

Studying Real-Time Audience Responses to Political Messages: A New Research Agenda

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Real-time response methods, which were developed by media and communication researchers as early as the 1940s, have significant potential for understanding media audiences today. However, this potential is not realized fully by current methods such as “the worm,” which are limited to collecting positive and negative responses and fail to examine why audience members respond as they do. This article advocates a new research agenda for understanding how audiences respond to political messages through real-time response methods. Instead of measuring preferences, we suggest that real-time response methods should focus on people’s sense of whether their democratic capabilities are advanced—an approach that would provide a more critical as well as a more nuanced understanding of how audiences respond to political communication. We describe an innovative Web-based app our team has designed to capture audience responses to political messages, and we outline some key questions we hope to address in future research.

Keywords: real-time response, audience research, the capability approach, capabilities, political communication, televised election debates

While some research has focused recently on social media analytics as a way of understanding audience responses to media content (Anstead & O’Loughlin, 2011), the potential to develop existing

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methods for capturing real-time audience responses has been largely untapped. A technology called “the worm”—where a selected panel of respondents use a device to indicate whether they like or dislike media content—is widely used by practitioners to track instantaneously audience responses to political and other messages. But, like methods developed by media and communications researchers as early as the 1940s, the worm is limited to the crude gathering of positive or negative preferences without being able to explain why audience members express the preferences they do. In this article, we make a case for a new research agenda to develop real-time audience response methods, specifically in the context of political communication. We argue for a conceptual shift in real-time studies from measuring the preferences of audience members to capturing their sense of whether their capabilities are advanced through media use (see Garnham, 1997; Nussbaum, 2011; Sen, 2009). A focus on capabilities provides not only a better understanding of how different groups respond to media content but a more critical and normative one, which identifies how political communication can frustrate as well as foster capabilities that are central to democratic citizenship. To illustrate our argument, we describe pilot research that our team has conducted to develop an innovative Web-based app to trace and analyze real-time audience responses to televised election debates and similar political content in relation to democratic capabilities.

The article first traces the development of attempts to understand the real-time responses of media audiences, identifying limitations as well as strengths of existing methods. Second, we introduce the concept of capabilities and make a case for moving real-time studies from a focus on audience members’ preferences to their sense of whether their democratic capabilities are advanced. Third, we describe the app we have developed to put these ideas in practice and the research process involved in its design. Finally, we outline some key questions we hope to address in future research in this area.

Real-Time Audience Response Methods

Attempts to monitor and record the real-time fluctuations in audience responses to media content have been conducted for almost a century. In the 1920s, several American schools and colleges purchased film projection equipment with a view to exposing students to motion pictures that would broaden their minds. However, educators soon became frustrated by their inability to determine whether and how such films influenced their students’ thinking. Beginning in 1928, the Payne Fund Studies sought to use social scientific techniques to understand the effects of motion pictures on children. Significant among these were Holaday and Stoddard’s (1933) administration of multiple-choice questionnaires to children shortly after they had watched a film to discover how much the children remembered and how the content had influenced their thinking; Thurstone and Peterson’s (1933) study of the impact of film content on children’s attitudes to race, nationality, war, and crime, measured by applying attitude scales before and after viewing; and Dysinger and Ruckmick’s (1933) exploration of how children responded to films emotionally, which was conducted by registering real-time bodily changes using a psychogalvanometer. In another study, Tilton and Knowlton (1929) observed the relationship between viewing educational films and subsequent participation by students in classroom discussions related to their themes.

In a pioneering study, Lashley and Watson (1922) evaluated “the informational and educative effect upon the public of certain motion-picture films used in various campaigns for the control, repression, and elimination of venereal diseases” (p. 3). The sex education film *Fit to Win* was shown to

4,800 people in two U.S. towns. As well as investigators asking 1,200 of the participants to complete questionnaires and interviewing 100 of them to determine what they had learned from the film, the research design involved dispatching 73 field researchers over a six-month period to unobtrusively observe audiences as they watched the film. This latter technique—similar in key respects to the mass observation studies initiated in Britain in the following decade—raised questions about how best to interpret real-time responses to media content. These early observational studies could only be impressionistic, but subsequent researchers began to produce response checklists designed to capture an ordered range of possible responses that viewers displayed (Brunstetter, 1935; Devereux, 1935; Doane, 1936). Nevertheless, these assessments still depended on researchers' attempts to discern the effects of media messages by observing participants from a distance (Cambre, 1981).

Missing from the earliest studies was any attempt to capture, collate, and analyze real-time responses of media audiences to live content. Before leaving Austria to work in the United States, Paul Lazarsfeld had conducted experiments intended to measure the moment-by-moment reactions of listeners to music. He pursued these research principles when he joined the Princeton Radio Research Project, working with Frank Stanton to devise a handset that could continuously measure listeners' responses to radio programs. The device, known as the Program Analyzer, enabled listeners to press a green button when they liked what they were hearing and a red button when they were displeased with what they heard. These second-by-second responses were subsequently plotted on a graph, indicating fluctuations in audience approval. The Program Analyzer was also used to monitor live audience responses to feature films. In a significant study, Sturmthal and Curtis (1942) showed two films to a panel of about 200 viewers. As well as collecting real-time responses from panel members, they asked viewers to complete questionnaires after viewing the films. On the basis of the response data they collected one-third of the way into the films, Sturmthal and Curtis were able to predict accurately how panel members would evaluate the rest of the film in the postviewing questionnaires.

The Lazarsfeld-Stanton Program Analyzer inspired the creation of several other real-time response—or continuous response measurement—technologies, including the Cirlin Reactograph (Cirlin & Peterman, 1947), the Hopkins Televote Machine (Fisk, 1948), the Film Analyzer (Carpenter, John, Cannon & Roshal, 1950), and, later, the Program Evaluation Analysis Computer (Nickerson, 1979). All these devices were commercial variants of the original Lazarsfeld-Stanton model, essentially offering viewers a binary choice between unexplained positive and negative responses. Indeed, real-time response technologies have been used widely by consumer researchers to invite people to express moment-by-moment positive or negative responses to a range of content, including political messages. By monitoring feelings, perceptions, and cognitions as they emerged from participants' direct exposure to media content, researchers hoped to be able to identify the extent to which desired effects were realized as well as the precise moments and sequences in which sender-receiver miscommunication appeared to be occurring.

Decades later, at the turn of the 21st century, the emergence of social media gave rise to considerable enthusiasm about the possibility of providing a more sophisticated picture of real-time audience responses to political messages. Anstead and O'Loughlin (2011) refer to the emergence of a "viewertariat," which they define as "viewers who use online publishing platforms and social tools to interpret, publicly comment on, and debate a television broadcast while they are watching it" (p. 441). In

one sense, this provides a natural laboratory for observing real-time responses to political and other messages. Researchers have become interested in analyzing large volumes of online data in the hope of identifying trends in responsiveness over time in relation to a specific topic—a method commonly referred to as sentiment analysis (Burnap, Gibson, Sloan, Southern, & Williams, 2016; Himelboim et al., 2016; Liu, 2012; Nasukawa & Yi, 2003; Thelwall & Buckley, 2013; Thelwall, Buckley, & Paltoglou, 2011; Tumasjan, Sprenger, Sandner, & Welpe, 2010). Although this method has been heralded by some as a means of apprehending not only the opinions but the underlying mood and attitudes of viewers as they are exposed to political messages, it is vulnerable to two significant criticisms. First, the range of voices and perspectives on social media platforms such as Twitter (which is the most commonly researched platform by sentiment analysts) represent neither the wider television audience nor the population of social media users (Jensen & Anstead, 2013; Mellon & Prosser, 2017). Given the unrepresentativeness of Twitter data and the limited information available to researchers about the sociodemographic status or prior political attitudes of Twitter users, sentiment analysis cannot be regarded as a meaningful method of capturing broad public responses to real-time political messages. A second limitation of this method is its dependence on a form of semantic positivism, operationalized through natural language processing. But, as Saif, Ortega, Fernández, and Cantador (2016) note, “Most of [*sic*] existing approaches to sentiment analysis in social streams have shown effective when sentiment is explicitly and unambiguously reflected in text fragments” (p. 135), but the expression of sentiment is culturally dependent: “The way in which we express positivity or negativity, humor, irony or sarcasm varies depending on our cultural background” (p. 136). Faced with semantic ambiguity, which pervades vernacular talk about politics, it is difficult to determine the intended meanings of expressed responses to a political message—and less still the unintended, semiformulated attitudes that often underlie affective orientation.

Given the limitations of existing methods, broadcasters, political practitioners, and pundits have tended to fall back on an essentially crude form of real-time response monitoring that is remarkably similar to the Lazarsfeld-Stanton Program Analyzer model first employed in the 1940s. It is now fairly common for broadcasters of televised election debates to superimpose live coverage with a moving line referred to as “the worm.” This line represents the average response of a small sample of potential voters who watch the debate and use a handset to record their satisfaction with what the leaders are saying: turning the dial to the right to indicate approval and to the left to indicate disapproval. However, the number of undecided voters typically sampled for the generation of the worm is rarely more than 12; the extent to which they are representative of other undecided voters remains unclear, as do their reasons for expressing positive or negative responses at any particular moment or the relationship between such responses and their original values and opinions (House of Lords Communications Committee, 2014, para. 165). Following the use of the worm by British broadcasters in the first-ever UK televised election debate, the House of Lords committee on broadcast election debates declared that

the simple format of the debates allowed the viewer to concentrate on a serious debate about serious issues without the distraction of too much other information appearing on the screen. This is another argument against the use of the worm. (House of Lords Communications Committee, 2014, para. 167).

Although the worm captures audience responses to media content in real time, findings are limited by the fact that it only registers whether audiences respond negatively or positively to political messages. Without the use of additional methods, the reasons *why* people express the preferences they do remain unknown and unexamined. More broadly, the problem with current technologies is that they fail to reflect the complicated relationship that always exists in acts of reading, viewing, and decoding between the text, social reality, and viewers' thoughts and experiences. From an interpretivist perspective, communicative meaning emanates from negotiated symbolic exchange. Meaning is not objectively inscribed in the text, which is a space of potential meanings rather than a bearer of inherent meaning. Given that viewers bring to the text an array of experiences, discourses, cognitive structures, and affective sensibilities, understanding viewers' responses is as much about making sense of these interpretive frameworks as measuring whether media messages have desired effects.

It is possible to improve the response statements presented to audiences to pursue a more interpretivist, nuanced approach to real-time response analysis. Boydston, Glazier, Pietryka, and Resnik (2014) designed a mobile app with four responses audiences could select—not just “agree” and “disagree” but also “spin” and “dodge”—and tested the app with a sample of 3,340 participants during the first U.S. presidential debate in 2012. Our research team has developed an app for capturing real-time responses to televised debates and other political content with even more response statements: 10 in one version of the app and 20 in another. The app is designed specifically to examine the relationship between political media exposure and democratic citizenship, seeking to understand how people make sense of themselves as civic actors through their encounters with media content. We are interested in the extent to which such encounters strengthen and diminish people's sense of democratic agency and how the experience of being a democratic citizen (Coleman, 2013) is perceived at the moment of media consumption. We present the app later in this article. In the next section, we describe the conceptual thinking behind our method, making a case for a shift in real-time response from the satisfaction of preferences to people's sense of whether their democratic capabilities are advanced. Of course, capabilities are just one interpretive framework viewers may bring to a media text. Nonetheless, we argue that the democratic capabilities we focus on capture an important element of how audience members relate and respond to political media as democratic citizens. Focusing on capabilities rather than preferences also opens up a more critical research agenda for real-time response studies, enabling us to identify where and how political communication fails to give citizens what they need.

From Preferences to Capabilities

Methods to capture real-time audience responses have significant potential to generate new insights into the relationship between political communication and democratic citizenship, but previous research has not fully tapped this potential. To analyze this relationship, we need to move beyond preferences and find an alternative way of conceptualizing audience responses.

One problem with basing real-time response methods on preferences is that the reasons that people express positive or negative preferences at any particular moment are unknown. In the case of political communication, we can expect these reasons to be multifarious as viewers respond to different aspects of the performance and ideas of political actors. Furthermore, preferences may not necessarily

reflect an informed and rational choice among alternatives, as a simplistic model of a rational citizen-consumer might suggest. The preferences viewers express may reflect communicative failures or frustrations. Consider, for example, a negative preference expressed at a particular moment of a televised election debate. A negative response might reflect the fact that a viewer does not support a particular political leader and his or her ideas. But it might also be because a viewer is frustrated with the debate in general, feels excluded from the discussion, believes she is misunderstood and misrecognized, or lacks the information she needs to understand specific claims. Capturing these different possibilities helps us to understand and explain the preferences viewers express. Just as importantly, they can also help us evaluate political communication normatively and more critically. After all, there is an important difference between someone who rejects something as an informed political choice and someone who rejects something because he lacks the information he needs to make a meaningful political choice in the first place.

Rather than simply collect positive and negative preferences, we might focus instead on whether audience members' underlying needs are met through media use. Since the 1940s, when the uses and gratifications theory was first employed to categorize audience motivations for listening to radio programs (Lazarsfeld, 1940), researchers have used the theory to explore how individuals deliberately seek out media with a view to satisfying specific goals such as information gathering, reinforcing personal values, seeking ammunition to use in arguments with opponents, or fostering social belonging. During the 1964 British general election, Blumler and McQuail (1969) applied uses and gratifications theory to investigate what people aimed to derive from accessing different kinds of political media content and the extent to which such exposure gratified their sociopsychological and civic needs. Methodologically, these studies lacked the benefits of real-time response methods. Researchers had to rely on people's accurate recollections of their reasons for seeking out media content and deriving benefits from it after their media use, but such self-reported accounts and memories are inherently unreliable (Katz, Blumler, & Gurevitch, 1973; Vraga, Bode, & Troller-Renfree, 2016). These studies also faced conceptual difficulties. As critics have suggested (Elliot, 1974; Swanson, 1977), the central concept of needs is undertheorized in the uses and gratifications approach. The approach tends to assume that needs vary across individuals for psychological or sociological reasons and that individuals are always able to identify their needs. The idea that needs are differentiated may be questioned. As Elliot (1974) argues,

At bottom there is something fundamentally illogical in the claim that basic human needs are differentially distributed through society; that this distribution can be explained by reference to social and psychological factors; and that the needs themselves will explain differences in behavior. (p. 255)

Assuming individuals can always identify needs straightforwardly also appears problematic. People's subjective assessments of what they want may not always be a reliable indicator of needs, especially where preferences are formed in situations of disadvantage and inequality (Nussbaum, 2011, pp. 81–84; Sen, 2009, pp. 282–284). As Nussbaum (2011) explains, "Preferences are not hard-wired: they respond to social conditions. When society has put some things out of reach for some people, they typically learn not to want those things" (p. 54). If we reduce needs to individual preferences, the concept loses its critical-normative edge.

Several media and communication scholars have turned to the “capability approach,” developed by philosophers Amartya Sen (1980, 2009) and Martha Nussbaum (2003, 2011), as a way of conceptualizing media-related needs (Couldry, 2007, 2012; Garnham, 1997; Hesmondhalgh, 2017; Mansell, 2002). The idea of capabilities refers to the opportunities people have available to them to be able to “do” or “be” things they have reason to value. Insofar as certain media-related capabilities may be viewed as fundamentally important, advocates of the capability approach argue that they should be made available to all, regardless of subjective preferences. Capabilities are not differentiated in this respect. But, importantly, where the capability approach is sensitive to difference is in emphasizing how differently situated groups may require different resources to realize the same capabilities. The concept therefore makes clear that access to resources, whether this is access to media or some other resource, does not necessarily mean equal benefits for all. The approach also stresses that people should have the freedom to decide whether to take up the opportunities made available to them. As Sen (2009, p. 237) argues, there is a crucial normative distinction between someone who lacks the capability to eat because she has no food and someone who has this capability but chooses not to eat on political or religious grounds.

The capability approach can provide a powerful way of rethinking media audiences and real-time response. Moving from expressed preferences to people’s sense of whether their capabilities are advanced enables us to develop not only a more sophisticated picture of audience response but a more critical one. Rather than assume viewers get what they need from political communication, the focus is on assessing the extent to which fundamental needs—or capabilities—are (or are not) met. There is good reason to expect that political communication is not always successful, but rather marked by communicative failings and frustrations. The extent to which this is true of any particular example of political communication is an empirical question. By combining a capability perspective and real-time response methods, we can pinpoint aspects of political communication that may realize or frustrate people’s democratic capabilities, and so their democratic agency.

As already noted, the capability approach is sensitive to differences among groups. Drawing on the capability approach, James Bohman (1997) argues that democratic theorists often lack a sufficiently sophisticated account of equality. Referring to deliberative democratic theory, he argues, “Deliberative democracy cannot assume that citizens are similarly situated or similarly capable of making use of their opportunities and resources. Unfortunately, ideal proceduralism makes both of these assumptions about democratic equality” (p. 326). Likewise, political communication researchers must not assume that access to media will bring the same benefits to all or—what amounts to the same thing—that the democratic quality of political communication can be assessed by researchers separately from what benefits audience members actually gain from it in practice. Not everyone will benefit in the same way from the same political communication event, not least because these events can be conducted in ways that exclude some social groups. It is critical that our methods enable us to capture and analyze this complexity. Real-time response methods can help us do this in a more sophisticated way, but the conceptual focus on preferences restricts what can be learned from current methods.

Although the advantages of using the capability approach are clear, a difficult theoretical question remains. Much as with the concept of needs in the uses and gratifications approach, we must decide how to define relevant capabilities for the purposes of research, especially if we are going to resist relying

simply on individuals' subjective preferences. Advocates of the capability approach explore this question in different ways, either following Nussbaum (2011) in arguing that we can define and list central capabilities or Sen (2004, 2009) in emphasizing the role of public deliberation in deciding upon capabilities. In our view, the type of democratic capabilities we focus on here can rightly be viewed as fundamental at a theoretical level, since the capacity to participate in practices of democratic justification is central to justice (see Forst, 2014; Habermas, 1997; Moss, 2018). However, this general democratic principle can only take us so far. Our task as political communication researchers must be to understand what specific capabilities citizens need to realize this ideal principle in practice and how political communication may or may not relate to these needs. We argue in the next section that achieving this understanding requires an appropriately designed qualitative and deliberative research process that can generate a broad, intersubjective understanding of relevant capabilities and draws on the interpretations of citizens without limiting them to subjective preferences.

The Democratic Reflection App

The potential to develop real-time response methods by using a richer set of response statements is significant. However, once we move beyond collecting preferences, formulating response statements that provide valid insights and that are meaningful for heterogeneous audience members is not a trivial task. In this section, we describe a software app we have developed to capture responses to televised election debates and similar political content. The app, called Democratic Reflection, aims to measure people's sense of whether key democratic capabilities are furthered. We start by outlining the qualitative process we used to identify the capabilities the app seeks to measure and to formulate appropriate response statements.

Our research began by exploring via a series of 12 focus groups voters' views about televised election debates and how they could be improved. The focus groups involved eight participants and lasted between 60 and 90 minutes. All participants were from Leeds (a city in the north of England) and the surrounding area, but the sample was diverse in some other key respects: The sample included participants of different ages; it was balanced in terms of gender; and it reflected people with varying levels of interest and engagement in politics, ranging from those who are politically disengaged to committed political party supporters. Using a purposive sample that was diverse in these respects helped us access a range of different perspectives, even if (because the sample was not representative in a statistical sense) we cannot claim to know how particular views are distributed in the broader population (Morrison, Kieran, Svennevig, & Ventress, 2007, p. 10).

In the focus groups, we asked participants open-ended questions about their experiences and views of debates, seeking to develop our understanding of capabilities inductively from the accounts participants provided. Given the problem of subjective preferences discussed above, we were conscious of the fact that people's views and expectations of political communication might be limited by their experiences. Thus, we asked participants to reflect on how televised debates should be improved in ideal terms, inviting them to be critical and imaginative. Furthermore, we asked participants to reflect on what citizens need from debates as a group rather than as isolated individuals, as would be the case in a

structured interview or survey. Public discussion, as deliberative democrats argue, can introduce people to new viewpoints and can help them develop as well as clarify their own viewpoints.

Our analysis of the focus group data followed an inductive and iterative process (Bryman, 2016, pp. 569–600). We read the transcripts thoroughly and each coded them independently. We looked for themes that recurred and seemed most important for our research participants, and we identified relevant democratic capabilities that debates could either positively or negatively affect. We then exchanged, compared, and discussed our notes before returning to the transcripts to review our analysis. We agreed upon five key democratic capabilities that appeared especially prominent and significant. Because we have outlined these capabilities at length elsewhere (see Coleman & Moss, 2016), we only summarize them here:

- Capability 1: to be respected as a rational and independent decision maker. Participants felt that political leaders should speak to viewers frankly and honestly, respecting them as intelligent and independent decision makers, and not be manipulative or evasive in their communication.
- Capability 2: to be able to evaluate political claims and make informed decisions. Participants felt that political leaders in debates should provide viewers with the information they require to evaluate political claims and make informed decisions about politics.
- Capability 3: to be part of the debate as a democratic cultural event. Participants felt that debates should be conducted in ways that are inclusive and that engage all viewers. Everyone should be able to feel part of debates rather than be excluded from them.
- Capability 4: to be able to communicate with and be recognized by the leaders who want to represent me. Participants felt that political leaders in the debates should acknowledge their values, interests, and preferences and those of people like them. They wanted ways to be able to communicate with leaders to achieve this recognition.
- Capability 5: to be able to make a difference to what happens in the political world. Participants felt that debates should help viewers feel their vote and opinion are valuable and they can make a difference in what goes on in the political world.

Having identified these five capabilities, our next task was to devise a set of real-time response statements to measure whether people felt that political communication contributes to realizing these capabilities. The transcripts provided a rich account of what people want and need from debates in their own words, and this proved to be valuable in formulating appropriate response statements.

For the first version of the Democratic Reflection app, we formulated 20 response statements. There were four statements for each of the five capabilities, two of which were positive, designed to measure moments that contribute to the realization of capabilities, and two of which were negative, designed to measure moments when a capability is frustrated. So, for example, for Capability 1, the two positive statements were "S/he's speaking to us honestly" and "S/he's answering fairly and to the point," and the two negative statements were "S/he's just saying what people want to hear" and "S/he's speaking to us as if we're stupid." The designer on our project created digital cards for each response statement organized per capability, enabling users to easily identify and choose among statements. Figure 1 shows the design of the app for PCs and smart phones, which was built by our partners at the Open University.

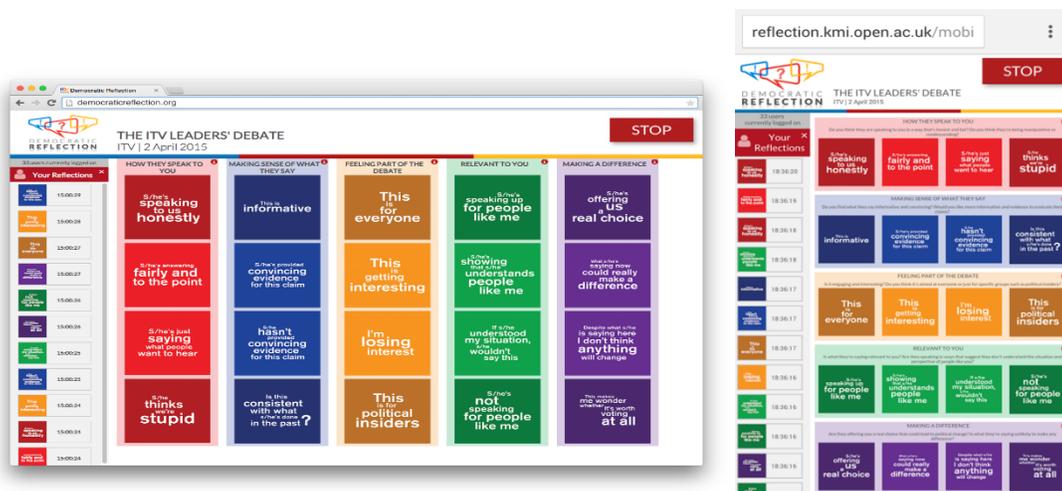


Figure 1. Democratic Reflection app, version 1.

We conducted an experiment to test the app with 242 participants during the first televised debate in the UK 2015 general election. A fairly diverse sample of 450 people was initially recruited to participate, but 123 people did not complete any stages of the experiment and 85 people did not complete all stages, resulting in a less balanced sample. Before and after the experiment, participants completed a survey that included questions designed to elicit views about the capabilities and the extent to which they would be or were realized by the debate. The survey also collected key sociodemographic information about the respondents as well as their political attitudes and vote intention, so we could investigate whether and how social groups relate to the democratic capabilities differently.² During the experiment, participants watched the debate and used the app to register responses by pressing the cards that most closely corresponded with their views. A large data set was generated, with 51,934 responses being registered over the course of the two-hour debate.

² We collected this information so we could analyze subsequently whether there are any systematic response patterns of viewers that could be explained by differences in their sociodemographic and attitudinal profiles. For this analysis, we applied multivariate methods suitable to analyze real-time data (e.g., event history analysis; see Box-Steffensmeier & Jones, 2004; Woolridge, 2010).

Our initial experimentation with Democratic Reflection raised some issues to address in the future development of the app. One issue involved the complexity of the task, given that participants were asked to choose from as many as 20 statements in real time. In addition, some of the statements could be improved: Not all statements were discrete enough, some statements were ambiguous (e.g., “S/he’s just saying what people want to hear” can be read both positively and negatively), and some statements were not clearly positive or negative (e.g., “Is this consistent with what s/he has done in the past?”).

Ahead of the 2017 general election, we designed a second iteration of Democratic Reflection that would address these issues. We reduced the number of response statements from 20 to 10 to make the task less complex, with just one positive and negative statement per capability. We also ensured the statements were more clearly distinct from one another. Some nuance may have been lost in this process. Still, comparing the software app to other real-time response methods, the responses available to viewers are still richer and relate to capabilities of democratic citizenship rather than simply to positive and negative preferences. The research team also felt it would be valuable to include a measure of intensity, enabling viewers to express how strongly they supported a particular statement. The app uses the length of time people hold a card as a measure of intensity, with a scale ranging from 1 to 5. Figure 2 shows the design of the second version of the app.

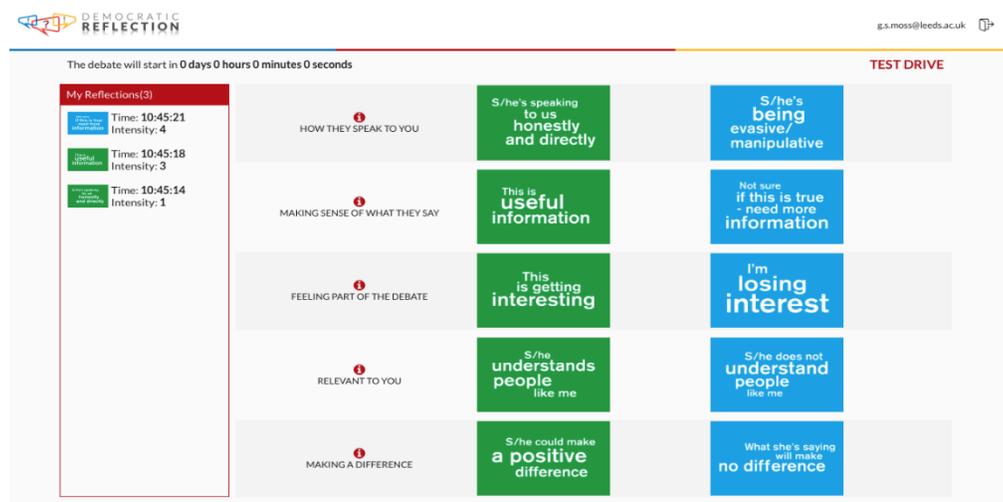


Figure 2. Democratic Reflection app, version 2.

To test the second version, we conducted an experiment during the BBC *Question Time Leaders Special* program on June 2. The program involved Theresa May (the prime minister and leader of the Conservative Party) and Jeremy Corbyn (the leader of the Labour Party) fielding questions from a selected studio audience and on occasion from the moderator, David Dimbleby, for 45 minutes each. Eighteen people participated in the experiment. The convenience sample was drawn from students at the University of Leeds and their personal contacts, and it was not selected to be politically balanced or representative. This experiment generated 2,876 responses over the course of the 90-minute program.

Our team has developed an interface to help with the analysis of the data generated by the Democratic Reflection app. The interface enables researchers to identify overall patterns of response and analyze responses alongside the video, either by individual response statement or per capability. Researchers can also filter the data in different ways, allowing them to compare the responses of demographic groups or the responses of participants who give different answers to questions in the pre-debate and post-debate surveys. Figure 3 shows the analytics interface when the data are unfiltered, with all responses across all capabilities collected during the June 2 *Question Time* program displayed. A distinct shift is evident halfway through the program, from negative (in blue) to positive (in green) responses, when May's period of answering questions ends and Corbyn takes to the stage for the first time. As already noted, the sample was not designed to be representative or politically balanced, and indeed it appears to be skewed significantly toward Corbyn.

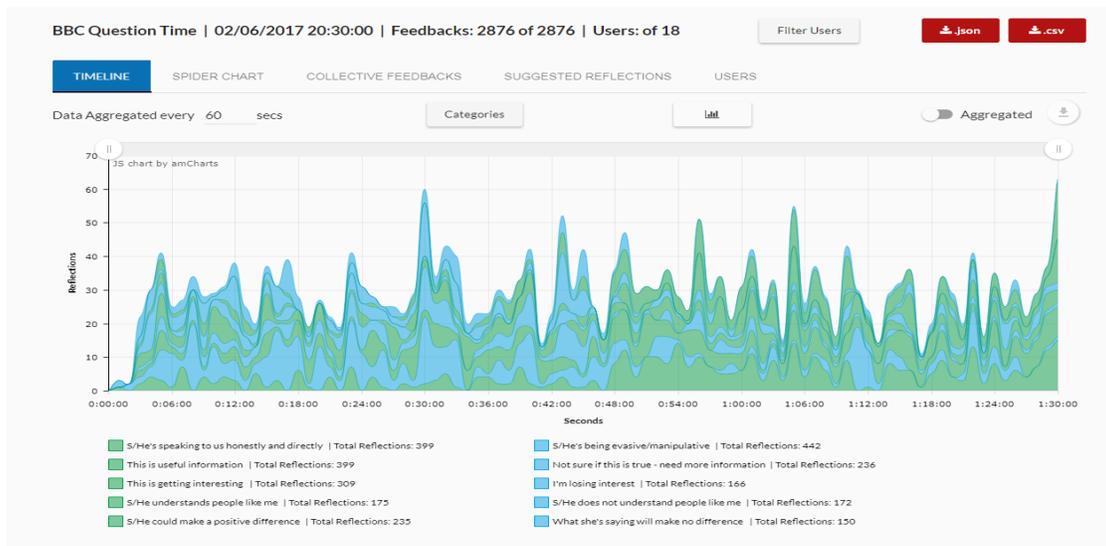


Figure 3. Democratic Reflection analytics interface.

Questions for Future Research

Systematic testing is required to assess the full value of Democratic Reflection for understanding the real-time responses of audiences to mediated political messages and to develop the app and method further. We conclude by identifying some specific issues we plan to tackle in the next stage of our research.

Audience Reception and Effects

We aim to learn more about the relationships that exist at both micro and macro levels between the reception of media content and the thoughts and experiences that viewers bring to the interpretation of mediated political messages. Some early communication theorists believed that media content had direct, immediate, and powerful effects on audiences. According to Shannon and Weaver's (1949)

transmission model, Senders (S) send Messages (M) to Receivers (R), and, as long as the clarity of M is not degraded by surrounding noise, there is no reason for its significance not to be acknowledged by R. Few media scholars now accept this linear account of communication. Interaction theorists argue that communicative meaning emanates from negotiated symbolic exchange, which is itself mediated by memory, ideology, and selective attention (Berlo, 1965; Dance, 1970; Gerbner, 1967). Unlike the transmission model, interaction theory places great emphasis upon the interpretive resources available to message recipients. As Seibold and Spitzberg (1982) put it:

Communication can hardly be treated without reference to the interpretations actors bring to their attempts to symbolically interact. Without attention to the ways in which actors represent and make sense of the phenomenal world, construe event associations, assess and process the actions of others, and interpret personal choices in order to initiate appropriate symbolic activity, the study of human communication is limited to mechanistic analysis. (p. 87)

Given that message recipients differ in their interpretations, the performative intentions of communicators rarely translate into direct or universal transference.

In our view, there is no freestanding, effect-causing media text until it comes into contact with a viewer. At that point, the viewer's capacity to make sense of the text and the interpretations she brings to it are crucial in determining how or whether meaning emerges. Rather than thinking of the text—whether televised election debates or other political content—as possessing independent and objective meaning, we want to explore transactional relationships between the text as symbolic stimulus and viewers as active meaning makers who are engaged in acts of what Bleich (1978, p. 129) refers to as "motivated resymbolisation." Bleich argues that "Any view of a language sample beyond trivial functional identification must involve interpretation and, therefore, the motives and subjectivity of the interpreter" (p. 129). Instead of asking what a particular media message means, Bleich urges us to pursue the subjective inquiry of what viewers would like to know from it, the motives of whom may be shared or individual. As we have noted, the democratic capabilities discussed in this article constitute just one possible interpretive framework—one set of shared "motives" in Bleich's terms—that audiences may bring to media texts. However, we do think these capabilities, developed intersubjectively out of our focus groups, capture something important about how viewers relate and respond to political communication collectively as democratic citizens. We are interested in exploring these capabilities as both *intermediary* factors, which determine the outcome of interactions between citizens and political texts, and as *outcomes* themselves, as they refer to a person's capacity to be who he might become as a result of encountering these texts. In the next stage of our research, we plan to focus on the dynamic interrelations of both of these senses of capability.

To explore this relationship further, we intend to use several research techniques. The first, which we have already applied in our 2015 and 2017 experiments, are pre- and post-reception surveys designed to capture variations in participants' expectations and experiences. By cross-tabulating these two fixed temporal moments with moments during the debate when such variations emerge, we hope to learn more about the dynamics of sense making. We expect statistical analysis to be useful here. Using our analytics

interface, we can identify peaks in responses and overall patterns, but we do not know whether these peaks and patterns are statistically significant and whether they relate to key differences among viewers or their preexisting expectations and views. By using a representative panel in future experiments, we can investigate whether there are statistically significant differences in the responses of different groups, applying multivariate methods suitable for the panel structure of the data collected as well as its real-time nature (Box-Steffensmeier & Jones, 2004; Wooldridge 2010). We should also be able to identify significant patterns and critical moments where shifts in response patterns might occur and again relate those to differences among viewers and their existing views.

This approach will need to be supplemented by more qualitative research. We plan to conduct semistructured interviews with participants before and after exposure to the media text/debate. In post-debate interviews, we will show participants their real-time responses, including patterns and peaks, and invite them to tell us why these have occurred. Also, when showing recorded media content to participants, we intend to stop the recording periodically and ask questions to selected participants about the meaning of their responses. These are only some of the ways in which we are planning to arrive at a deeper account of the interpretive process than can be captured through the simple representation of quantitative data. There is, of course, scope for other, more complex ethnographic approaches. Most importantly, our concern here is to ensure that, in attempting to counter the positivist, effects-based paradigm, we are not simply inventing a more sophisticated version of the same pseudoscience.

Design and the Performativity of Method

There are a number of questions about the design of the app we hope to investigate in future research. One question is about the number of response statements used. It is clearly beneficial to extend response statements beyond just "agree" and "disagree," but there is a limit to how many responses participants can manage effectively. As already noted, the 20 statements used in the first version of the app may have been too many. The 10 statements used in the second version of the app appeared to be more manageable, especially if participants are given sufficient training and time to familiarize themselves with the tool in advance. However, this is an issue that needs to be tested systematically in future research. We are also not sure whether and how other design choices may affect responses. Consider, for example, the order of the response statements. In both the experiments conducted to date, the responses to Capability 1 were greatest. Does this reflect the fact that this capability is most important (a plausible explanation), or is it because these statements appear first on the screen (an equally plausible explanation)? The designer on our team considered other design choices such as typography and colors; however, we cannot be sure what difference these choices might make, and this is something we hope to test in future research.³

There is a broader question here about how using the Democratic Reflection app may influence the experience of watching political media content. Law and Urry (2004) suggest that social science research methods are "performative," meaning "they have effects; they make differences; they enact realities; and they can help to bring into being what they also discover" (pp. 392–393). In a survey

³ We thank one of the anonymous reviewers for this suggestion.

conducted with our panel of 242 participants after they watched the 2015 election debate while using Democratic Reflection, 78% reported that being asked to think about the statements on the app made them focus closely on the debate, 66% said it made them reflect on the debate in a deeper way, 57% said that it provided them with unexpected insights on the debaters and what they said, 43% said that it changed some initial assumptions they had before the debate, and 55% said that it changed the way that they would like to be engaged in political debates in the future. Thirty-five percent said that the tool "interfered" with their viewing of the debate. If watching political content while using Democratic Reflection is significantly different from watching broadcasting without using the app, it will not be possible to generalize our findings to broader populations, however representative our panel of respondents may be. This is something we plan to investigate in future research. We believe the method does capture something important and real about how audiences respond to political content as democratic citizens. But then if all methods are necessarily performative to some extent, as Law and Urry (2004) suggest, we would certainly favor research methods that make publics more reflective, articulate, and critical than methods that encourage the reverse.

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