International Handbook on the Teaching of Public Administration

Teaching with Experiments

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Cited as: Dunlop, C.A. (2022) 'Teaching with Experiments' in progress for Dunning, P., Bottom, K., Elliott, I. and Diamond, J. (eds) *International Handbook on the Teaching of Public Administration* Cheltenham: Edward Elgar

Abstract

This chapter presents a teaching form whose popularity in public administration has increased in recent years: experiments. The first part outlines three prevalent experimental forms: survey experiments with students exposed to a treatment; in-class experiments drawn from social psychology; and simulations and role-playing games. Though the trend toward experiments is relativity new, and motivated by the push for student-centred active learning, its pedagogical roots are old: these are a contemporary manifestation of experiential learning (Kolb 1984). As such, experiments have much to recommend them. And, in the second half of the chapter, we focus on their utility for public administration advancing seven specific claims. The chapter closes noting the challenges for would-be experimenters.

Keywords active learning, experiments in public administration, experiential learning, role-playing games, simulations, teaching experiments

Introduction

This chapter presents a teaching form whose popularity in public administration has increased in recent years: experiments. The first part outlines three prevalent experimental forms: survey experiments with students exposed to a treatment; in-class experiments drawn from social psychology; and simulations and role-playing games. Though the trend toward experiments is relativity new, and motivated by the push for student-centred active learning, its pedagogical roots are old: these are a contemporary manifestation of experiential learning (Kolb 1984). As such, experiments have much to recommend them. And, in the second half of the chapter, we focus on their utility for public administration advancing seven specific claims. The chapter closes noting the challenges for would-be experimenters.

The chapter examines experiments involving *experiential or active learning* – that is learning events where, at some point, students are '*doing* something that relates to discovering, processing, and applying information' (Ishiyama 2013, original emphasis). We are interested in 'experiences in which students are *thinking* about the subject matter' (McKeachie 2002, 4 emphasis added) – this *thinking* is stimulated by engagement with some task that goes beyond simply listening or reading, and moves to reflecting, analysing, discussing etc (Bonwell & Eison 1991).

Section 1: Teaching Experiments

1. Survey experiments with students

Survey experiments with students, typically involve a teaching treatment – most commonly a particular format, medium or object. The impact of the treatment is assessed either by: pre- and post-treatment surveys of the same group of students, or using a control group not exposed to the treatment and comparing control and treatment cohorts by follow-up surveys. Whichever form they take, for a survey experiment to have pedagogic impact they should involve a big 'reveal' moment at the end where students are 'let-in' on the experiment and encouraged to reflect on their responses together. In this way, throughout the experiment, students' status shifts from research participant at the outset to learners, and even advisors, at the end.

One recent example in public administration is a single class survey experiment on the impact of one form of public policy teaching. Specifically, Cooper and Dunlop (2018) explored Paul Sabatier's trenchant rejection of classic policy cycle or 'stages' approach to policy teaching. Sabatier (1991) criticizes the approach as an over-simplification – misleading students into thinking the policy process is comprised of discrete episodes, largely top-down in nature, is finite and involves learning only at the very end when some policies are evaluated.

Pre- and post- treatment surveys of two successive undergraduate cohorts were used to examine the impact of the stages teaching treatment on students' comprehension of the four areas pinpointed by Sabatier as misleading. Overall, the survey suggests Sabatier's concerns are exaggerated and students understood the stylized nature of the stages approach. The results did however suggest two areas where Sabatier's criticisms had some traction – on how episodic policy-making is and how top-down it is. These findings formed the basis of fruitful discussions with the students and allowed the team to adjust the examples used in the tutorials.

These sorts of survey experiments are planned, and use interventions designed to scaffold learning around a specific public administration theme. Yet, in the dynamic and reflexive space of the classroom, experiments can also happen by accident. Clarke (2019) documents one such case. Clarke had worn a gay pride t-shirt while delivering an undergraduate lecture and, after the class, received negative responses to it. Specifically, many students took the t-shirt's slogan – 'Some people are gay. Get over it!'[1] – as signalling an implicit presumption that they were homophobic. With Clarke and her t-shirt becoming a sort of unintentional experimental treatment, Clarke used a follow-up survey to enable students to further explore their reactions. While in this example was entirely unplanned (and so had no control group or pre-intervention test), gay pride t-shirts (and caps and badges) have been used deliberately by psychologists to examine homophobic attitudes (Clarke 2019). These experiments, and Clarke's 'on the fly' quasi-experiment demonstrate not only the social unacceptability of being thought to be homophobic but also the social dominance of heterosexuality reflected in many students' hostile responses to those wearing gay apparel. Clarke gave herself license to use t-shirt as an experimental opportunity and, in doing so, demonstrates the power of interventions in the classroom. Specifically, the example also demonstrates the utility of 'objects' in teaching (Stone, 1988 on chocolate cake and equity; for a wider discussion see Alford and Brock 2014) though underscores that such objects may not always be neutral.

2. In-class social psychology experiments

Public administration research's growing interest in behavioral science and social psychology is well-documented (see for example Grimmelikhuijsen et al. 2019). Central to this movement has been the use of experimental methods to understand decision-making in public organisations, and transfer of knowledge of cognitive biases to policy instruments themselves (most obviously with the idea of nudges, see Thaler & Sunstein [2008] for the foundational work). These seismic (and perhaps belated)

[1] This slogan, and variations of it, are part of the 'Get Over It!' anti-homophobia campaign since 2007 run by the UK's biggest LGBT charity Stonewall.

impacts of social psychology on policy research and practice are well-documented. Less discussed however is the potential offered by social psychology experiments in public administration teaching. Here, we spotlight one recent in-class treatment experiment with practitioner students.

Though the 'nudge agenda' has increased policy-makers' interest in citizens' cognitive biases, much less is known about the impact of bias on policy-makers themselves (after all policymakers have a mind too, and therefore their own choices can be biased). Dunlop and Radaelli (2016) broached this subject with two cohorts of Masters of Public Administration (MPA) participants using a mix of case study, conceptual teaching and an in-class experiment. Interested in their groups' feelings about the limits of regulation, they first generated awareness about the idea of regulatory humility using the case study of legal scholar and activist Larry Lessig. Lessig (2010) argues it is necessary to protect the world against irrational legislation controlling the internet. Specifically, he is concerned that future regulatory interventions aimed at increasing transparency in, and control over, the online world may at best be futile, and at worst produce unanticipated harms (Lessig 2010). Practitioners are taken through this case study and encouraged to discuss the idea of regulatory humility.

Previous experience discussing the potential limits to what policy-makers can control revealed, while they understand the argument, practitioner students with experience of policy-making struggle to see it as relevant to their own professional life. Regulatory humility is useful for the public administrator next door, but not something they themselves need to exercise. To address this, Dunlop and Radaelli (2016) put an experiment into the teaching mix. Specifically, they adapted one of the classic social psychology experiments – Ellen Langer's (1975) illusion of control. Based around a lottery draw, Langer (1975) explores the hypothesis that people do not distinguish between events determined by chance and those determined by skill. This is made up of two assumptions. First, people are motivated to control their environments – we believe that control helps prove our competence and avoid negative consequences that suggest having no control. As levels of perceived control increase, so too do our levels of psychological comfort (Langer 1975, 323). Moreover, individuals tend to disassociate themselves from the illusion – i.e. it is only 'other people' who suffer from a tendency to over-estimate their capacity to regulate events.

Langer's experiment finds that people who picked their lottery number – i.e. had exercised a choice – were more confident they would win than entrants who had simply been assigned a numbered ticket. Moreover, the confidence of the choosers increases every time they are asked. This increasing confidence is not the case for the non-choosers. Thus, introducing elements of choice is enough for people to mistake what is still a chance situation for one they can control in some small way, and over time this feeling intensifies. Re-running an adapted version of this lottery in class[2] produced some surprising results. While confidence was higher for the students who chose their ticket, the non-choosers' confidence did increase over time. Though it was contrary to the teaching team's expectations, this confounder was a blessing in disguise. When the results were given to the students for discussion, they triggered a lengthy debate about the operation of hope and fear in the work place and about the reliability of social psychology experimental findings across different population groups (Dunlop & Radaelli 2016).

The illusion of control experiment proved a good fit to regulatory humility. Though policy-making is not a lottery, this extreme example to create a memorable learning episode to bring the issue of control into relief in a way that triggered personal engagement and presented students with the opportunity to face their own assumptions about what they themselves could control. It also enabled a more open-minded discussion of classic works on regulatory limits – notably, Vickers' (1965) classic

[2] Given cultural sensitivities to gambling and the importance of informed consent, participation was entirely voluntary and students were reassured there would be no disadvantage for anyone not wanting to participate. It was also made clear that no money was involved and the lottery 'winner' would receive a modest, course-related prize (a public administration book). Of the 29 students in our two cohorts, one student chose not to participate, citing religious reasons. But that student enjoyed the spectacle and participated fully in the discussions (Dunlop & Radaelli 2016).

The Art of Judgment. Course discussion, evaluations and assignment scores all suggest that this combination of teaching tools produced extensive reflection amongst practitioners (Dunlop & Radaelli 2016). Rowe (2013) uses insights from social psychology in teaching policy practitioners in a similar way. drawing insights from Asch's (1956) experiments on group conformity to explore the behavioral dynamics of small group teaching.

3. Simulations and role-playing games

Role-playing games or simulations (essentially complex role-playing games) are one of the most active forms of teaching experiment. And, they are becoming increasingly popular in public policy and political science teaching to scaffold abstract concepts. Simulations are particularly popular in teaching in the United States (US) (for example Coffey et al. [2011] on political campaigning and McIntosh [2001] on the model United Nations). Substantial capacity is now being built in Europe around simulations exploring the complex multilevel policy-making processes of the European Union (EU) (for an account of transatlantic efforts building this scholarly community see Buonanno et al. 2003) and so-called 'serious games' (both analogue and digital) that aim to emulate the complexity of the policy-making world (see for example, Dente & Vecchi 2021 on policy entrepreneurs; Melloni & Vasilescu 2021 on collaborative processes; Olejniczak 2017, Olejniczak et al. 2021 on evidence-based policy-making).

Before going into recent examples in public administration teaching, we must acknowledge some of the classic simulations of the post-war era. The applied nature of policy concepts, and power of games to capture complex substantive and political phenomena, means simulations have long been a feature of practitioner training (Mayer [2010] provides an excellent review of the history of games and simulations in policy studies). Two of the (non-military) classics come from the UK Civil Service College – the 'Midfordshire' (Bristow 1980) and 'Castlemount' simulations (Berridge & Clark 1980).

Working with mid-career civil servants from analytical divisions – pure and applied sciences – Berridge and Clark (1980) developed a case to simulate engagement, conflict and negotiation between different groups facing a policy challenge. Specifically, it was intended to develop analysts' communication skills with different audiences impacted by a make-believe Ministry of Defence proposal to site a torpedo factory in a beautiful part of the countryside next to the fictitious village of Castlemount. Accustomed to working with civil servants in their own departments, the role-play took practitioners out of the office and into the shoes of community representatives, pressure groups, local government etc. While the authors of both Castlemount and Midfordshire cases reflect on their own experiences as instructors, frustratingly their evaluation of student engagement is fairly cursory, (though positive). The importance of building in evaluation to these experiments is a theme we return to in the conclusions.

Fast-forwarding a few decades, Bots et al. (2010) explore whether role-playing games can help (non-practitioner) public administration students internalize the difference between two policy styles better than attending a traditional lecture. Specifically, the game was designed to help students experience two distinct conceptualizations of the policy process: policy-making as a rational design process and policy-making as a political negotiation process. Students in the lecture control group received the standard education familiar to policy scholars which compares technical-rational accounts (Axelrod 1976) with incrementalism (Lindblom 1959). By contrast, students in the treatment group are part of a role-playing game in which two sets of players examine policy design to increase debt settlement – either from the viewpoint of rational design – where causal logics in policy-making are the focus – or where political negotiation is the primary driving force.

Students' comprehension of the concepts was then assessed using a survey questionnaire comprised of seven questions. The results are mixed – with the role play game boosting learning (when compared

with the lecture group) on some aspects of the concepts but not others. These mixed results are not uncommon in experimental teaching (see Eber 2007). Certainly, experimental treatments should not be assumed to perform better than traditional teaching methods in all instances; interaction for its own sake is no guarantee of advances (Alford & Brock 2014; Brock & Alford 2015). Rather, the design of the treatments and their evaluation should be used to inform future iterations of the teaching methods.

Moving beyond complex policy challenges and dense concepts, simulations are also used to address sensitive, and hard to address, social issues. For example, modified versions of well-known board games have been used in classrooms to advance understandings of the structural dimensions of social inequality. Stout et al (2016) provide a powerful account of using a game called 'Ships and Shoes' (essentially an adapted Monopoly) to help simulate the historical nature of racial inequality in the US. Rules that create inequalities between players in turn-taking, distribution of resources, borrowing limits etc mimic the lack of opportunities under-represented communities faced in early American history. The game provided a safe space for students to understand and experience the legacies of discrimination. Our cultural familiarity with games, their association with relaxed down time and the universal language they operate with make board games a useful and inclusive way to handle complex contexts or social issues (Olejniczak et al 2020).

Section 2: Why Use Experiments in Teaching?

We know that active and interactive learning techniques are associated with increased student engagement, understanding, retention and ownership of their learning as compared with listening and reading alone (Smith & Boyer 1996; Stice 1987). Thinking about public administration students, interactive and experimental teaching methods help deliver the skills needed by policy practitioners – for example, understanding and gathering an evidence base for policy, achieving consensus, respecting accountability, evaluating policy, empathizing, understanding context and exercising judgment. More than anything, in-class experiments provide an effective means to help students think reflectively. Creating space for reflection and teaching reflection are enduring preoccupations for MPA instructors (Ahmad et al. 2013; Cunliffe & Jun 2005; Meer & Marks 2013). Here, we elaborate on seven particular reflective dimensions promoted by experiments.

1. Initiating conversations about sensitive subjects

One of the key benefits of experiments is they help initiate conversations about sensitive subjects. Given the ethical implications of resource allocation and policy implementation, teaching tools which help expose values and biases are especially needed in public administration (Menzel 2009). Values, norms and ethics are central to a public administration education (Liddle 2017; Moynihan 2017) yet what stands as an ethical obligation can be controversial and culturally contingent. Experiments which assure anonymity, or require students to role play, expose ethical dilemmas and lack of confidence on sensitive issues without spotlighting individual learners.

Take Dunlop and Radaelli's (2016) illusion of control experimental adaptation. Designed to reproduce feelings of control that are central to the human condition, the experiment offered a way to expose how illusory such emotions can be. When presented with an entirely chance situation – a lottery – cognitive biases can trick us into thinking we can control the outcome. And so, the experiment offered an exaggerated and interactive way for students access those emotions. It was then used as a springboard to discussion about the pressures public administrators experience to be 'masters of the universe' and when it is possible to acknowledge the limitations of regulatory interventions (which are predicated on the assumption that social problems can be ameliorated in some way). Without the experiment, it would be all too easy for regulatory humility to be a concept that remained abstract or

something to be exercised by others. Experiencing illusory feelings of control allowed practitioner students to be open about their own cognitive biases and limits as human beings (and as policy-makers).

Stout et al's (2016) simulation game illustrates how experiments enable discussion of deep-rooted discrimination in ways which are 'less personal and socially weighted' than the traditional classroom. Similarly, Clarke's (2019) experience enabled reflection for both teacher and students around the sensitive topic of homophobia. Importantly, it revealed the internalized (and so hidden) nature of prejudice which rendered the meaning of the t-shirt more ambiguous than intended. It is unlikely that revelations about the nuanced nature of homophobia, and assumptions of heterosexuality as free from power relations, would have been possible without the t-shirt as an unwitting intervention.

2. Making public administration teaching more inclusive

Interactive experiences embedded experiments can also help to make public administration teaching more inclusive. Many studies have confirmed the marginalization of under-represented communities in our classrooms. For example, we know that when it comes to discussion work, male students tend to dominate (see for example, Diller et al. 2016). The anonymity of experiments and drama- based techniques of simulation can depersonalize the classroom and may help alleviate inhibitions. Moreover, the assignment of a specific part to every student in role playing games can make space for diverse voices.

3. De-mystifying concepts

Experiments are also a means to link concepts to the real world (Brock & Cameron 1999). Indeed, 'concept learning' (Gagné 1965) is made most accessible when other tools are used to contextualize experiments in real world public administration scenarios. Creating concrete experiences is especially resonant for MPA students, who are professional practitioners that have been away from full-time formal education for some years, or may be operating in a second or third language in the classroom. The need for memorable and simple hooks on which they can hang complex material is clear (Cunningham, 1997). What students 'take in' may be shaped more by the vividness of the lesson than difficulty of the material (Hess 1999; Sivan et al 2000).

In Dunlop and Radaelli's (2016) illusion of control experiment with public sector practitioners, the choice versus chance game which would have been esoteric had not been contextualized by reading and discussion sessions on the limits of regulation, impact assessment and specifically the concept of regulatory humility (Vickers, 1965, Dunlop & Radaelli 2015; Etzioni 1989).

In the same way, Stout et al's (2016) adapted Monopoly game was used to scaffold critical and open-minded engagement with two challenging policy texts on inequality – Wilson's (1987) *The Truly Disadvantaged*: *The Inner City, the Underclass, and Public Policy* and Rustin's classic civil rights commentary *From Protest to Politics* (1965). And, Bots et al's (2010) role play simulation on debt resettlement was designed to support the differentiation of two challenging concepts – substantive and political rationality.

4. Improving communication skills

Using experiments also encourages the development of a particular skill set needed in public affairs often overlooked on the public administration curriculum: communication. Both the classic UK simulations – Midfordshire and Castlemount – reveal the centrality of being able see a situation from

other perspectives (through playing unfamiliar roles). Yet, too often the ability to relate is treated as a soft skill that resides in the idiosyncrasies of someone's personality – and, as such, not amenable to training. Yet, we know that through role-playing in non-threatening teaching spaces, students can learn how to work collaboratively, become sensitive to context, negotiate and diffuse potential conflict. These experimental tools can help build communication and emotional intelligence skills; sensibilities which public administration scholars have long known to be important (Denhardt & Aristeguieta 1996; Aristeguieta & Denhardt 2015) and will arguably become essential skills for public servants in this century (Institute for Government 2021).

5. Improving research literacy

Using experiments helps boost students' research literacy. Actually being part of an experiment is about much more than being a data point. Students are being taken into the 'back office' of the research process which exposes the reality of actually doing research which is messy and often produces unexpected results. Such first-hand exposure to *how* data are generated can reduce reification of scientific methods – qualitative or quantitative – promoting nuanced understandings about what different methods provide as well as the power and limits of research. This improved research literacy is especially valuable for practitioners trying to understand, prioritize and address policy challenges that are complex and characterized by uncertainty (Franke 2011; Mushkat 2003). Such first-person experiences also empower practitioner students to commission such research from a position of knowledge. In an era of information overload, alternative facts and fake news (Diamond & Schultz 2018; Dunning 2018; Egege 2020; Haigh 2020; Jones & Baumgartner, 2015), more than ever before, public administration students need tools that encourage critical engagement in knowledge production.

6. Putting professional baggage in its place

Experiments and simulations which involve plausible (but fictitious) policy scenarios also provide ways of freeing students from their own preconceptions. This is especially important for practitioner students who bring along a good deal of professional baggage from their own experiences of public administration. Pollitt memorably reminds us that while this is:

> 'potentially a most valuable resource … in practice it is often misused. Students are dogmatic supporters of some particular organizational technique – or unreasonably dismissive of another – simply because "I was twenty years in the Brighton Education Department and I can tell you …"' (Pollitt 1980, 23).

Simulations create new contexts which help students move beyond their own direct workplace experience and engage with fresh eyes. In this way, the best experiments do not simply to demonstrate empirical phenomena but act as a platform for students to develop conceptual understandings that are *individual to them*.

7. Making public administration fun!

Finally, the hands-on active learning of experiments foster fun, excitement and playful challenge in the classroom. And, as any experienced teacher will tell you, the spirit of the classroom is not a trivial matter. We know that students enjoy active experiences which take learning beyond the traditional lecture (Cloke 1987; Smith & Boyer 1996). Making public administration learning accessible and finding fresh ways to de-mystify our concepts may provide a much-needed boost to the profile of public services – not only as an academic topic but also as a career (much maligned in recent times, Dunning 2018).

Conclusions

Using experiments in public administration teaching is on the increase for good reason. They help generate reflection about dense but important concepts, sensitive issues, the nature of research itself and much else besides. As a teaching innovation, experiments address many of the concerns our learners bring to the classroom – for example, the need to be inclusive and lift diverse voices, the increased expectation of personalized learning and the desire to participate in their own learning. They also work incredibly well with the standard toolkit of public administration teaching – lectures, case studies, placements, options papers etc.

But, designing teaching experiments involves considerable sunk costs and, as such, may seem to be beyond the resources of many academics. Certainly, it may be too challenging to design and execute a fully controlled teaching experiment. This chapter has shown a variety of ways public administration scholars have used teaching experiments which are pedagogically effective, professionally rewarding and suited to a world where resources are finite.

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