment. These research efforts have informed our collaboration and the modifications we have made to the semester-long policy project discussed here.

POLICY PROJECT DESIGN AND IMPLEMENTATION

At the beginning of the semester, students are introduced to the semester project, which is a policy options white paper and mock congressional hearing simulation. For the last two semesters, the topic has been set for them (the topic has been hydraulic fracturing, or "fracking")[3] and the instructor assigned students to various stakeholder groups based on student preference. Each group represents that stakeholder group, researches their point of view, and develops a policy options white paper advocating for a policy solution based on the stakeholder's perspective. For example, one student group represented the American Farm Bureau Federation's perspective on fracking and, after researching this stakeholder, did not advocate a complete ban on fracking but rather recommended that energy companies publicly disclose the chemical composition of the fracking solution used to extract natural gas. To make these arguments, both in a policy options white paper and during oral testimony to a mock congressional committee,

the student group had to effectively locate, evaluate, and synthesize information and arguments. Such research efforts are at the heart of the course's collaboration with librarians.

As the literature indicates, librarians should be involved in curriculum development from the outset to achieve the best possible research outcomes. We—the faculty member and research librarian—began working together during the summer of 2013, meeting regularly to discuss research expectations and desired library session outcomes. Our collaboration extended throughout the course in both Fall semester of 2013 and Spring semester of 2015. This timeline enabled us to work through two entire semesters of the policy project and, most importantly, make modifications based on our assessment after the first semester.

LIBRARY SESSIONS AND RESOURCES

During both semesters of our collaboration, students attended a librarian-led research session; after that session, the librarian attended two different in-class project workdays during the middle of the term. These face-to-face meetings were supplemented with an online research guide (LibGuide),[4] and the librarian was available for individual consultations as well. While there were three class periods with the librarian each semester, the sessions were structured a bit differently in each of the course's two offerings.

In the Fall 2013 course, the librarian, in collaboration with the instructor, organized the research session based on the work of the Association of College and Research Libraries (ACRL). The ACRL Information Literacy Competency Standards for Higher Education offer a framework for teaching and assessing information literacy skills. For the librarian-led research session, we used the ACRL's information literacy competency standard 1, "Determining the nature and extent of information needed," as the teaching basis. The session included a brainstorming activity in which group members outlined information that would be helpful for understanding their stakeholders and their own perspectives on the

topic. Since the students were just starting the research phase, we determined that it was important for them to articulate their information needs before conducting any searches. The intention was for students to begin thinking strategically about the arguments they would be making, to identify the information needed to support their claims, and to consider what the counterargument information needs might be. For example, the student group representing the energy trade association identified a need for data about industry job growth and carbon emissions, while the farming interest group wanted to research prior congressional testimony and the group's mission. By sharing with the class, the groups could begin to appreciate other information needs, and the librarian could add more information sources to the online research guide. In reality, however, the exercise proved challenging for students, as they struggled to understand their stakeholder organizations, and the added layer of identifying relevant information needs for the topic seemed to overwhelm several students.

In the Spring 2015 course, we scheduled the library research session just as students finished reading Tom Wilber's 2012 book, *Under the Surface*, a journalistic treatment of fracking. This text contains strong arguments and uses multiple sources and thus presented a perfectly timed opportunity to discuss strategies for using information in students' policy projects. Accordingly, this research session focused on analyzing how Wilber used different types of information to construct persuasive arguments. We used a fairly simple framework—logos, ethos, and pathos—to categorize how information might be used for different rhetorical purposes. We deliberately chose this framework because many students had already written rhetorical analyses in their English Composition classes. Also, by this time, ACRL had approved a new approach to information literacy, known as the Framework for Information Literacy for Higher Education, which takes a more conceptual approach.[5] This research session focused on the idea that authority is constructed and contextual.

The session then addressed how different information sources could help support arguments in various rhetorical ways, as students prepared their testimony for the mock congressional hearing. For example, students who advocated on behalf of the energy industry considered using sources that pointed to scientific studies or data that supported the industry's positions, such as statistics about economic growth; the environmental interest group, using pathos as a rhetorical technique, searched for newspaper reports about negative health effects of fracking or instances of tap water catching on fire due to the alleged methane seeping from the fracking site. Only after the students analyzed Wilber's use of information and then brainstormed research needs for their own work did we then cover information sources and searching techniques, much of which we had already incorporated in the online research guide.

We recognize the importance of not making these library sessions "stand-alone" research skills training. Instead, we acknowledge the importance of repeated efforts and sessions devoted to helping students build their information literacy skills, with the goal of improving policy papers and the testimony at the mock congressional hearing. Therefore, in each semester, we scheduled two workshop days after the library research session. We gave students the entire class period to work in their stakeholder groups, and both the instructor and librarian helped the students with whatever questions or concerns they uncovered as they worked. For example, when the congressional committee group was trying to better understand their representative districts, the librarian was able to walk the students through Social Explorer, a demographic database that includes US Census information for congressional districts.

These workshop sessions were useful for several reasons, and the students and we found the experience beneficial. First, students rarely have questions in a research instruction session, but when students spend time earnestly working on a project, they have a lot of questions. By having workshop sessions during class time, we

were able to help students immediately address their questions. The time leading up to the workshop sessions also allowed each student group to consider their specific information needs. Second, for any group project, scheduling time outside of class is often challenging, and the class-time workshop sessions ensured that groups were working productively early in the semester and that any issues could be addressed sooner rather than later. Finally, the students appreciated having unstructured class time to work on their projects as they saw fit.

PROJECT ASSESSMENT METHODOLOGY

At the end of each semester, we were anxious to examine whether or not the faculty-librarian collaboration improved the quality of the policy project's deliverables and of students' information literacy. For assessment measures, we focused on the number and kinds of sources the students used. We analyzed students' policy options white papers and how they compared across the two semesters. We wanted students to have demonstrated their ability to locate and utilize diverse sources of information.

The written component of the project is a policy options white paper, in preparation for a mock congressional hearing. It is both a research paper and a persuasive argument paper advocating a certain policy position. To be effective, students need to use a variety of sources as well as multiple rhetorical approaches: journal articles from experts, information from news sources for background information, position papers from advocacy groups, and federal government information and data.

To assess information literacy skills, we conducted a citation analysis of the final papers from both semesters, a common means of assessment. Carbery and Leahy (2015) summarize use of this methodology for assessing the effectiveness of information literacy instruction, while sharing their own experiences of using annotated bibliographies from first-year students, much like Emmons and Martin (2002). Gilbert, Knutson, and Gilbert (2012) employed citation analysis as part of a larger assessment effort for

a political science course, although the study's source categories were fairly broad (search engine, course website, discussion with professor, discussion with reference librarian). Robinson and Schlegl's (2004) citation coding schema was more sophisticated but focused more on differentiating scholarly from popular sources.

We expanded our coding schema further. Because our students were also likely using rhetorical strategies to appeal to their mock congressional committee, they would be using sources not necessarily appropriate for an academic research paper. Sources would likely be heavily online-dependent, so we wanted to pinpoint the kind of webpages students were citing. Knowing whether the cited source was an environmental impact statement, a blog post, a press release, or something else was critical for our assessment. As a result, our coding schema included three categories: name of corporate source or publisher (specific), source category (broad), and item type (specific). The source or publisher name was generally the organization that provided the information. We then organized individual sources into broader categories, including federal government, academic journals, magazines, trade associations, and others. Finally, we categorized citations by information format, including press releases, scholarly articles, white papers, government documents, and others.

For each citation, then, we assigned three categories of criteria (see Table 1). For example, a *Huffington Post* citation would include *Huffington Post* as the specific source name, a news organization as the broad type of source category, and the specific information item type as a blog post. If the citation information was insufficient to determine the source/publisher or information item type, then we checked the citation online to verify. We applied this framework to white papers from both semesters and reviewed our application of assessment criteria for consistency. The stakeholder groups remained mostly the same in both semesters, which allowed for comparison at both the class level and by stakeholder type.[6]

TABLE 1.
Examples of Coding Schema for Citations

Citation	Name of corporate, government, or other publisher source	Source category	What is it?
US EPA, (2015, March 13), "Summary of the Clean Water Act," http://www2.epa.gov/laws-regulations/summary-clean-water-act	Environmental Protection Agency	Federal government	Web page
U.S. Senate, (2013), 113th Congress, 1st Session. *S. 1135, To amend the Safe Drinking Water Act to repeal a certain exemption for hydraulic fracturing, and for other purposes* (Washington, DC: Government Printing Office)	Government Printing Office	Federal government	Senate bill
M. Reddin, (2013, November 20), "These members of Congress are bankrolled by the fracking industry," *Mother Jones,* http://www.motherjones.com/blue-marble/2013/11/chart-these-members-of-congress-are-bankrolled-by-the-fracking-industry	*Mother Jones*	Magazine	Popular article
D. C. Holzman (2011), "Methane found in well water near fracking sites," *Environmental Health Perspectives, 119*(7), a289. doi:10.1289/ehp.119-a289	*Environmental Health Perspectives*	Journal	Scholarly article
ANGA, (2015), "Cutting natural gas industry methane emissions," *America's Natural Gas Alliance,* http://anga.us/about-us/our-members#.VMl4ZV7F_iR	American Natural Gas Alliance	Trade association	Web page
S. Glickman, (2015), "Natural gas distribution," *S&P Capital IQ*	Standard & Poors	Proprietary database	Industry survey
R. L. Kosnik, (2007), *The oil and gas industry's exclusions and exemptions to major environmental statutes,* Oil and Gas Accountability Project,	Oil and Gas Accountability Project	Nonprofit organization	Report
Halliburton Fluids Disclosure, (2014, December 16), http://www.halliburton.com/public/projects/pubsdata/Hydraulic_Fracturing/fluids_disclosure.html	Halliburton	Business	Web page

Our approach has limitations; namely, we looked only at final effort, not at how students located and evaluated information. Citation analysis provides an indication of the sources used, which may be used to evaluate research outcomes associated with the course. However, a citation analysis does not measure any change in skill development or provide a baseline for how much knowledge students had prior to taking the class. Additionally, since ours was a group project in both semesters, we are unable to gather insights about skill development at the student level; rather, our unit of analysis is the group level (groups typically consisted of four or five students).

CITATION ANALYSIS RESULTS

In light of the two different approaches to library research instruction we used in the two semesters, we were eager to assess differences in number of citations and type of sources used. Table 2 presents the total number of citations for the five stakeholder groups' policy options white papers across the two semesters.

The number of citations from one semester to the next nearly doubled. Disappointed in the overall level of research after the Fall 2013 course, the faculty member spent more time in the Spring 2015 class discussing the project and underscoring the research expectations of an upper-division course. Additionally, the library research instruction session in the 2015 semester emphasized the need for source variety in making an effective argument, which may have affected the final citation count. Finally, simple differences in class composition from one semester to the next may have also mattered.

In addition to the sheer number of sources students used in their research, we were also interested in the types of sources employed and whether there was a noticeable diversification of those sources between the semesters. Table 3 shows the kinds of sources students utilized in their papers.

In both semesters, students relied most heavily on sources from the federal government and nonprofit organizations, along with those from news organizations and trade associations. Both nonprofit organizations and trade organizations are important constituencies for the issue of fracking, so we found the inclusion of these source types appropriate. Academic journal articles represented only 8% of sources cited over both semesters. Although we had hoped that students would be able to locate and summarize relevant scientific studies and policy analyses, they relied more on study summaries provided by news organizations and government websites. Given the accessibility of information on the contentious topic of fracking, we were not that surprised by the source distribution. We were, however, pleasantly surprised to see students' reliance on federal government data, given the challenges that navigating federal government websites can present.

In total, the five groups in the Fall semester used only 61 sources, while the five groups in the Spring semester used 115 sources—nearly double. Although this significant increase in the number of citations does not necessarily indicate an increase in student information literacy or use of more appropriate policy papers, this aggregate total was one measure we were

TABLE 2.

Total Citations in Policy Options White Papers, by Semester

	Fall Semester 2013	Spring Semester 2015	Total
Number of citations	61	115	176

TABLE 3.
Citation by Source Category, by Semester

Type of sponsor	Fall Semester 2014	Spring Semester 2015	Total
Book	1	2	3
Business website	6	6	12
Commercial website	0	4	4
Data website	2	4	6
Government, federal	12	32	44
Government, state	4	1	5
Journal	8	6	14
Proprietary database	0	7	7
Magazine	3	6	9
Miscellaneous	1	2	3
News organization	1	16	17
Nonprofit organization	11	14	25
Postsecondary institution	2	3	5
Regional group/organization	4	0	4
Trade association	6	10	16
Wiki	0	2	2
Total	**61**	**115**	**176**

TABLE 4.
Average Number of Citations and Source Types Consulted per Student Group, by Semester

	Fall Semester 2013	Spring Semester 2015
Average number of citations	12.2	23.0
Average number of source types consulted	6.6	9.4

able to operationalize as we assessed our faculty-librarian collaboration. Additionally, we both concluded independently that on the whole, the papers in the second semester were far better than the first. And overall, students in the Spring semester used more sources from a wide range of sponsors.

By way of summary, Table 4 captures the differences in citation use that we observed between the two semesters. The average number of citations used by student groups nearly doubled in the second semester, and the average number of source types groups used increased by 50%. Of course, these numbers are not proof of improved information literacy, but they are encouraging in terms of students' utilization of more research and more types of sources.

LESSONS LEARNED AND FUTURE PLANS
We were pleased with our efforts and modifications in the second semester, Spring 2015, even as we look to improve our work in the future. We see value in continuing the semester-long collaboration between faculty member and librarian, rather than the typical stand-alone library visit. We believe that students also recognized the value of research, and several met with the librarian for one-on-one consultations.

Although multiple factors contributed to a more successful Spring 2015 course, we believe that connecting rhetorical approaches to required reading and research helped students. By an-alyzing Wilber's arguments, students not only identified a research approach that could be easily modeled but also achieved a greater understanding of the need for a variety of information sources. This kind of conceptual approach was lacking in the Fall semester library research session, which asked students to conduct an inventory of information needs for their interest group, a task that seemed to overwhelm them.

There were no quotas or specific requirements for the number of sources needed for students' research papers.[7] However, it is interesting to note that the papers with the lowest grades in both semesters also had the lowest number of citations. To ensure that all students are working toward locating and evaluating a sufficient number of sources, one future plan is to incorporate a more scaffolded approach by adding an annotated bibliography assignment after the library research session. This assignment would serve multiple purposes: we would be able to quickly see if students were facing research challenges or were having difficulty formulating appropriate arguments; we would be able to remediate problems with citation mechanics; and this assignment could help students identify how sources might be employed in a final paper for each of the rhetorical strategies discussed during the library research session. Overall, such an additional assignment would help us ascertain information literacy skills at the individual level.

This annotated bibliography assignment could then establish the groundwork for another aspect of information literacy that we want to investigate; namely, students' ability to synthesize source information into their white papers. Because we discussed in class various rhetorical strategies (logos, pathos, and ethos) as a basis for information gathering, our next iteration of this course could include reading through student papers independently and coding rhetorical strategies based on information type used. We would hope to see a wider range of rhetorical strategies from a broader range of sources, demonstrating students' effort to make a convincing argument in the policy white paper.

We also looked at student feedback surveys about the library research session to gauge student perceptions of new skill acquisition, and we tracked students' use of the online research guide to see how often they chose to use library-selected resources. These measures provided us with a holistic picture of skill development, but their utility was supplemental, as our focus for this endeavor was the analysis of citations. Student feedback was generally positive and thoughtful. Using the one-minute-paper technique, we asked students to reflect on what they had learned during the library research session and to consider what they thought would will be the most difficult part of their upcoming research. Students noted the usefulness of the online research guide and of specific databases like Social Explorer, as well as the necessity of evaluating a source's credibility. One student noted,

> One of the most useful things I learned are the various sources that are available. Before I had been simply Googling to find things like polls and statistics, when I could have been using the library resources. I learned how to find congressional documents more efficiently as opposed to stumbling through Google searches.

Other students commented potential research roadblocks, including "Making sure that the people I am citing are credible" and "Forcing myself to break my habit of just Googling."

The research papers and course data contribute to our understanding of student information literacy development, but other factors beyond our control affect the research performance of our students, in both semesters under review.

CONCLUSION

We learned much from this collaboration and we intend to collaborate in the future, both on the policy project discussed here and other endeavors. Librarians and faculty members need to look to each other as partners and get beyond the stand-alone approach that has historically dominated this relationship. From each of our perspectives, there was much to observe and learn.

From the reference librarian's perspective, we recognize the difficulty of incorporating research skills acquisition and information literacy development as course outcomes, when there is so much content to cover. However, librarians are willing collaborators in helping students become better researchers, which includes getting students to think more deliberately about the information they seek and how they intend to use that information. Many librarians welcome the opportunity to assist, whether by suggesting information resources, building online course guides, conducting assessments within the campus learning management system, teaching a research session, or meeting with students during class workshops. Faculty need not think they are solely responsible for teaching students how to conduct research. The research landscape is shifting, and librarians welcome the chance to share changes with their constituents; what made this particular collaboration so rewarding was the opportunity for students, faculty, and librarians to work together on a regular and ongoing basis.

As campus partners, librarians are also deeply invested in student learning, not only from a teaching standpoint but also in terms of assessing how well learning happens. Librarians can provide support, whether in using campus assessment tools or by utilizing measures devised by the library community. For example, citation analysis is an effective tool for understanding

what students chose to use for research; in particular, this article offers guidance on how librarians and faculty might construct a coding schema for a citation analysis. Additional measures are needed to get a better picture of growth in student learning over time, such as pre- and post-tests. Other examples include minute papers/reflections, which can help shed light on student perceptions, and analytics from online guides, which can help document student use of preferred resources.[8]

From the perspective of the faculty member, this collaboration was a rewarding experience. It was very useful to work with the reference librarian while asking students to do the same. It can be difficult for faculty to keep up with the latest library databases, tools, and other resources, so this close collaboration with a librarian can help faculty members stay up to date. Additionally, as the old adage goes, two heads are better than one, and during the class workshop session, it was very productive to have both the faculty member and librarian available to help students. Student group discussions in which the faculty member and librarian were present resulted in productive brainstorming. Further, students did a better job in the second semester, when there was more faculty-librarian collaboration. Students' papers were better, the testimony during the mock congressional hearing was better, and learning was better. Finally, it was useful to work through an assignment, objectives, and student learning outcomes with the librarian to test out ideas and determine what seemed feasible. And the faculty-librarian collaboration demonstrated to students just how important research is for achieving a successful semester policy project. Of course, it is impossible to say definitively that the collaboration resulted in better outcomes, but it definitely contributed to improvements.

Ultimately, we strongly believe that our collaboration was productive. We encourage all faculty members working on an extensive research project to work in partnership with librarians, because librarians do add value.

NOTES

1   Additionally, from time to time this course is co-listed as an elective for graduate students in the Master of Public Administration program. The few graduate students who do enroll have additional course requirements.

2   For a discussion of the project's particulars, please see Rinfret and Pautz (2015).

3   An established topic has proven useful, enabling the instructor and librarian to provide some foundational knowledge about the topic and ensure that the topic is manageable for this assignment. Tackling climate change, for example, would be far too broad for the confines of this simulation.

4   The online research guide uses the Springshare LibGuide authoring software (http://libguides.udayton.edu). The online research guide is organized to help students navigate relevant federal agencies and information, plus other information sources, such as statistics, journal articles, and citizen response, which students would likely need to include in their research papers. Because the guide organizes information sources, our library research sessions were less about the mechanics of searching and more focused on higher-order research concepts.

5   The Association of College and Research Libraries (2015) describes this frame thusly: "Information resources reflect their creators' expertise and credibility, and are evaluated based on the information need and the context in which the information will be used. Authority is constructed in that various communities may recognize different types of authority. It is contextual in that the information need may help to determine the level of authority required."

6   Simulations in both semesters included student groups representing a relevant federal agency (US Environmental Protection Agency), a business interest/trade group, an environmental interest group, and a farming interest group. Both semesters also included a fictional environmental interest group (as students were given the option of creating their own public interest group).

7   It might be worth considering a requirement for a minimum number of sources and/or a minimum number of different types of sources in a future

semester, which agrees with the findings of Robinson and Schlegl (2004).

8   Library literature is rich in describing teaching approaches for conducting research; we provide only a few examples here. At the program level, librarians can also help departments determine the best placement for library instruction or embedded librarians within a program (Shannon & Shannon, 2014).

REFERENCES

Association of College and Research Libraries. (2000). Information literacy competency standards for higher education. Retrieved from http://www.ala.org/acrl/standards/informationliteracycompetency.

Association of College and Research Libraries. (2015). Framework for Information Literacy for Higher Education. Retrieved from http://www.ala.org/acrl/standards/ilframework.

Association of College and Research Libraries, Law and Political Science Section. (2008, July 1). Political science research competency guidelines. Retrieved from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/standards/PoliSciGuide.pdf.

Bain, K. (2004). *What the best college teachers do.* Cambridge, MA: Harvard University Press.

Baxter, P. M. (1986). The benefits of in-class bibliographic instruction. *Teaching of Psychology, 13*, 40–41.

Bauerlein, M. (2008). *The dumbest generation: How the digital age stupefies young Americans and jeopardizes our future.* New York, NY: Jeremy P. Tarcher/Penguin.

Buchanan, L. E. (2002). Integrating information literacy into the virtual university: A course model. *Library Trends, 51*, 144–167.

Carbery, A., & Leahy, S. (2015). Evidence-based instruction: Assessing student work using rubrics and citation analysis to inform instructional design. *Journal of Information Literacy, 9*(1), 74–90.

Daugherty, T. K., & Carter, E. W. (1997). Assessment of outcome-focused library instruction in psychology. *Journal of Instructional Psychology, 24*, 29–33.

Emmons, M., & Martin, W. (2002). Engaging conversation: Evaluating the contribution of library instruction to the quality of student research. *College and Research Libraries, 63*, 6 (November): 545–560.

Fialkoff, F. (2001). Educate the educators. *Library Journal, 126*(11), 2.

Gilbert, J. K., Knutson, K., & Gilbert, C. (2012). Adding an integrated library component to an undergraduate research methods course. *PS* (January), 112–188.

Hutchins, E. O. (2003). Assessing student learning outcomes in a political science class. In E. Avery (Ed.), *Assessing student learning outcomes for information literacy instruction in academic institutions* (pp. 172–184). Chicago: American Library Association.

Marfleet, B. G., & Dille, B. J. (2005). Information literacy and the undergraduate research methods curriculum. *Journal of Political Science Education, 1*, 175–190.

Rader, H. B. (2002). Information literacy, 1973–2002: A selected literature review. *Library Trends, 51*(2), 242–260.

Rinfret, S. R., & Pautz, M. C. (2015). Understanding public policymaking through the work of committees: Utilizing a student-led congressional hearing simulation. *Journal of Political Science Education, 11*(4), 442–454.

Robinson, A. M., & Schlegl, K. (2004). Student bibliographies improve when professors provide enforceable guidelines for citations. *portal: Libraries and the Academy, 4*(2), 275–290.

Rothenberg, D. (1998). How the web destroys student research papers. *Education Digest, 63*, 60.

Shannon, A., & Shannon, V. (2016). Librarians in the midst: Improving student research through collaborative instruction. *Journal of Political Science Education.* Published online. doi:10.1080/15512169.2016.1157486.

Stevens, C. R., & Campbell, P. J. (2007). The politics of information literacy: Integrating information literacy into the political science curriculum. In T. Jacobson and T. Mackey (Eds.), *Information literacy collaborations that work* (pp. 123–146). New York, NY: Neal Schuman.

Stevens, C. R., & Campbell, P. J. (2008). Collaborating with librarians to develop lower division political science students' information literacy competencies. *Journal of Political Science Education, 4*, 225–252.

Turner, A. H. (2014). Instilling public service values and professionalism through information literacy. *Journal of Public Affairs Education, 21*, 41–54.

Weimer, M. (2013). *Learner-centered teaching: Five key changes to practice* (2nd ed.). New York, NY: Jossey Bass.

Williams, M. H., & Evans, J. J. (2008). Factors in information literacy education. *Journal of Political Science Education, 4*, 116–130.

ABOUT THE AUTHORS

Michelle Pautz is assistant provost for the Common Academic Program and associate professor of political science at the University of Dayton.

Heidi Gauder is the coordinator of research and instruction at Roesch Library, University of Dayton.

Book Review

American Surveillance: Intelligence, Privacy, and the Fourth Amendment

by Anthony Gregory
Hard cover: 264 pages
University of Wisconsin Press (2016)
Madison, WI
ISBN-13 978-0-299-30880-3
ISBN 0299308803

REVIEW AUTHOR
Michael W. Popejoy
Assistant Editor and Book Review Editor, White House Studies

KEYWORDS
Fourth Amendment, surveillance, privacy

In his short book, *American Surveillance: Intelligence, Privacy, and the Fourth Amendment,* Anthony Gregory discusses surveillance history and constitutional law issues with a great deal of scope and theory. Gregory attempts to cover the history of surveillance in the United States from approximately 1775 to 2015 and then moves to more recent issues. Gregory devotes perhaps too much space to the history of surveillance and insufficient space to legal arguments related to surveillance versus privacy protection under the US Constitution. The historical chapters are interesting but shed little light on current controversies discussed rigorously later in the book. Indeed, a careful reading of the lengthy and detailed introduction offers all the important points made in the rest of the book. The introduction begins in 2001, describing how the United States responded to terrorist acts during that year and after. The author then backtracks and invests four chapters developing the historical evolution of surveillance for intelligence gathering, arriving at the current debate in chapter 5. The final five chapters, conclusion, and epilogue round out the book, discussing legal controversies.

The book was not written as textbook, as there are no chapter objectives, review questions, instructor's manual, or ancillary online teaching tools. But if professors consider this book as a textbook, they might decide that the historical chapters do not offer students much, aside from those who specifically seek to understand the history of surveillance. The initial chapters could safely be omitted from reading assignments in courses focused, not on history, but on current debates about surveillance. If the book is to be used as a secondary reader in a Constitutional Law course, or in a course in intelligence analysis methods, the exceptionally detailed chapter notes, extensive bibliography for further reading, and thorough index may prove useful.

Of interest for course adoption, metadata gathering, storing, and analysis are discussed only briefly toward the end of the book, Gregory does not introduce the emerging technology of big data

analytics, which will revolutionize how data are acquired, stored, retrieved, and analyzed. As a result, students who study the material presented in this book will not have the most up-to-date information on this emerging technology. That said, the book could certainly be supplemented in the classroom with more current sources and data.

In particular, it will be important to assess how much big data analytics will affect constitutional safeguards for privacy in the United States and how much real privacy Americans will be willing to sacrifice for potential protection from terrorism and crime. Gregory understands that the Fourth Amendment safeguards built into the US Constitution may not work well in the new technological environment that enables government intrusion into people's private lives. Controversies in this area will most certainly generate lively debate in both the classroom and the public sector, as these issues attract public attention and concern about current and future intrusions of the administrative state into private matters.

Overall, Gregory's book is well-written, detailed, and painstakingly researched, especially in its focus on the legal and constitutional concerns of surveillance and privacy and current challenges to the Fourth Amendment.

REFERENCE

Gregory, A. (2016). *American surveillance: Intelligence, privacy, and the Fourth Amendment*. Madison: University of Wisconsin Press.

ABOUT THE AUTHOR

Michael W. Popejoy is the Book Series Editor for Nova Science Publishers, New York; Assistant Editor and Book Review Editor for White House Studies; and a frequent contributor to *Public Health* (UK) and *Perspectives in Public Health* (UK). He received a PhD in public administration from Florida Atlantic University. He serves on editorial boards for many international academic journals in public administration, public health, qualitative research, and medicine. His forthcoming book *Emerging Global Crises in Public Administration and Public Health* is expected in print in 2018. The numerous unexplored interdisciplinary crosswalks between public health, population medicine, and public administration partnership initiatives constitute one of his major areas of scholarly interest today.