Learning Democratic Communication through "Deliberative Polling"

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1. Introduction

One fundamental thesis within the rapidly growing literature on deliberative democracy is that the stability and quality of a democracy depend not only on formal institutions such as the electoral system or the structure of parliamentary representation. They depend also on certain democratic competences of the citizens, especially their capacity for democratic communication. According to this thesis, above all the capacity for democratic deliberation, i.e., for argumentation, evaluation and for a balanced decision between policy alternatives, belongs to the central competences relevant to maintaining and developing a democracy.[2]

From this point of view, even the breakdown of a democracy cannot be reduced to the failure of democratic institutions alone but may also result from the absence of the right kinds of democratic attitudes or democratic habits of communication among the citizens. Thus it is sometimes said that the collapsing Weimar Republic of the 1920s and 1930s was a "democracy without democrats".

If one holds this fundamental thesis and considers the promotion of democratic competences to be normatively desirable, one has to ask the empirical and pragmatic question as to which means would best promote these competences in society. This question is at the centre of the debate on civic education: What part can and should educational contexts, such as schools and universities, play in the promotion of democratic competences?

[2] On the theory of deliberative democracy, see among many others: J. Bohman and W. Rehg (eds.): *Deliberative Democracy: Essays on Reason and Politics*, Cambridge, MA (MIT Press), 1997; J. Cohen: "Deliberation and Democratic Legitimacy", in A. Hamlin and P. Pettit (eds.): *The Good Polity: Normative Analysis of the State*, Oxford (Basil Blackwell), 1989, pp. 17-34; J.S. Dryzek: *Discursive Democracy: Politics, Policy and Political Science*, New York (Cambridge University Press), 1990; J. S. Dryzek: Deliberative Democracy and Beyond, Oxford (Oxford University Press), 2000; J. Elster: "Introduction", in J. Elster (ed.): Deliberative Democracy, New York (Cambridge University Press), 1998, pp. 1-18; A. Gutmann and D. Thompson: Democracy and Disagreement, Cambridge, MA (Harvard University Press), 1996; M. Becker: "Politik als Verständigungsprozess – Modelle deliberativer Demokratie", *Zeitschrift für Politik*, 2. Heft, 2000.

In this paper, we suggest that the method of *Deliberative Polling* as developed by James Fishkin and his colleagues can be successfully applied to promote democratic competences in educational contexts.[3] We report on a project modeled on Deliberative Polling that we carried out within an educational context, a so-called "Schülerakademie", or students' academy, in Germany, as described below, and we discuss its results from the perspective of various theoretical criteria. It turns out that Deliberative Polling – apart from its qualitative importance in the learning of democratic communication – may have positive effects on two important quantitative criteria: first, on the state of informedness of the participants and second, on the collective cohesion of their preferences. Both criteria will be discussed in more detail below.

The paper is structured as follows. In section 2, we briefly discuss the theoretical background, namely the controversy between so-called aggregative and deliberative models of democracy. In section 3, we outline several existing proposals on how democratic communication can be taught in educational contexts. In section 4, we explain the method of Deliberative Polling. In section 5, we report on our own deliberation project and evaluate its results. In section 6, we draw some conclusions.

2. Aggregative and Deliberative Models of Democracy

The contemporary debate in the theory of democracy is characterized by the prominence of two diametrically opposed models of democracy: *aggregative democracy* and *deliberative democracy*.

According to the *aggregative model*, democratic decision-making consists primarily in the aggregation of conflicting individual preferences, particularly through voting. Democracy is conceived of as an "input-output system": Certain individual inputs, such as individual preferences or votes, are aggregated into resulting collective outputs, such as collective preferences or decisions. Crucially, the individual inputs are taken to be exogenously given and fixed; they do not change in the process. On this model, the central democratic institution is the electoral system or method of aggregation used. The method of aggregation can be described as a mechanism transforming any given combination of individual preference orderings on the relevant political alternatives into a single collective preference ordering on them.[4] From the perspective of the aggregative model of democracy, the quality of a democracy depends, to a great extent, on the quality of its aggregation method.

The deliberative model, by contrast, does not focus on the mechanical aggregation of individual preferences into collective ones but on the importance of deliberating about these preferences. Accordingly, democracy is seen as a communicative system, as the entirety of those social processes (involved in the formation of opinions as well as in the development of

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[3] For introductory overviews, see J. S. Fishkin: *Democracy and Deliberation*, New Haven and London (Yale University Press), 1991; J. S. Fishkin: *The Voice of the People*, New Haven and London (Yale University Press), 1995. As noted above, "Deliberative Polling" and "Deliberative Poll" have been registered as trademarks by James Fishkin and his colleagues.

[4] In the mathematical model, the individuals are represented by the numbers $1, 2, …, n$. Each individual, i, holds a preference ordering, P_i, on a set of alternatives, $x, y, z, …$ An *aggregation method* is a function, F, which assigns to each vector of individual preference orderings, $<P_1, P_2, ..., P_n>$ (consisting of one preference ordering for each individual), a single collective preference ordering, P.

strategies of learning and acting) which lead to collective decisions. Thus, the quality of a democracy depends on the quality of those processes, and not only on the quality of the underlying formal institutions.

2.1 The Problem of Aggregation: Condorcet's Paradox and Arrow's Impossibility Theorem

Condorcet's Paradox is a classic 18th century result from the theory of social choice showing that the aggregation of pluralistic individual preferences into collective decisions is a non-trivial problem.[5] The Paradox demonstrates that majority voting, arguably the most familiar and established method of aggregation, may lead to inconsistent collective preferences. Consider a situation in which three individuals (voters 1, 2, 3) have to make a collective decision on three alternatives (candidates x, y, z). The individuals (voters) have the following preferences (the symbol ">" means "is preferred to"):

Individual 1: $x > y > z$

Individual 2: $y > z > x$

Individual 3: $z > x > y$

The collective preference is now to be determined by majority comparisons between pairs of alternatives: a majority of two out of three (consisting of individuals 1 and 3) prefers x to y, another majority of two out of three (consisting of individuals 1 and 2) prefers y to z, and a third majority of two out of three (consisting of individuals 2 and 3) prefers z to x. The collective preference is therefore $x > y > z > x$, a "cyclical" and thus inconsistent preference relation. In particular, there does not exist a *Condorcet Winner*. A *Condorcet Winner* is defined as an alternative which is preferred to any other alternative by a majority (or at least one half) of the individuals. The Condorcet Winner criterion is seen, by many democratic theorists, as a plausible formalization of the criterion of the "general will".[6]

Is Condorcet's Paradox just the result of an artificial thought experiment or is it an indicator of a more fundamental problem which may arise in the aggregation of diverse individual preferences? The Paradox itself shows only that one particular, plausible method of aggregation – namely pairwise majority voting – may lead to inconsistent collective preferences. It does not say anything about whether this problem could be solved by means of a different, equally plausible method of aggregation. Arrow's Impossibility Theorem addresses this further question.[7] If we introduce five seemingly compelling minimal conditions which an aggregation method should fulfill, Arrow's Theorem shows that there does not exist any aggregation method which fulfils those conditions simultaneously. The conditions to be fulfilled are the following:

Unrestricted domain (U): Every logically possible combination of individual preference orderings on the relevant political alternatives is admissible as an input to the aggregation.

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[5] See I. McLean and F. Hewitt (eds.): *Condorcet: Foundations of Social Choice and Political Theory*, Cheltenham (Edward Elgar), 1994.

[6] See, e.g., D. Estlund, J. Waldron, B. Grofman and S. Feld: "Democratic Theory and the Public Interest; Condorcet and Rousseau Revisited", *American Political Science* Review 83, 1989, pp. 1317-1340.

[7] See K. Arrow: *Social Choice and Individual Values*, New York (Wiley), 1951.

Transitivity (T): The collective preference relation generated by the aggregation method constitutes a consistent ordering. In particular, if x is collectively preferred to y and y is collectively preferred to z, then x is also collectively preferred to z.

The weak Pareto principle (P): If *all* individuals prefer x to y, then x is also collectively preferred to y.

Non-dictatorship (D): There exists no antecedently fixed individual (a "dictator") whose individual preference always determines the collective one, in the sense that whenever this individual prefers x to y, then x is also collectively preferred to y.

Independence of irrelevant alternatives (IIA): The collective preference between any two alternatives x and y depends only on individual preferences between x and y, not on individual preferences involving other alternatives.

These conditions are taken to be *minimal*, in so far as one would ideally expect an aggregation method to satisfy further, more demanding conditions.[8]

Theorem (*Arrow's Impossibility Theorem*): There exists no aggregation method which simultaneously satisfies conditions (U), (T), (P), (D) and (IIA).

Arrow's theorem implies that any method of aggregation must necessarily violate at least one of Arrow's conditions. A lot could be said about which of these conditions may need to be given up, but this is not the topic of the present paper.

2.2 Deliberation and Consensus

The solvability of aggregation problems depends, above all, on how different the preferences across different individuals are. It is obvious that, in the case of complete unanimity among all individuals' preferences, the aggregation of these preferences does not present any difficulties.

One hypothesis supported by early advocates of the deliberative model of democracy is that an appropriate phase of deliberation prior to making a decision may change individual preferences to such an extent that a complete consensus (i.e., unanimity of preferences) is achieved. If this is the case, Condorcet's Paradox will be avoided and Arrow's aggregation problem will be bypassed.

Jon Elster, for example, summarizes this hypothesis as follows: "The core of the theory (of deliberative democracy) […] is that rather than aggregating or filtering preferences, the political system should be set up with a view to changing them by public debate and confrontation. The input to the social choice mechanism would then not be the raw, quite possibly selfish or irrational preferences […], but informed and other-regarding preferences.

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[8] Examples of such conditions include *anonymity (A)*, which requires (informally speaking) that all individuals have equal weight in the aggregation, as well as *the strong Pareto principle (StP)*, which requires that x be collectively preferred to y if *no* individual prefers y to x and *at least one* individual prefers x to y. These conditions are logically more demanding than Arrow's conditions in the following sense: condition (A) implies condition (D), but not the other way round; and condition (StP) implies condition (P), but not *vice versa*.

Or rather, there would not be any need for an aggregation mechanism, since a rational discussion would tend to produce unanimous preferences."[9]

Independently of whether a complete consensus is desirable or not, however, there is no empirical evidence that, under normal circumstances, deliberation can reliably bring about such a consensus. Accordingly, the hypothesis that deliberation could solve the problem of democratic aggregation by producing a complete consensus seems empirically and pragmatically questionable.

2.3 Deliberation and Meta-consensus

A less demanding but nevertheless interesting hypothesis says that, under normal circumstances, deliberation cannot bring about a complete consensus but a meta-consensus.[10] A *meta-consensus*, as understood for the present purposes, requires that the individuals agree upon the ideological dimension underlying the given decision problem and that the individual preferences of all the individuals can be systematically arranged on the same right-left axis. This does not require a complete consensus in the form of unanimity of preferences. To give an example from politics, a meta-consensus could consist in the fact that all individuals agree on the ideological left-right alignment of the political parties (in Germany, for instance, in the order PDS, Green Party, SPD, FDP, CDU, CSU) without reaching an agreement as to which party is to be preferred most. The individuals agree on the *structuring* of the decision problem but not necessarily on the preferred *solution*.

A combination (in the mathematical model, a vector) of individual preference orderings is called *single-peaked*, if (roughly speaking) there exists at least one left-right alignment of the alternatives (candidates) so that each individual (voter) has a most preferred position on that left-right axis and prefers alternatives (candidates) the less, the further they are away from his or her most preferred position on the axis.

Diagram 1 shows an example of two preference orderings which are single-peaked with regard to the same left-right axis (i.e., the axis *x-z-v-y-w*).

[9] See J. Elster: "The Market and the Forum", in J. Elster and A. Hylland (eds.): Foundations of Social Choice Theory, Cambridge (Cambridge University Press), 1986, pp. 103-132.

[10] Different versions of this hypothesis can be found in D. Miller: "Deliberation and Social Choice", *Political Studies* (special issue) 40, 1991, pp. 54-67; J. Knight and J. Johnson: "Aggregation and Deliberation: On the Possibility of Democratic Legitimacy, *Political Theory* 22, 1994, pp. 277-296; C. List: "Two Concepts of Agreement", *The Good Society* 11, 2002, pp. 72-79; and J. S. Dryzek and C. List: "Social Choice Theory and Deliberative Democracy: A Reconciliation", *British Journal of Political Science* 33, 2003, pp. 1-28. The idea of "meta-consensus" was made explicit in this particular literature in List, "Two Concepts of Agreement".
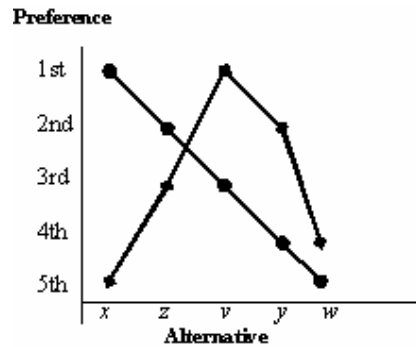
Diagram 1

If the preference orderings of all the individuals fulfill the criterion of single-peakedness with respect to the same left-right alignment of alternatives (candidates), this can be an observable implication of a meta-consensus.[11] The importance of the notion of single-peakedness – and more generally, of the idea of a meta-consensus – lies in the fact that single-peakedness is sufficient for avoiding Condorcet's paradox and thereby circumventing the problem posed by Arrow's impossibility theorem.[12]

Theorem (*Black's median voter theorem*): If all individuals' preference orderings are single-peaked with respect to the same left-right alignment of the alternatives, then there exists a Condorcet winner (as defined above), namely the most preferred alternative of the median individual relative to the given left-right alignment.[13]

In particular, as a corollary, one can show that, if we replace Arrow's condition of *unrestricted domain (U)* by the weaker condition of *single-peaked domain (SP)*, then we get a *possibility result* in contrast to Arrow's original *impossibility result*:

Single-peaked domain (SP): Every combination of individual preference orderings which are single-peaked with respect to the same left-right alignment of the alternatives is admissible as input to the aggregation.

Theorem (*Possibility Result of Black and Arrow*): There exists an aggregation method which simultaneously satisfies conditions (SP), (T), (P), (D) and (IIA), namely pairwise majority voting.[14]

Over and above the possibility result of Black and Arrow, one can show that even a high degree of *partial* single-peakedness is likely to ensure the avoidance of aggregation paradoxes.[15] We have a situation of *partial* single-peakedness (sometimes also called

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[11] See C. List: "Two Concepts of Agreement", as cited above.

[12] For simplicity (to avoid the possibility of harmless majority ties), we can assume in the mathematical model that the number of individuals, *n*, is odd.

[13] See D. Black: "On the Rationale of Group Decision-Making", *Journal of Political Economy*, 56, 1948.

[14] See Black: "On the Rationale of Group Decision-Making", as cited above; Arrow: *Social Choice and Individual Values*, as cited above.

[15] See, for example, R. G. Niemi: "Majority Decision-Making with Partial Unidimensionality", *American Political Science Review* 63, 1969, pp. 488-97. For further discussion, see C. List, I. McLean, J. S. Fishkin and R. Luskin: "Can Deliberation Increase Preference Structuration? Evidence from Deliberative Polls", Conference of the American Political Science Association, Washington, DC, 2000; revised in 2006 under the title

proximity to single-peakedness), if the preference orderings of a *subset* of the individuals, but not necessarily of all of them, satisfy the criterion of single-peakedness with respect to the same left-right alignment of the alternatives.

In our discussion of Deliberative Polling below, we look at the question of whether there is any empirical support for the hypothesis that deliberation can bring about a meta-consensus. The present theoretical considerations already give us some initial reasons to think that deliberative processes might be of relevance for the solution of aggregation problems. However, the key to a deliberative solution to aggregation problems is likely to lie not in a deliberation-induced consensus, as hypothesized by early proponents of deliberative democracy, but in a deliberation-induced meta-consensus.

3. Existing Proposals on Learning Democratic Communication in Educational Contexts

Deliberation means free speech governed by reason, often (but not always) aimed at obtaining a gradual agreement on the preferences of the individuals involved. As explained above, deliberation is frequently advocated, because carefully considered discussion would facilitate the search for a solution acceptable to everybody involved and thus for a consensus, or at least a common structuring of problems: a meta-consensus.

At present, educational contexts, such as schools and universities, offer only limited opportunities for learning the technique of democratic deliberation. Simple didactic forms, such as cooperative learning and mediation, contain certain elements of deliberation. In view of the significant competence requirements of complex democratic processes, however, such relatively simple techniques may, at best, serve as an introduction to very young learners. The development of democratic competences among older students and grown-ups requires new and more demanding methods.

3.1. Debating

Debating as widely practiced within Anglo-American educational contexts is based upon dialectic principles. As a starting point, fixed contradictory positions are rhetorically exposed in order to establish the extremes. After the debate, the motion is put to the vote. Deliberation, on the other hand, is clearly distinguished from such a debate resulting in a vote. Deliberation is characterized by the fact that the participants in a discussion reconsider their own positions and are prepared to engage more fundamentally in a common analysis of a set of problems, an analysis reflecting all the individual points of view in order to uncover their underlying mental dispositions. Processes of deliberative communication overcome the characteristic efforts of debates to display rhetorical brilliance and quick-wittedness and instead focus on mutual understanding and the transformation of opinions.

"Deliberation, Single-Peakedness, and the Possibility of Meaningful Democracy: Evidence from Deliberative Polls", available at http://personal.lse.ac.uk/list/PDF-files/DeliberationPaper.pdf.

3.2 The Simulation of Parliamentary Sessions

The complex communication processes underlying parliamentary decision procedures are, didactically, difficult to teach and understand. An intensive comprehension of such processes can be achieved by making use of simulations which try to represent real democratic processes. In parliamentary simulations such as "Congress in Action" (practiced at American high-schools) or "Model United Nations" (well known internationally), students are transferred into a democratic "microcosm" in which they take the acting part in a political process over a longer period of time.

The "Congress in Action" program, for example, is carried out with 11th or 12th grade students at US high schools. The simulation of Congress runs over a period of several weeks. During this time, the learners play the part of a representative or a cabinet member. By means of authentic material about the function, the centers of interest, the convictions, loyalties and networks of this representative, they prepare themselves to play the representative's part. Each learner is involved in a particular legislative initiative and, in his or her function as a representative, has to elaborate a position paper based on the knowledge acquired. On the basis of this paper, the learner cooperates in simulated committee meetings as well as plenary debates, where he or she represents the representative's position. All the decision-making and voting processes of a real parliament are thus simulated on the basis of actual functioning mechanisms of the US Congress. The pedagogic function of this comprehensive teaching arrangement is to bring about a practical understanding of genuine political processes in a parliamentary democracy.

3.3 The National Issues Forum

Since most citizens in modern democracies participate in politics only occasionally – the main opportunities for participation being elections, which take place only every few years – they typically have only limited information on social and political problems. Especially in media-oriented democracies, public opinion seems to be fluent and marked by whatever the dominant headlines are. A democracy which demands little political participation of its citizens does not seem to consider worthwhile the investment of time and effort into a careful discussion of political information. Many political scientists argue that this *status quo* contributes to a widely spread state of "rational ignorance" among citizens.[16]

A method developed with a special view to democratic education is the "National Issues Forum", which seeks to contribute to the training of capacities for deliberation.[17] Following the model of the "New England Town Meetings", one of the essential founding institutions of the American democracy, the National Issues Forum assembles citizens who deliberate on specific topics such as drug abuse, systems of social security, labor market policy, or juvenile delinquency. National Issues Forums take place in schools and universities and are also organized by communities, religious groups or other associations of civil society. The aim of these forums is to give people with different opinions and conceptions of the good life the

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[16] See, e.g., B. Caplan: "Rational Ignorance versus Rational Irrationality", *Kyklos* 54(1), 2001, pp. 3-26.
[17] See http://www.nifi.org/.

possibility to find and formulate common aims for political action, through respectful and informed deliberation.

National Issues Forums are structured discussions chaired by trained moderators. The participants need not have any expertise but, before the beginning of the forum, are given comprehensive information material which ought to be as neutral as possible. Based on this material, they weigh up the pros and cons of different political solutions to a problem. They analyze the different alternatives and respective arguments. Guided by the moderators, they try to take their own perspective as well as that of the common welfare into account. The forums have no direct binding effect upon politics, but their results are forwarded to, and discussed with, local and national politicians. Often, a National Issues Forum also becomes the basis for further action to be taken by the citizens of a community.

4. Deliberative Polling

One method whose potential application in civic education has not been sufficiently researched yet is Deliberative Polling as developed by James Fishkin and his colleagues.[18] The method of *Deliberative Polling* has aggregative as well as deliberative components.

In Deliberative Polls, a controversial topic is chosen. Then a group of 100 to 300 test persons (typically, a random sample of the population) is selected and, to begin with, the participants are interviewed individually about this topic by means of questionnaires. The second step is a phase of deliberation. The test persons are invited to deliberate on the given topic for one to three days. For their preparation, they are given information materials presenting a balanced view of the two (or more sides) sides which, for general transparency, are also made available to the public. The deliberation phase is now arranged in several steps. In large plenary sessions, various experts and advocates (as well as politicians) present the different points of view on the issue in question. In smaller discussion groups, led by trained moderators, the participants develop questions which they subsequently discuss with the experts and advocates in larger plenary sessions. Finally, each participant is asked again to fill in the same questionnaire as in the initial poll. In this way, the individual opinions and preferences before and after deliberation can be compared with each other.

Deliberative Polls have already been carried out on a large number of different issues and in different countries, including energy supply in Texas, crime in the United Kingdom, the introduction of the Euro in Denmark, and the constitutional referendum on the abolition of the monarchy in Australia. Fishkin and his collaborators frequently found evidence of a considerable shift of opinions. They also showed that public interest as opposed to private interest often found a more prominent place in the foreground after the phase of deliberation. Moreover, in some Deliberative Polls, the questionnaires contained questions revealing something about the state of informedness of the test persons, such as questions on factual

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[18] See Fishkin: *Democracy and Deliberation*, as cited above; Fishkin: *The Voice of the People*, as cited above; R. C. Luskin, J. S. Fishkin and R. Jowell: "Considered Opinions: Deliberative Polling in Britain", *British Journal of Political Science* 32(3), 2002, pp. 455-487.

matters. The evaluation of the answers to such questions provided evidence of a higher degree of informedness among the participants after the phase of deliberation.[19]

Deliberative Polls are well suited for testing the hypothesis, mentioned above, that deliberation can bring about a meta-consensus. Data from Deliberative Polls have shown that deliberation cannot, typically, establish complete single-peakedness (as defined above) but a high degree of partial single-peakedness.[20]

While the research interest of Fishkin and his collaborators is obviously centered on the empirical data generated by Deliberative Polls and the more general political-scientific lessons that can be learnt from this data, the method of Deliberative Polling, as Fishkin emphasizes, provides "both a social science experiment and a form of public education in the broadest sense."[21] The latter aspect of Deliberative Polling is at the centre of the deliberation project we present here. Unlike most existing approaches to democratic education, Deliberative Polling offers an instrument by which we can evaluate, quantitatively, the effects of deliberation in terms of the data generated before and after participation in the process.

5. A Deliberation Project in an Educational Context

We carried out a project modeled on Deliberative Polling within the context of a two-and-a-half-week workshop of the German Students' Academy (Deutsche Schüler Akademie).[22] The entire academy consisted of 6 different workshops with 15 participants each. Our workshop was entitled "Democracy and Deliberation: How to Deal with Conflicts in a Pluralist Society". The workshop had a theoretical as well as an empirical aim. The theoretical aim was to elaborate and discuss the controversy between aggregative and deliberative models of democracy. Teaching and learning methods included textual analysis, short presentations by the students and discussions. The empirical aim, which we sought to achieve together with the participants of our workshop, was to plan, carry out and evaluate an entire Deliberative Poll – or at least something as close to a Deliberative Poll as feasible within the given setting. The issue was: "Topical questions of educational policy in Germany." The test persons were the participants and the teaching staff of the other workshops of the academy (94 altogether). Thus, unlike in Fishkin's Deliberative Polls, the set of interviewees was not a random sample of the reference population. The questionnaire developed in our workshop is included in the appendix. The questionnaire contains questions about the financing of university studies, university admission, final exams in secondary education ("Abiturprüfungen"), the structure of the school system (a differentiated selective system vs. comprehensive schools), full-time day school vs. part-time day school.

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[19] For detailed information and references to relevant literature, see http://cdd.stanford.edu.

[20] See C. List, I. McLean, J. S. Fishkin and R. Luskin: "Can Deliberation Increase Preference Structuration? Evidence from Deliberative Polls", as cited above.

[21] At http://www.law.utexas.edu/research/delpol/index.html, accessed in 2002 when the first version of this paper was written.

[22] Supported by the Federal Ministry of Education and Research, "Bildung und Begabung e.V." organizes annual summer academies for gifted students of the upper levels of secondary schools in Germany (Gymnasien). Each academy consists of several workshops on different topics. Each participant in the academy takes part in one particular workshop but also has the possibility to participate in a comprehensive extracurricular program within the framework of the academy. In the course of the academy, the students are familiarized with the methods and techniques of academic work.

After a first interview of the test persons, a deliberation phase was carried out, consisting of two evening sessions (with a participation of 93 and 85 persons, respectively) and an ensuing second interview. The deliberation phase was modeled after the structure developed by Fishkin. To provide the interviewees with information, after the first round of questionnaires, we distributed material with pro- and counter-arguments to the different aspects of the issue, which had been developed by our workshop. The first, somewhat longer evening session focused on the university issues, the second, shorter one on the school issues. Both evening sessions consisted of three parts each. In the first part, "informed" participants of our workshop acting as experts presented the different viewpoints on the various topics to the 93 or 85 test persons present. Afterwards, the test persons were selected randomly to sit together in small groups and, guided by a moderator from our workshop, to deliberate on the issues of the poll. The third part consisted of another plenary session during which the small groups could ask the "experts" questions. Due to the limited number of participants and the overall organization of the academy, it was not possible to examine an additional control group of test persons who did not participate in the deliberation phase.

As indicated above, unlike in a professional Deliberative Poll, we were primarily interested in the process and less so in the polling data generated by it. Particularly because of the composition of our sample, these data are not representative of a larger reference population. Nevertheless, as we will now show, these data are of some interest: they permit a (descriptive) quantitative evaluation of the deliberation process.

Quantitative criteria for the evaluation of the deliberation process were:

- the *degree of informedness* of the interviewees after as opposed to before deliberation;
- the *collective cohesion* of the preferences of the different interviewees in form of the degree of meta-consensus after deliberation compared to before.

We examined the influence of deliberation on the informedness of the interviewees by means of two knowledge-oriented questions:

- Question 2.2: Does there exist, at some universities in the USA, a performance-oriented selection process? (The correct answer is "yes".)
- Question 5.2: In which federal states of Germany is there a centralized secondary school exam ("Zentralabitur")? (The complete correct list is: "Bayern, Baden-Württemberg, Saarland, Thüringen, Sachsen, Sachsen-Anhalt, Mecklenburg-Vorpommern".)

Diagram 2 summarizes the results of these knowledge-oriented questions.

Question 2.2:

Number of interviewees with the correct answer before deliberation: 46 (49%)

Number of interviewees with the correct answer after deliberation: 75 (81%)

Question 5.2:

Number of interviewees

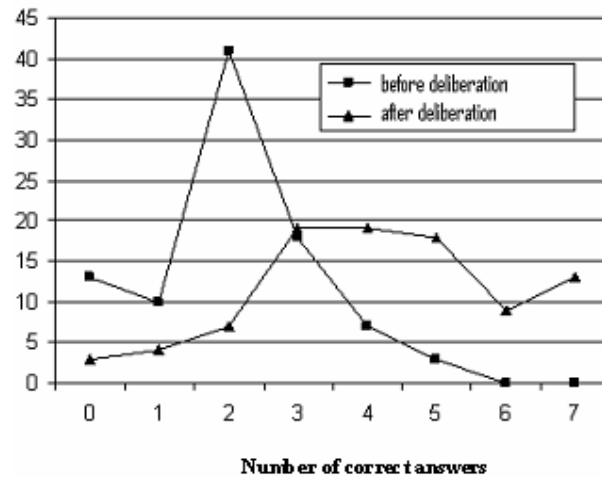**Number of correct answers**

Diagram 2

The results show that questions referring to informedness were answered more correctly after deliberation than before. The percentage of interviewees with a correct answer to question 2.2 increased from 49% before deliberation to 81% after deliberation. As to question 5.2, the average number of correctly named federal states with centralized secondary school exams increased from 2 before deliberation to 4 after deliberation. This is consistent with the hypothesis that deliberation leads to the acquisition of information.

We checked the influence of deliberation upon the degree of meta-consensus among the interviewees by means of questions concerning their preferences on the following issues: the financing of university studies (question 1.1), the method of payment of tuition fees if applicable (question 1.2), admission to university (question 2.1), a differentiated selective school system vs. comprehensive schools (question 3), half-time day school vs. full-time day school (question 4.1), decentralized vs. centralized secondary school exams (question 5.1). In answer to each such question concerning preferences, the interviewees could specify a descending preference ordering over different alternative models. For details, see the questionnaire in the appendix.

For a quantification of the degree of meta-consensus before and after deliberation, we calculated – for each question at both times – the share (in percentage) of interviewees with single-peaked preferences with respect to the same left-right axis.[23] In addition to that, we determined which left-right alignment of alternatives this axis corresponded to (both before

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[23] Methodologically, this follows List, McLean, Fishkin and Luskin: "Can Deliberation Increase Preference Structuration? Evidence from Deliberative Polls", as cited above.

and after deliberation). And we also determined the respective Condorcet Winner (both before and after deliberation).

Diagram 3 summarizes the results of the questions focused on preferences.

Question / topic (see questionnaire)	Percentage of interviewees (from a total number of 93) with single-peaked preferences on the same left-right axis		Left-right axis (for the interpretation of the models see questionnaire)		Condorcet Winner	
	Before deliberation	After deliberation	Before deliberation	After deliberation	Before deliberation	After deliberation
1.1 Financing of university studies	43 %	52 % (+)	C A B D E	C A B D E	B	B
1.2 Method of payment of tuition fees	83 %	87 % (+)	A B C	A B C	B	B
2.1 Admission to university	63 %	67 % (+)	A C D B	A D C B	D	D
3. Differentiated selective schools vs. comprehensive schools	90 %	80 % (-)	A B C D	B A C D	A	A
4.1 Full-time day school	95 %	96 % (0)	A B C	A B C	B	B
5.1 Decentralized vs. centralized secondary school exams (Zentralabitur)	91 %	87 % (-)	A B C	A B C	C	C

(+) = increase in the degree of partial single-peakedness
(-) = decrease in the degree of partial single-peakedness
(0) = no relevant change in the degree of partial single-peakedness

Diagram 3

The results for the university issues (questions 1.1, 1.2 and 2.1) are consistent with the hypothesis that deliberation increases the degree of partial single-peakedness, whereas the results for the school issues (questions 3, 4.1 and 5.1) are not. Given the limitations of our data, however, these findings should only be seen as descriptive of the particular case investigated; they do not support any generalizations beyond this case.

The increase in the degree of partial single-peakedness on the university issues, which suggests an increase of a meta-consensus, may be explained by the fact that the degree of the students' informedness and of their readiness to express their views on university issues before deliberation was comparatively small and unstructured and that the deliberation process was therefore capable of leading to a structuring of preferences.

The rather contrary effect on the school issues could possibly stem from the fact that, even before deliberation, the participants already held rather strong (and, moreover, very homogeneous and, in part, almost unanimous) opinions about issues of school policy. The deliberation process may therefore have resuscitated those views by confronting the students with views on the comprehensive schools they had hardly ever heard before. Deliberation also changed the dominant left-right axis of the alternatives regarding the structure of the existing school system. Before deliberation, the mixed system (model B) (a differentiated school system with comprehensive schools as an option) was placed in the centre as a compromise solution (A B C D). After deliberation, however, it moved to the edge of the left-right axis (B A C D). This modification of the left-right axis might be due to the argument put forward in

deliberation that, within a mixed system (model B), comprehensive schools may produce worse results than within a system where they are the only type of school.

Another factor which may have contributed to difference between the results on the school issues and those on the university issues is the fact that, due to the different lengths of the two evening sessions, there was less time for the deliberation on the school issues than on the university issues.

As we have pointed out, our deliberation project differed from Fishkin's Deliberative Polls as it was carried out within an educational context and as the group of interviewees was not a random sample from an underlying reference population. Nevertheless, our empirical findings on the effects of deliberation upon the two quantitative criteria considered – the degree of informedness and the degree of meta-consensus – are consistent with the results of Fishkin's Deliberative Polls. As in Luskin, Fishkin and Jowell's paper, we were able to identify an increase in informedness among the participants and, as in List, McLean, Fishkin and Luskin's paper, we were able to identify – at least for some of the relevant questions – an increase in partial single-peakedness.[24]

6. Conclusion

The results of our deliberation project suggest that Deliberative Polling, when applied in an educational context, is suited to increase democratic competences in several ways.

- Deliberative Polling incorporates aggregative as well as deliberative aspects of democratic processes and creates a "microcosm" in which participants, through personal experience, can develop an understanding of real processes of democratic communication and decision making. The deliberative aspect can promote the capacity for an argumentative engagement with political views.
- Deliberative Polling can lead to an increase in the participants' informedness and thus, at least within the group of interviewees, counteract a situation of "rational ignorance".
- Deliberative Polling can structure problem fields, increase meta-consensus among the participants and thus contribute to the solution of aggregation problems. Given that many of the notorious paradoxes and problems of aggregation can be traced back to a lack of structure or cohesion among individual preferences, the structuration processes inherent in deliberation can help to facilitate consistent democratic aggregation.

Appendix. Questionnaire: Topical Questions referring to German Educational Policy

1. The Financing of Studies

1.1 Consider the following alternatives for the issue of the financing of studies:

Model A   No tuition fees whatsoever.

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[24] See Luskin, Fishkin and Jowell: "Considered Opinions: Deliberative Polling in Britain", as cited above; List, McLean, Fishkin and Luskin: "Can Deliberation Increase Preference Structuration? Evidence from Deliberative Polls", as cited above.

Model B   Tuition fees only above a certain number of semesters (e.g., for long-term students or for research studies).

Model C   Tuition fees from the first semester onwards but with state grants primarily awarded on social **/** financial criteria.

Model D   Tuition fees from the first semester onwards but with state grants primarily awarded on criteria of academic performance.

Model E   Tuition fees according to a free market-oriented choice of universities.

My preferences for the models are: (Please fill in the respective letter of the model.)

1st Preference	2nd Preference	3rd Preference	4th Preference	5th Preference

1.2 Imagine that tuition fees are introduced. Consider the following alternative proposals for the method of payment:

Model A   Tuition fees are to be paid during studies; there is no state plan for financing.

Model B   Tuition fees are to be paid only after the completion of studies. Students are given a credit on favorable terms.

Model C   Tuition fees are to be paid only after the completion of studies through an income-oriented tax (high payment for a high income and *vice versa*).

My preferences for the models are: (Please fill in the respective letter of the model.)

1st Preference	2nd Preference	3rd Preference

2. University Admission

2.1 Consider the following alternative proposals for admission criteria to university studies:

Model A   No admission restrictions to university studies whatsoever; free matriculation after having passed the Abitur examination.

Model B   The only admission criterion is the average of grades in the Abitur examination ("numerus clauses").

Model C   Selection of students by universities on the basis of subject-oriented cognitive performance tests (e.g., written entrance exams).

Model D   Universities select students on the basis of written applications and personal interviews.

My preferences for the models are: (Please fill in the respective letter of the model.)

1st Preference	2nd Preference	3rd Preference	4th Preference

2.2. Do some universities in the USA select students on the basis of their performance?

Yes: ………… No: …………….. Don't know: ……………..

3. The Structure of the School System

Model A   Exclusively the existing differentiated system (two or three types of schools: Gymnasium, Realschule, Hauptschule, different in the respective federal states).

Model B   The existing differentiated school system (two or three types) plus the comprehensive school as an alternative option.

Model C   Exclusively comprehensive schools with internal streaming (i.e., students are taught in courses of different performance-oriented academic levels).

Model D   Exclusively comprehensive schools without any internal streaming (i.e., all the students are taught together in courses of the same academic level).

My preferences for the models are: (Please fill in the respective letter of the model.)

1st Preference	2nd Preference	3rd Preference	4th Preference

4. Part-Time vs. Full Time Day School

4.1 Consider the following alternative proposals:

Model A   Full-time compulsory day school for all students.

Model B   Parents and students can choose between full-time and conventional part-time day schools.

Model C   On principle, no full-time day school.

My preferences for the models are: (Please fill in the respective letter of the model.)

1st Preference	2nd Preference	3rd Preference

4.2 Imagine that the compulsory full-time day school is introduced. What do you think of the following proposals for the organization of afternoon courses? (For this question, several proposals may be supported.)

	I object	No opinion	I am in favor
Leisure activities in the afternoon, such as sports or arts			
Individual support / tuition given to weaker as well as strong performers			
Compulsory social engagement of students in the afternoons (e.g., in the form of project work)			
Conventional classes in the afternoon just as currently in the morning			

5. Abitur Examinations

5.1 Consider the following alternative proposals:

Model A   No centralized Abitur examinations; Abitur examinations are arranged internally by the schools.

Model B   Centralized Abitur Examinations at federal-state level.

Model C   Centralized Abitur Examinations at the level of the Federal Republic of Germany.

My preferences for the models are: (Please fill in the respective letter of the model.)

1st Preference	2nd Preference	3rd Preference

5.2 Which federal states of Germany have centralized Abitur examinations?

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