Does discussion lead to opinion change within political science students?

A pedagogical exercise of deliberative democracy

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Abstract: While the model of deliberative democracy gives a crucial role to dialogue, empirical evidence has not yet established if discussion helps to reach a better understanding of political issues and, above all, if individuals are prepared to change their views. It is still unclear when the deliberative model, and more specifically discussion, could be usefully employed as a teaching tool, to improve students' knowledge. This article presents an exercise performed within the Department of Political and Social Sciences at the LUISS University of Rome. Students were asked to discuss in the classroom the course's issues, and to cast a vote on selected issues before and after deliberation. Although our sample is not representative, we have gathered evidence from the same population on a rather large number of issues. Students changed their view in 24.6 per cent of cases, and they agreed that discussion increased their understanding, while those with strong ex-ante views resulted more reluctant to change their opinions because of discussion. The analysis also showed the presence of individuals that are more likely to be permeable to discussion while others that are more likely to be impermeable.

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Acknowledgements

Many thanks to Daniele Santoro, co-convenor of the "Global Justice" class where this experiment has taken place, to all students for the participation in the surveys, to Mario Paolucci and Daniele Vilone for suggestions on the questionnaire, to Alessandra Bavastrelli for data processing, to Silvia Sopranzetti for her insightful methodological suggestions, and to the two anonymous reviewers for their precious comments. We also wish to thank the participants to the IRPPS-ISTC Seminar held in Rome on 6 November 2014 for the comments provided. In the design, the development and the implementation of this exercise, we have followed the research ethics guidelines of our institutions, as well as an adequate human subject protection consistent with the APSA Ethical Guidelines.

Deliberative democracy in the classroom: introduction

Deliberative democracy is one of the most fruitful recent developments in modern political theory (Dryzek 2000). This model is effective when citizens are in principle willing to change their opinion if properly convinced by the arguments advocated by the other side. But are we sure that discussing and being exposed to others' beliefs and arguments has the effect of changing opinions? And what if, on the contrary, the discussion would have only the effect of consolidating each one in his/her original views? What would be the relevance of discussion? In a political community composed of totally stubborn citizens, democratic theory and practice would change profoundly, and it would be enough to aggregate citizens' preferences without any need to explain why each one cultivates certain preferences and opinions (Young 2001).

In this paper, we present an exercise conducted during a course on *Global Justice* held within a master's degree in a Department of Political and Social Sciences. During the course students had to present some motions in turn, with a group of two or three pupils depicting and defending a thesis, and another group opposing it. Before the presentations, we gave the students a questionnaire in which we asked to vote, but also to indicate what knowledge they perceived to have on each subject. At the end of the discussion, students had to fill in a new questionnaire and vote again. The primary purpose of this exercise was to hold the attention of the students engaged and to augment their knowledge on the specific subjects debated, counting on their competitive spirit (namely, to increase the votes supporting the motions they were defending) and to increase their motivation to carry out the readings to actively participate in the discussion. However, the data gathered were also a valuable source of information in deliberative democracy.

We were therefore in the conditions to address two basic research questions belonging to this stream of research. The first is whether and to what extent discussion on political topics contributes

to change participants' opinions. The second is whether discussion contributes to enrich participants' knowledge about the discussed topics, and therefore whether it could and should be considered a useful teaching tool.

Answering the first question would help to consolidate previous research's results on deliberative democracy, while answering the second question would allow to assess the usefulness and feasibility of employing deliberation for increasing college student's knowledge in their subjects of study. Specifically, to this second point, most of the previous research on the effect of deliberation on knowledge, in fact, even when employing students as their unit of analysis, asked them to discuss about actual policies (Luskin et al. 2007), or ethical dilemmas (Bohm and Vogel 1994), rather than on the topic of the college's courses as our exercise did.

Compared to many other exercises of deliberative democracy, the exercise presented here has some obvious limits. Firstly, students were not asked to express their views on actual aspects of their economic and social life, but only on general issues being part of the course program, this could be a negative aspect for what concerns the assessment of its effect on opinion change, but it is indeed a positive aspect for what concerns the study of the effect of deliberation on political science education. Secondly, the group of participants were not a statistically random sample, since the exercise involved only university students with homogeneous socioeconomic characteristics, and specifically interested in a certain discipline. Thirdly, this study does not use a control group against which to compare the obtained results. Nevertheless, our exercise has also some advantages. On the one hand, it allowed us to follow the attitudes of a group in several discussions and, on the other hand, involving university students of political science it could help to assess the validity of discussion as a teaching method.

The paper is structured as follows. The next section discusses some findings in political studies about opinion change, how discussion among students can be an important teaching tool, and what are its connections with the deliberative democracy model. In addition, it presents the hypotheses our work aims to test. The third section presents and describes our exercise. The fourth section discusses the methodology employed in the empirical analysis, the limits of our exercise and our sample. The fifth section reports and discuss our results. The last section presents some concluding remarks.

Discussion and its influences on opinion change and learning processes

For deliberative democracy, discussion is at the very kernel of the whole political system. Democracy is effective if citizens are willing to listen the reasons of other and, above all, to change their mind if persuaded (Pomatto 2013). The deliberative method, therefore, has a twofold function: the first, is to expose the arguments favouring or opposing a certain collective issue, so that all citizens can become knowledgeable about the reasons underlying certain public choices; the second, is to allow participants to convince or to be convinced and, therefore, to change their minds as a result of acquiring more information (Fishkin 2011). The constructive confrontation among people holding different ideas and theses is, moreover, a way to keep the political community cohesive also when there are opposite views. One of the most relevant features of deliberation, in fact, is the "inclusion of different viewpoints in the process of exchanging arguments" (Grönlund, Herne, and Setälä 2015, 996). Obviously, change should not be random, nor the result of concealed manipulation or persuasion, but it must be a cause of a learning process that deliberation promotes and favours.

Numerous empirical studies have been conducted to disentangle the relationship between opinion change and deliberation. However, the results are not entirely concordant, and present mixed empirical evidences. One of the first research on the subject is the study of Bohm and Vogel (1994), conducted in 1988-89. The authors' purpose was to verify whether the information and debate contributed to changing opinions about a classic ethical dilemma, the legitimacy of death penalty. The authors divided participants into two groups, an experimental group and a control group. The former participated in a 40-hour course on death penalty. The latter, on the other hand, was not involved in any activity. To verify that there were no imbalances in the knowledge on the topic, a questionnaire was given to both groups before the beginning of the courses, showing that the initial opinions and the level of information were essentially the same across the two groups. At the end of the semester, the same questionnaire was submitted again to all students, and the differences, this time, were remarkable. Significant mutations did not occur in the control group, while the experimental group showed an aggregate opinion change of 32 per cent.

The same experiment was replicated by Wright et al. (1995). The only difference between the two experiments was the size of the sample. The results of the experiment showed an increase of 32 per cent in the experimental group's knowledge levels, compared to a 12 per cent increase in the control group. Moreover, it was found an opinion change of 36 per cent in the first group, and of 10 per cent in the control group. Unlike what happened in the experiment conducted by Bohm and Vogel (1994), the change was due to the fact that undecided people had matured a belief, favourable or contrary to the question. Despite all the methodological issues affecting the two studies, they confirmed that discussing can lead to a change of opinion.

Results on much broader issues are subsequently emerged from the deliberative polling conducted by James Fishkin and colleagues.[1] The website reports all the salient data of each deliberative poll held from 1994 to today, showing how a change of opinion occurs in all cases, even if with very different values, ranging from a minimum of 1 per cent to a maximum of 51 per cent. In addition, all surveys show that the general knowledge of the participants greatly improved thanks to the deliberative process. (Luskin, Fishkin, and Jowell 2002).

A deliberative poll held in Denmark in 2000, one month before the referendum on the Country's entry into the Euro, added an important finding to the previous results (Luskin, Fishkin, and Jowell 2002). This work also monitored how much change remained consistent in the three months following the electoral consultation. The data showed that, after that time, some participants returned to their initial positions. According to Hansen and Andersen (2004), this would have been because the effects of the deliberative process on attendees' opinions would tend to diminish as time passes, when participants return to their daily lives.

Other studies, such as those on deliberative polls held in Italy in 2007, on the construction of the high-speed rail, and on granting the right to vote to immigrants, confirm the previous findings. A significant increase in the level of knowledge about the topics was registered, as well as a significant change in the participant's orientations. In these cases, about 40 per cent of participants changed their original opinions (Isernia et al. 2008).

[1] Reachable at the Stanford University Centre for the Deliberative Democracy website. See http://cdd.stanford.edu/polls/docs/summary/.

Other experiments, such as Barabas (2004) on Social Security reform in the USA, Cochran and Chamlin (2005) on death penalty, and Himmelroos and Christensen (2014) on the use of nuclear power in Finland, also confirm that a certain change of opinion takes place following deliberation.

According to the deliberative theory, opinion changes would depend on several factors but two aspects, interrelated among them, seem to be particularly relevant: the gain of knowledge through discussion, and individual's exposition to different viewpoints. Discussion on the one side would help undecided citizens to understand and to form their own preferences (Gutmann and Thompson 1996). On the other side, it would favour the change of opinion also among already convinced people. This would happen because deliberation allows participants to be exposed to different arguments and positions (Gastil 2006). A constructive presentation of multiple reasonable perspectives on a specific issue exposes participants to new sets of information, and the argumentative nature of discussion would allow them to interiorize such new information.

Some authors claim that these dynamics do not work in all the deliberative contexts. Sunstein (2002) argues that the effect of deliberation on opinion change, in some circumstances, would be far more counter-intuitive than what it could be expect. When deliberation takes place within groups with very similar visions and ideas, the positions of the various individuals tend to polarize toward more extreme positions. This phenomenon has been renamed the "law of polarization". Specifically, members of a discussion group in which all participants share the same political inclinations would tend to end the process in a more extreme position, in the same direction as their initial inclination. According to this theory, the deliberative process in some contexts not only does not contribute significantly to opinion change, but rather generates a radicalization of previous ideas, moving the subjects to more extreme positions in line with what they thought at the beginning of the discussion. Such a phenomenon, according to Sunstein, would tend to be

amplified or reduced by several factors such as the degree of closure of the group, and the strength in terms of authority and oratory capacity of the subjects involved in the discussion. Other authors, however, analysing deliberation among like-minded individuals reached opposite conclusions. Grönlund, Herne and Setälä (2015), for instance, did not find any systematic pattern of group polarization.

Despite the sometimes-mixed results achieved, the methodological limitations and the often-small samples analysed, the available empirical literature suggests that the deliberative process has at least two effects:

a) it contributes to the change of opinion on the issues discussed;
b) it contributes to an increase in the knowledge of the participants about the topic discussed, also allowing them to make more informed decisions.

And it is precisely this second point that pushed scholars to investigate whether the deliberative method could be employed also as a way of teaching, especially within university courses, to improve student's participation and ultimately to foster their learning.

Controversy as a teaching tool

Our exercise, described in the next section, did not arise as one of the many attempts of deliberative democracy mentioned above. It is born in a university classroom, with the specific aim of stimulating learning and, perhaps even more so, engaging students in the hope of generating passionate debates. Unfortunately, discussion as a teaching method is not commonly used in university courses, especially in political science courses where the lecture model still remains the principal teaching approach employed. According to Martin (2003), this is a consequence of the unprecedent increase in the students' number experimented by most universities since the 1990s.

And the lecture remains the principal teaching approach despite the growing concerns regarding its efficacy (Tormey and Hency 2008).

However, many teachers are doing their best to involve students during their lessons and it is a widespread practice to require to students to prepare presentations about the subjects of the courses. This pedagogical approach tries to respond to the concerns of teachers and scholars about the political apathy and the decline of civic engagement among college students (Latimer and Hempson 2012). The prospect of employing debates as a teaching tool is far more generalisable, and potentially usable in all instances where teachers want to stimulate student's critical sense as well as knowledge augmenting. Discussion as a method of learning is at least as old as the Socratic tradition. This assumes that the teaching-learning relationship is not unilateral, but it can be more fruitful when it is interactive, and that this interaction leads to increase knowledge. Some scholars of educational problems recommend it as a tool to create critically-minded citizens capable of analysing ethical, political and social issues without prejudice (Brookfield and Preskill 1999). Others see the teaching based on controversies as the foundation of democratic society (Hess 2009), since it induces to listen and to respect opposing arguments, as already suggested by John Dewey a century ago (1916). Others see in the deliberative model even a new and better educational paradigm (Longo 2013), as well as a useful tool with which enrich classic lecture classes (Pollock, Hamann, and Wilson 2011). And several studies confirm that the employment of discussion and deliberation among university students helps to foster knowledge, participation, civic engagement and critical thinking (Bogaards and Deutsch 2015; McMillan and Harringer 2010; Ervin 1997). Ferman (2012) has claimed that the typology of education which is needed to foster the knowledge, to develop the skills, and to instil the democratic values necessary to correctly run a democratic society must to be experiential, empowering, and democratic in nature.

In the last years there have been also created software to facilitate deliberation among university students (Murray et al. 2013).

Less widespread is the practice of having students voting before and after controversial motions. But even this practice is disseminating to augment students' knowledge and to allow them to get familiar with specific circumstances. The use of disputations as a teaching tool is common in legal studies, especially in those countries, such as the United States, where popular juries are issuing verdicts. Many law school classes are even constructed by imitating the spaces of the courts, and students who intend to become lawyers or public prosecutors begin to practice accusing or defending imaginary suspects. Popular juries are made up of other students who are called upon to pronounce themselves, after listening to the arguments of their colleagues who interpret the roles of public prosecutor and defence lawyer. Even in political studies, debates are used as well. In this case, the class tends to imitate local and national parliaments and governments, or even international public assemblies (European Council, United Nations Security Council and General Assembly, etc.), and students interpret the role of political party representatives, ministers or ambassadors.

Discussions in universities and secondary schools can be employed as empirical documentation to test the efficacy of the deliberative democracy model, both as a political model and as a teaching tool.

There is a clear connection between the philosophy of the deliberative model and the pedagogic intention of allowing students to discuss. In both cases, there is the idea that understanding problems and collective choices should not be resolved solely through preconceived and incommunicable deployments. Conversely, listening to the other's reasons can help to better

understand the problems and therefore to find their solutions. The educational spirit grounded in the discussion does not intend only to convey knowledge, but also to rely on the logical process that brings individuals and groups to support certain theses. The pedagogical value of deliberation is to allow students to approach complex problems by understanding that every political choice presupposes a trade-off across advantages and disadvantages, and this helps stimulating the search for more feasible and effective solutions (Drury et al. 2016). Moreover, familiarizing with the deliberative model allows students to improve their public speaking skills (Cole 2013), to better argue their ideas and theses, and to listen to others' ideas and theses with fewer prejudices.

From the point of view of collective choices, on the one hand discussion should help majorities to consider also the reasons and preferences of minorities. On the other hand, minorities would better accept the will of the majorities if this is well discussed, exposed and articulated. And, above all, it would help to understand that in a democratic system, majorities and minorities are not based on permanent deployments built on preconceptions, but they may vary on each issue.

Our research hypothesis on deliberation and learning

The literature suggest that discussion has two main effects on individuals. On the one side it contributes to change opinion among individuals who participate in discussion, and on the other side it increases individuals' knowledge on the topics discussed. Starting from these two basic assumptions, several hypotheses guides our research.

(H1) discussion leads to opinion change. The first hypothesis corresponds to one of the most important research questions underlying the deliberative model, namely whether, and to what extent, discussion produces opinion change.

(H2) discussion increases the levels of individual knowledge. The second hypothesis aims to confirm the efficacy of discussion as a teaching method, we expect that discussion leads to an increase of knowledge, especially among those who showed lower levels of pre-deliberation information. We also hypothesize that it provides new insights also to the most knowledgeable subjects. In addition, we hypothesize a positive relation between going on to repeat the exercise, and therefore familiarizing with the deliberative method, and the increases of knowledge.

Beyond the two principal hypotheses, which correspond to the two research questions from which this work originates, other hypotheses concern the relation between the levels of information and the strength of the opinion individuals present prior to the discussion, and opinion change.

(H3) The belief in knowing a certain topic negatively influence opinion change. The intention is also to check whether deliberation is a good means of encouraging learning. We suppose, in fact, that less informed people will learn more from discussion, and that the new information will have a stronger impact on their opinions. While empirical research generally tends to objectively investigate the level of information of participants, asking them to answer a series of questions with right or wrong answers, in our exercise we chose not to measure the level of information objectively, but to measure it subjectively asking students how they feel they know about the topics discussed. The reason for this choice is to test whether the belief in knowing a certain topic, regardless of the objective level of knowledge, could influence the change of opinion.

(H4) Less convinced individuals tend to change their opinion more frequently. We expect that people who are less convinced of their pre-deliberation judgment would change their opinions more often than the less convinced ones.

(H5) The level of conviction and the level of information are positively correlated. We expect people who are most convinced of their position would think to be most informed about the topics discussed.

(H6) Students can be classified in three groups based on their predisposition to change their opinion. There is the risk that our data are not directly associated to the dynamics of opinion changes but to some non-measurable characteristics of the participants, such as the individual predisposition to change opinion. This last hypothesis, contrarily to the others, did not raise from theory, rather it raised from the results and therefore the questionnaires did not contain any strategy to test it. We therefore performed an exploratory rather than a confirmatory analysis to assess the presence of such groups and if this could be a stream of research worthy to be pursued by future research.

An exercise at the LUISS University of Rome

Our exercise has been conducted during the Academic Year 2013/2014 at the [NAME REDACTED]. It involved the students of the *Global Justice* course, within the master's Degree Program in International Relations of the Department of Political and Social Sciences.

The three-month course consisted of two weekly sessions, of two and a half hours each. In the syllabus, the teachers made it clear to the students that each lecture was followed by debates on a specific issue. Students were required to vote before and after the debate. Based on a previously agreed timetable, two students were requested to support a thesis, and two other students to oppose it, with a fifth student chairing the debate and introducing the issue. Each team had about 20 minutes to expose their thesis. After the presentations, there was enough time for discussion, with questions, comments and responses. The teachers drawn up a calendar that featured the topic of

each lesson, most of which drawn from the textbook *Controversies in Globalization* edited by Peter Haas and John Hird (2013). The students were warmly encouraged to deepen the topics dealt by using other sources, both academic and non-academic. To convince their colleagues of the validity of their point of view, students could take advantage of a variety of tools and media including presentations and videos. To stimulate an active participation in the debates, and good quality works, presentations were also marked, contributing for the 20 per cent to the final grade of the course. To preserve confidentiality, we also required all students to choose a *nickname* and keep it for the entire duration of the course. The *nickname* should have been placed on the questionnaires distributed in each lesson.

For each lesson, students should have completed two questionnaires, pre- and post-deliberation (here reported in the Appendix). The pre-deliberation questionnaire asked students to express their opinion on the motion by choosing between "Yes", "No" and "Undecided", and to express their degree of conviction (with values from 1 to 7, that is, from "totally unconvinced" to "totally convinced", under the assumption that opinions could be described in a continuum opinion (Giardini et al. 2015). This pre-deliberative questionnaire contained also three questions that polled the level of knowledge the subject thought to have about each topic. Lastly, two questions asked whether the opinions expressed depended on the relevance of the topic for the student or on the fact that they were widely shared among public opinion. The post-deliberation questionnaire required again expressing a vote and the degree of conviction, adding two questions on how the opinion matured depended from the information acquired during the presentations. The questionnaires, so structured, made it possible to verify, for each motion, how the students' opinions reacted to the deliberation.

Analytical Strategy and Data Presentation

Methodology applied

To analyse the data collected through the surveys, and to assess whether our hypotheses should be accepted or not, we developed an analytical strategy mixing several statistical and econometric methods. Due to the nature of our data, and the hypotheses to be tested, we employed a mix of econometric estimation models.

Firstly, to assess the presence, the degree, and the direction of opinion change, we use the absolute number and the percentage of aggregated opinion change as main indicators. This allow to preliminary describe the entity and the direction of opinion change numerically and graphically.

Secondly, to estimate the effects of discussion and of the other independent variables on opinion change, we employ logistic regressions. The employment of logistic regressions is functional, and at the same time dictated, by the nature of our data. The variable measuring the change of opinion is a dummy variable, taking the value of 1 if opinion change occurred and a value of 0 if it did not occur, and the logistic model is the most appropriate to estimate models with binary dependent variables (Wooldridge 2015). At the same time, we refine our analysis considering the peculiar structure of our data. Our data, in fact, present a clear hierarchical structure in which every single decision to change or not change opinion is the first stage while the students are the second one. With such a data structure the residual of a logistic estimate will be correlated among them since observations nested in the same cluster (namely the students) are more likely to function in the same way than decisions nested in different clusters. To disentangle this cluster effects, we employ a multilevel mixed effect logistic regression in which students represent our clusters.

Thirdly, to assess if and to what extent discussion increases the levels of individual knowledge and, if and to what extent the level of knowledge influences the opinion strength, while considering the peculiar structure of our data, we will employ a multilevel linear regression model.

Finally, to control for the presence of three different groups of students able to explain the variance of opinion change in relation to our control variables, we choose to employ cluster analysis which, through several steps (Rabe-Hesketh and Everitt 2003) allows to identify and describe the presence of clusters composed by students with similar attitudes.

Methodological limits

From the methodological perspective, two aspects of our sample are critical. On the one side, the sample is made up only of college students aged between twenty-two and thirty years, and with the same level of education, therefore, it is certainly not statistically representative of the overall population. Moreover, being the LUISS University of Rome a private university, the socio-economic composition of the sample is fairly homogeneous. Therefore, our sample lacked has not been selected randomly. Although it is a common problem for much of the empirical research on this subject, the non-randomness of the sample is a substantial limit of this research that does not allow generalizing the results obtained.

The other limit of our exercise is that it lacks a control group. To assess the effects of the deliberation, both on opinion change and on knowledge, it would have been appropriate to compare the results of the treatment group, the one participating to the deliberative exercise, with a control group exposed only to frontal lectures. Unfortunately, we have not been able to rely on a second group of students employed as a control group.

The sample and the topics dealt with

60 students enrolled in the *Global Justice* master course, but the actual number of participating students varied from lesson to lessons, from 48 to 11. Also, not all the students always completed both questionnaires. Since our study aims to investigate changes in opinions before and after deliberation, we have excluded from the analysis all the subjects who have completed only one of the two questionnaires so that the sample is constituted, as reported in Table 1, only by students who, for each motion, completed both questionnaires.

Table 1: Topic discussed in the classroom and number of voters

Topic discussed	Pre-deliberation voters	Post-deliberation voters	Sample Size
1. Poverty: can foreign aid reduce poverty?	42	43	40
2. Do we have global duties of justice?	42	39	35
3. Global egalitarianism: favourable or unfavourable?	32	31	27
4. Democracy: should all nations be encouraged to promote democratization?	48	48	44
5. Climate change and the environment: can international regimes be effective means to restrain carbon emissions?	37	37	34
6. Civil society: do NGOS have too much power?	34	34	30
7. Terrorism and security: is international terrorism a significant challenge to national security?	38	36	30

8. Maritime security: does controlling piracy and other criminal activities require systematic state interventions?	38	36	34
9. Are international criminal processes effective? The case of Saddam Hussein vs. the Lubanga case	15	15	12
10. International conflict: is war likely to occur between the great powers?	43	42	35
11. Trade liberalization and economic growth: does trade liberalization contribute to economic prosperity?	33	32	27
12. Trade and equality: does free trade promote economic equality?	15	15	13
13. Should the wealthy nations promote anti-HIV/AIDS efforts in poor nations?	23	22	19
14. Should countries liberalize immigration policies?	26	22	20
15. Financial crises: would preventing future financial crises require concerted international rulemaking?	35	35	32
16. Should Kosovo be independent?	39	39	33
17. Military intervention and human rights: is foreign military intervention justified by widespread human rights abuses?	16	14	11
18. Nuclear weapons: should the United States or the international community aggressively pursue nuclear non-proliferation policies?	38	37	29

19. Culture and diversity: should development efforts seek to preserve local culture?	13	13	11
20. The future of energy: should governments encourage the development of alternative energy sources to help reducing dependence on fossil fuels?	42	42	37
21. Gender: should the United States aggressively promote women's rights in developing countries?	11	11	8
TOTAL	**660**	**643**	**561**

Source: Authors' elaboration. Survey carried out by the authors at [NAME REDACTED] University, academic year 2013-2014.

This approach, of course, has reduced the number of observations, as well as the total number of students analysed, so as that the actual number of students varied from 44 in the fourth motion to 8 in the twenty-first motion, for a total of 561 observations, while the total number of students present in our sample become 59. Table 2 reports all the relevant summary statistics of the variables employed in the empirical analysis.

Table 2: Opinion change in the classroom: Summary statistics

VARIABLES	N	Mean	Standard Deviation	Min	Max
Motion	561	9.752	6.067	1	21
Opinion strength (before discussion)[2]	561	5.200	1.266	1	7
Knowledge level_1 (before discussion)[3]	561	3.840	1.656	1	7
Knowledge level_2 (before discussion)[4]	561	4.766	1.330	1	7

[2] Students response to question: "How are you convinced of the judgment expressed?".
[3] Students response to question: "Have you already read the materials of the exam program about the topic?".
[4] Students response to question: "Are you aware of the terms of the debate?".

Knowledge level after discussion[5]	561	4.360	1.582	1	7
Opinion change	561	0.246	0.431	0	1

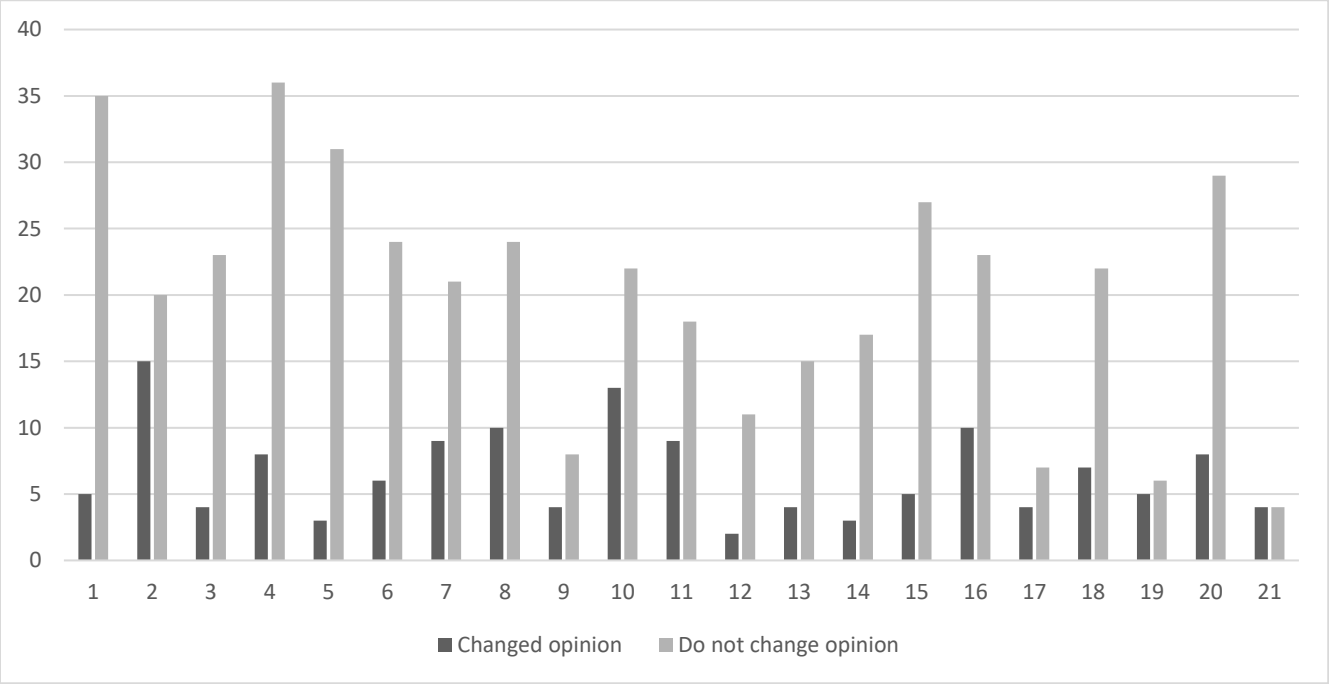
Source: Authors' elaboration.

Results

H1. The discussion makes opinion change

Figure 1 shows the comparison, in absolute values, between the number of students who show a change of opinion and those in which the discussion did not produce such an effect. In any single motion there has been a more or less significant change of opinion. In general, considering all the motions altogether, we registered a change of opinion in 138 cases, against 561 total observations. At an aggregate level, therefore, data show a change of opinion of 24.6%.

Figure 1: Students who have changed and not changed opinions by topic (absolute values)



Source: Authors' elaboration. For the list of topics, see Table 1.

[5] Students response to question: "Do you think the debate has changed your knowledge of the subject?".

Our initial hypothesis is confirmed, but the figure does not yet clarify the direction of the opinion change occurred within our sample. Table 3 provides this information, at aggregated level, for all the 21 motions.

Table 3: Opinion change matrix

		After deliberation			
		Yes	**No**	**Undecided**	**Total**
Before deliberation	**Yes**	291	16	37	**344**
	No	5	81	17	**103**
	Undecided	33	30	51	**114**
	Total	**329**	**127**	**105**	**561**

Source: Authors' elaboration.

The most interesting result is represented by the 21 instances in which students have totally overturned their initial vote, from "Yes" to "No" and vice versa. However, data show that the major change occurs between adjacent rather than between totally conflicting responses. The more typical is, in fact, the change of opinion from "Undecided" to "Yes" and "No". Within the sample, in 51 cases students who were undecided before the deliberation remained undecided also afterwards. However, in as many as 63 cases students who in the first phase have been undecided have chosen to take a position following the deliberation.

That there are at least some undecided people willing to change opinion is a relevant fact that justifies the deliberative model: the existence of citizens who do not have preconceived opinions and that choose only after being adequately informed justifies many of the democratic procedures, including political forums and parliamentary debates. But, above all, it justifies the deliberation

day suggested by Ackerman and Fishkin (2002). Equally important is the shift from "Yes" and "No" to "Undecided", occurring in 54 cases. In fact, it demonstrates that deliberation is also capable of undermining some certainty, leading individuals to doubt about their initial positions. It would be interesting, in this case, to understand if subsequent discussions could help those subjects to assume a new position or to come back to their original one.

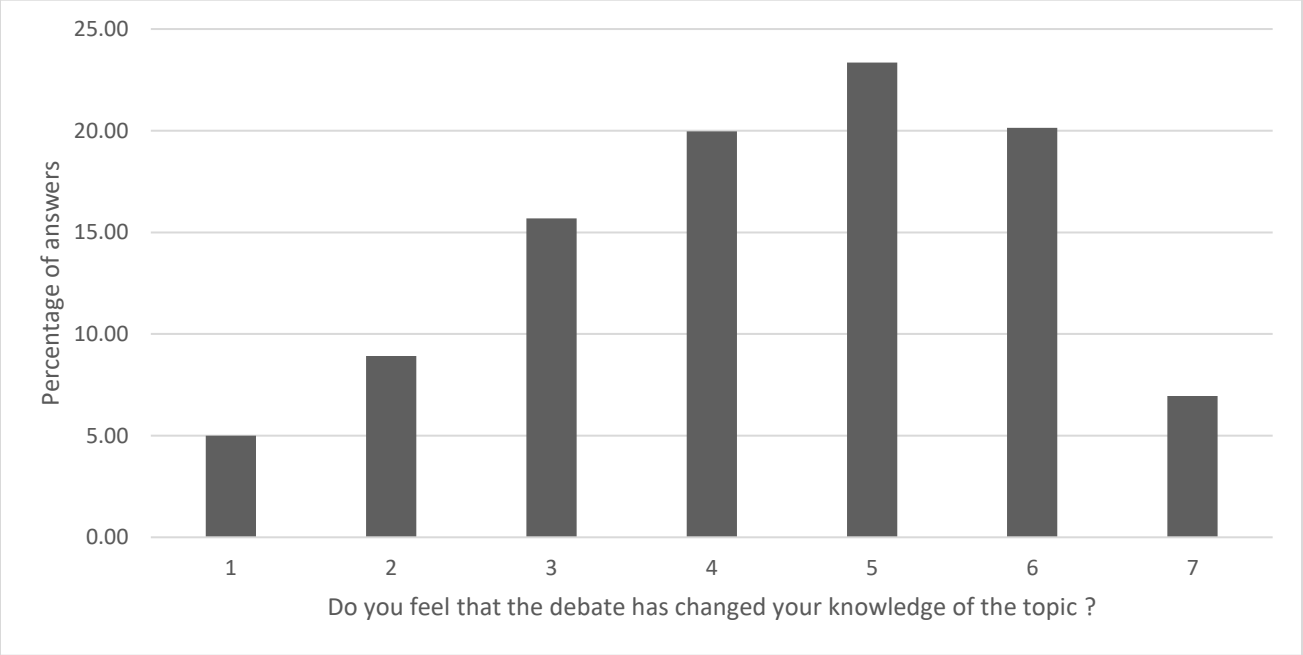
It is of course debatable, however, if moving from “Undecided” to “Yes” or “No”, or from “Yes” or “Not” to “Undecided”, is an opinion change or simply the updating of opinions due to the acquisition of knowledge through the deliberative process. As pointed out by Hansen (2004), in fact, on the one hand individuals initially may not have a complete opinion about the issue at stake and through deliberation they could be able to develop more coherent and consistent opinions. But on the other hand, deliberation can also confuse participants by showing them that the issues are more complex than they have thought, making them to become undecided. This second point is particularly relevant for the role of deliberation in university education. The ability of discussion to make individuals doubt of their conviction and to think about the issues in a more complex and systematic way is, or at least should be, the very aim of university courses, especially political science ones where the issues involved have rarely simply solutions and often entail the considerations of trade-offs of different nature.

H2. Discussion increases the level of perceived individual subjective knowledge

The second hypothesis we tested concerns the ability of deliberation to increase knowledge among participants. The capacity to increase knowledge on certain topic, in fact, needs to be assessed to establish whether discussion could and should be employed as a valuable teaching tool or not. For doing so, we analysed the answers to the question assessing students’ level of knowledge after deliberation, finding that in the 50.44% of the observations the students answered this question

with a score of 5 to 7, that is, with a positive or extremely positive judgment (Figure 2). Even if it is a subjective and non-objective assessment, more than half of the participants in the discussion felt that their knowledge has improved following the discussion.

Figure 2: Percentage of the answers to the question: "Do you feel that the debate has changed your knowledge of the topic?"



Source: Authors' elaboration.

To further test our hypothesis and to assess whether discussion helps to improve the subjective perceived level of knowledge. To fully account the hierarchal structure of our data we performed a multilevel linear regression between the answers to the questions concerning perceived students' subjective knowledge after deliberation, and their perceived knowledge and opinion strength before deliberation. In addition, we also regress the variable "Motion" added as a proxy of the temporal effect of discussion. We add a temporal variable since we suppose that discussion method is something that needs to be learned, so as that the more someone has been exposed to discussion, and the more students familiarize with the deliberative method, the more likely is that he or she may increase its level of perceived knowledge. In this way, we are able to test whether the level of

knowledge after deliberation depends on the discussion or rather is only dependant on the level of knowledge possessed before deliberation. Table 4 reports the results.

Table 4: Multilevel linear regression between the level of knowledge after deliberation and the level of knowledge before deliberation

Knowledge level after deliberation	**Coefficient**	**Standard Error**	**z**	**P>|z|**	**95% Confidence Interval**	
Knowledge level_1	0.009	0.052	0.17	0.863	-0.093	0.112
Knowledge level _2	-0.007	0.063	-0.11	0.911	-0.130	0.116
Opinion Strength	0.037	0.056	0.66	0.507	-0.072	0.147
Motion	0.047	0.010	4.69	0.000***	0.027	0.067
Constant	3.718	0.321	11.58	0.000***	3.088	4.346
Random-effect parameters	**Estimate**					
Var (_cons)	0.523	0.142			0.308	0.890
Var (residual)	1.908	0.121			1.685	2.160
LR test vs. linear model: chibar2(01) = 52.13				Prob >= chibar2 = 0.000		

*Source: Authors' elaboration. Significance: *** 0.001, ** 0.01, * 0.5.*

The coefficients of the two variables measuring the level of knowledge prior to discussion and the coefficient of the variable measuring opinion strength are non-significant while the coefficient of the variable "Motion" is positive and significant. Therefore, while there is no significant effect of the level of knowledge and of the level of opinion strength before deliberation on the level of knowledge after deliberation, there is a positive and significant effect of discussion as a method of teaching on the level of knowledge after deliberation. On the one side deliberation contributes to increase the students' level of subjective knowledge, and on the other side the regression shows also that the positive effect of discussion increases with the recurrent employment of discussion as a teaching tool. This means that, going on to repeat the exercise and familiarizing with the deliberative methodology, later in the semester students show higher increases in the level of subjective knowledge.

However, since there is still a large fraction of students who do not feel their knowledge increased after deliberation, future research should try to understand and to explain what the determinants of knowledge perception are.

Moreover, it would be interesting, in future research, to test the students' actual level of knowledge instead of the self-perceived level, and to verify also whether the subjects' actual level of information diverge or converge with their subjective judgments about the level of knowledge on the topic discussed.

H3 and H4. Less informed, as well as less convinced, people tend to change their opinion more frequently

The third and fourth hypotheses we have tested concern the relationship between the level of prior information, the degree of conviction shown before deliberation, and the change of opinion. In empirical literature, the change of opinion seems to be usually greater for those subjects who access the deliberation with a relatively lower level of information. This may be due to the fact that the less informed subjects would have the opportunity to acquire more information through the deliberative process. At the same time, concerning the relationship between the degree of conviction shown before deliberation and the change of opinion, our hypothesis is that people who are less convinced before deliberation are also those who tend to change their opinions more markedly. We therefore expect a negative relation between the level of knowledge, the level of conviction and the change of opinion.

Table 5 shows the average values of the answers to the three questions designed to investigate the level of knowledge of the topics, and the strength of conviction with which students expressed their opinion before the discussion, comparing the average values of the students who changed and

those who have not changed their opinion. For all the answers, responses were gathered on a scale from 1 to 7.

Table 5: Comparison between pre-deliberation average levels of knowledge and average opinion strength

Question	Responses to those who have changed their opinions	**Responses to those who have not changed their opinions**
Knowledge Level_1	3.46	3.99
Knowledge level _2	4.41	4.90
Opinion Strength	4.68	5.40

Source: Authors' elaboration.

According to our data the average information level of students who changed opinion is actually lower than the level of those who have not changed it. Similarly, the average value of the strength of the conviction with which students expressed their opinion before the discussion vary even more markedly between the two groups of subjects.

In general, the results confirm our expectations. Even if the differences between the two groups are small, those who have not changed opinion have read slightly more class material, assume to be more aware of the debate, and are more likely to have stronger views. However, the simple fact that the mean values of the knowledge and the opinion strength are different between the two groups does not guaranty for the significance of the result since it could be simply the effects of our sample structure. To properly assess whether our hypotheses should be accepted or not, we performed a regression where the variable measuring opinion change is the dependent variable, and the variables measuring the level of subjective knowledge and the opinion strength are the independent variables. Since our dependent variable is a dummy, we employ a logistic regression model. Moreover, to fully account the hierarchal structure of our data we employ a multilevel

mixed effect logistic regression. Finally, to address the sequential structure of our data, and to assess if the methodology of discussion itself influences opinion change, we include the variable "Motion", which indicate the temporal effect of discussion. Table 6 reports the result of the estimate.

Table 6: Multilevel mixed effect logistic regression

Opinion Change	**Coefficient**	**Standard Error**	**z**	**P>|z|**	**95% Confidence Interval**	
Opinion Strength	-0.400	0.094	-4.26	0.000***	-0.584	-0.216
Knowledge Level_1	-0.129	0.087	-1.49	0.137	-0.299	0.041
Knowledge level _2	-0.113	0.102	-1.10	0.270	-0.314	0.088
Motion	0.035	0.018	1.94	0.052*	-0.010	0.070
Constant	1.506	0.516	2.92	0.004	0.495	2.517
Random-effect parameters	**Estimate**					
Var (_cons)	0.246	0.190			0.054	1.116
LR test vs. linear model: chibar2(01) = 2.80				Prob >= chibar2 = 0.042		

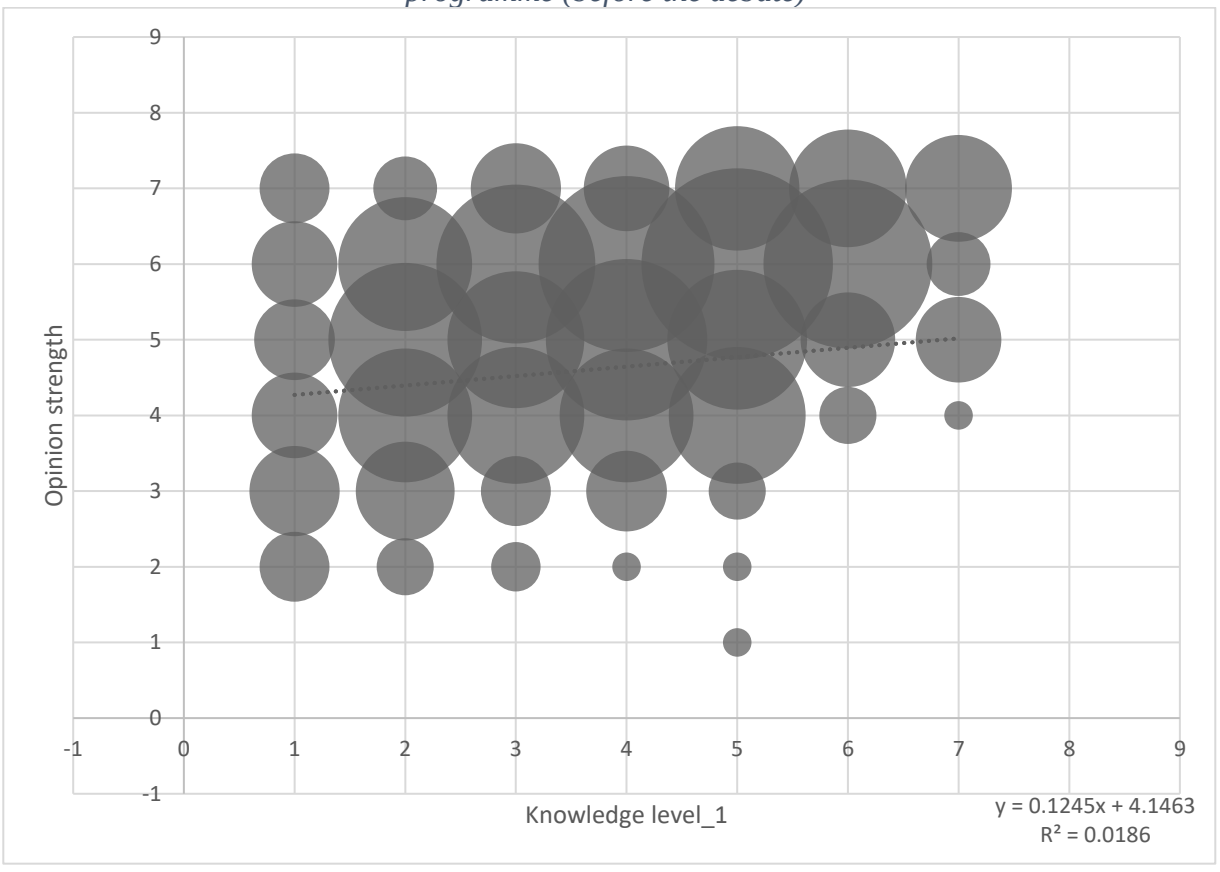
Source: Authors' elaboration. Significance: *** 0.001, ** 0.01, * 0.5.

All the variables included in the model show the expected sign, in fact, with the exception of the variable "Motion" all of them report a negative effect on opinion change, meaning that higher levels of perceived knowledge and higher levels of opinion strength are associated with a reduction of opinion change. However, only the coefficient of the variable measuring the opinion strength and the coefficient of the variable accounting for the effect of discussion over time are significant. The regression shows that while the opinion strength and the implementation of discussion as a teaching method have a significant effect on opinion change, the levels of subjective knowledge have no significant effect. Therefore, we may accept H4, but we must refuse H3.

H5. The levels of conviction and information are positively correlated

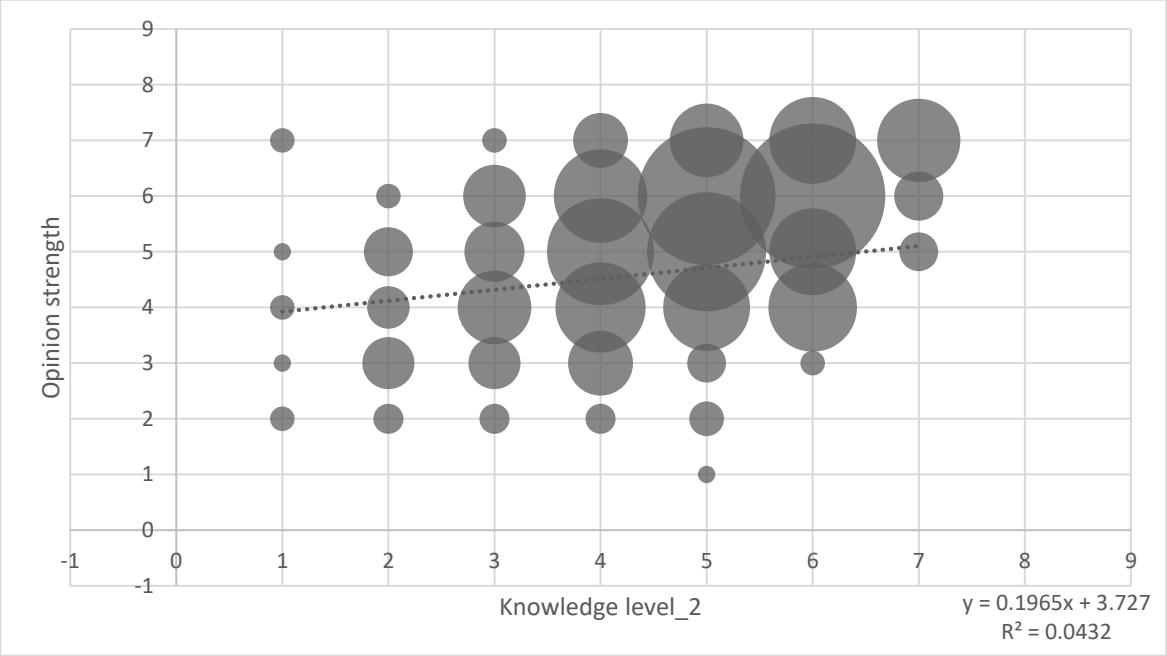
The fifth hypothesis we tested concerns the relationship between the level of conviction and the level of information on a certain topic. We hypothesized that students who perceive to have a greater level of knowledge on a certain topic are also those who have a greater conviction about their ideas. We have thus analysed the pre-deliberation question assessing students' opinion strength as dependent variable, and the questions assessing their level of knowledge as independent variables. Figures 3 and 4 present this relationship. The graphical representations show a positive relation between both the variables measuring the level of knowledge and the variable measuring students' opinion strength.

Figure 3: Relationship between level of conviction and level of knowledge of the course programme (before the debate)



Source: Authors' elaboration.

Figure 4: Relationship between level of conviction and level of knowledge of the terms of the debate (before the debate)



Source: Authors' elaboration.

However, in order to further assess the presence and the direction of the effect of knowledge on the level of conviction, while considering the structure of our data, we performed a multilevel linear regression. The results of the regression presented in Table 7, confirm the insights of the graphical representation, showing the presence of a positive and significative effect of the two variables measuring the student's subjective knowledge on the variable measuring students' opinion strength, confirming our hypothesis.

Table 7: Multilevel linear regression between students' level of conviction of the judgment expressed and the level of programme knowledge and the level of knowledge of the terms of the debate

Opinion strength	**Coefficient**	**Standard Error**	**z**	**P>|z|**	**95% Confidence Interval**	
Knowledge Level_1	0.108	0.038	2.84	0.004***	0.034	0.183
Knowledge level _2	0.343	0.045	7.6	0.000***	0.254	0.431

Constant	3.168	0.189	16.78	0.000***	2.798	4.568
Random-effect parameters	**Estimate**					
Var (_cons)	0.147	0.052			0.074	0.293
Var (residual)	1.132	0.072			1.000	1.281
LR test vs. linear model: chibar2(01) = 20.06				Prob >= chibar2 = 0.000		

*Source: Authors' elaboration. Significance: *** 0.001, ** 0.01, * 0.5.*

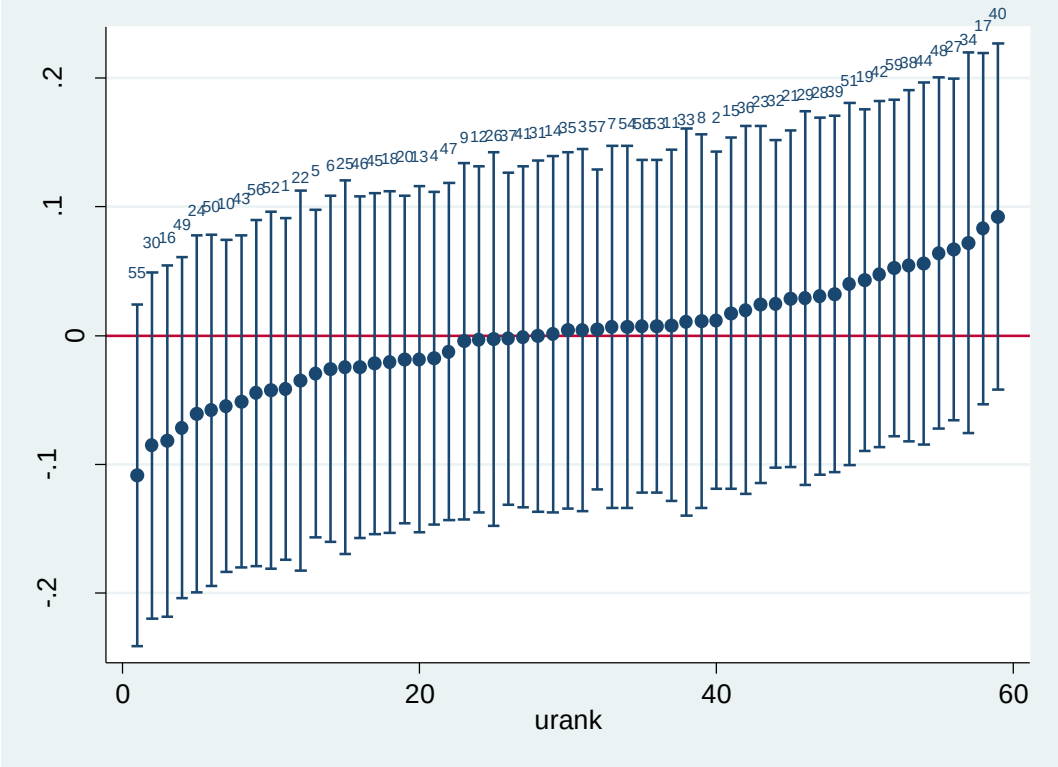
Indeed, perceived knowledge and conviction could be two side of the same coin since it is probable that students who are not convinced about their opinion on a certain topic also feel to have a low level of knowledge. Our data and our analysis do not allow us to assess which is the causal relation between the two variables, however, it shows that they are significantly related.

H.6 Are there people more predisposed to change their opinions?

The conduct of the analysis of our data has raised a sixth hypothesis concerning the possible presence of subjects more (and less) predisposed to change their opinions. The hypothesis raised from the observation of the differences of the individual percentage of opinion change. In fact, at aggregated level we registered a change of opinion of 24.6%. Notwithstanding, at individual level the change of opinion varied from 0% to 75%. For this reason, we asked ourselves if it could have been the presence of students "naturally" more inclined and students "naturally" less inclined to change their opinion following the discussion, despite their level of perceived knowledge and opinion strength. Since the hypothesis did not raise from the literature but rather from the direct observation of the results, we did not include in the survey any strategy to try to assess it. Due to the data limitation implied by the absence in the questionnaires' development of a strategy aimed at test H6, we have been forced to perform an exploratory rather than a confirmatory analysis. For this reason, we try to assess the hypothesis by developing an alternative strategy. Firstly, we extract the size of the random intercepts (the students) from the multilevel logistic regression performed

between opinion change and the independent variables. Having a closer look at the random intercepts, allows to assess whether specific students (identified via their unique id) have a higher propensity to change their minds than others. Figure 5 reports the graphical representation of the size of the random intercepts.

Figure 5: Graphical representation of the size of the random intercepts (the students) extracted from the multilevel logistic regression between opinion change and the independent variables



Source: Authors' elaboration.

The Figure shows how the students seems to be divided into three groups, a first group that seems to have a lower propensity to change their minds, a second that seems to have an average propensity, and a third that seems to have a higher propensity.

Secondly, we calculate the average percentage of students' individual opinion change, and its confidence interval at 99.9%, obtaining the following results (Table 8).

Table 8: Confidence Interval (99.9%) of the percentage of individual opinion change

Variable	Students	Mean	Standard Error	99.9% Confidence Interval	
Average percentage of individual opinion change	59	24.6	2.2	18.1	33.7

Source: Authors' elaboration.

On the basis of these results and on those of Figure 5, we suppose the presence of three profiles of subjects, as shown in Table 9: i) those who exhibit a behaviour consistent with the average group's behaviour (percentage values of opinion change between the confidence interval range); ii) *the permeable,* namely those who are more influenced by the discussion (above the confidence interval range); and iii) *the impermeable*, namely those who are less influenced by the discussion (below the confidence interval range). The three categories could also be understood as a continuum from permeability to impermeability.

Table 9: Analysis of disaggregated opinion change

	Permeable students	On average students	Impermeable students
Number of students	18	22	19
Percentage	30.5	37.3	32.2
Percentage average opinion change	46.5	25.2	7.2
Average knowledge level_1	3.6	3.9	3.9
Average knowledge level_2	4.6	4.7	5.0
Average opinion strength	5.0	5.4	5.4

Source: Authors' elaboration.

In our exercise, the behaviour deviating from the average represented 62.7% of the total, with a 32.2% of impermeable and a 30.5% of permeable students. But what does the permeability (and impermeability) depend on? Our starting hypothesis was that these characteristics would depend on the level of knowledge students thought they have in relation to the topics discussed, and that

those who thought to be more likely to know a subject would have been more impermeable to the discussion. However, as we can see from Table 9, and more accurately from Table 10, permeability and impermeability to the discussion do not seem to depend on the average knowledge the students think to have about a certain topic nor on the average strength of their conviction. In fact, the three groups show a very similar average value of knowledge level and opinion strength. Table 10 shows the coefficients of the correlation between the percentage of individual students' opinion changes and the average values of the variables concerning their level of knowledge and the strength of their opinions.

Table 10: Pearson correlation between the students' individual percentage of opinion change and individual average values of the variables concerning the level of knowledge and the strength of opinions prior to the discussion

	Individual opinion change (%)	**Knowledge level_1**	**Knowledge level_2**	**Opinion strength**
Individual opinion change (%)	1.00			
Knowledge level_1	-0.04	1.00		
Knowledge level_2	-0.02	0.72	1.00	
Opinion strength	-0.17	0.46	0.57	1.00

Source: Authors' elaboration.

Though the coefficients' signs are all negative, and therefore in line with our hypothesis, the values appear to be very low and, therefore, not particularly significant. This brief statistical exercise, however, cannot confirm our hypothesis of the presence of the three groups hypothesized.

To assess the presence of the three groups of students describing different individual inclination to change (or to not change) opinion, we perform a cluster analysis, through the steps suggested by Rabe-Hesketh and Everitt (2003).

Firstly, we calculate the average linkage of the number of students' opinion changes and the average values of the other independent variables. Average linkages indicate the average distances

between all pairs of observations where one member of the pair is in the first cluster and the other in the second one. Figure 6 represent the dendrogram resulting from the cluster analysis.

After performing the cluster analysis, in order to estimate the number of cluster present in our data, we performed the Calinski-Harabasz pseudo-F (Calinski and Harabasz 1974) and the Duda-Hart Je(2)/Je(1) (Duda and Hart 1973) tests. With respect to the first test, larger values of the Pseudo-F correspond to more distinct clustering, while for the second test more distinct clustering is represented by larger values of the Je(2)/Je(1) index and lower values of the Pseudo T-squared (Rabe-Hesketh and Everitt 2003). The results are reported in Table 11.

Table 11: Results of the Calinski-Harabasz pseudo-F and the Duda-Hart Je(2)/Je(1) tests for the cluster analysis

Number of cluster	**Calinski/Harabasz**	**Duda-Hart**	
	Pseudo-F	Je(2)/Je(1)	Pseudo T-squared
2	9.70	0.77	16.62
3	14.73	0.91	4.46
4	12.11	0.84	8.62
5	12.81	0.63	23.58

Source: Authors' elaboration.

Both tests suggest the presence of three distinct groups. Table 12 reports the relevant summary statistics for the tree identified clusters.

Table 12: Summary statistics of the three clusters identified

Variable	**N**	**Mean**	**Std. Dev.**	**Min**	**Max**
			Cluster 1		
Opinion change (%)	30	26.5	11.6	14.2	75
Opinion change	30	2.3	0.5	2	3

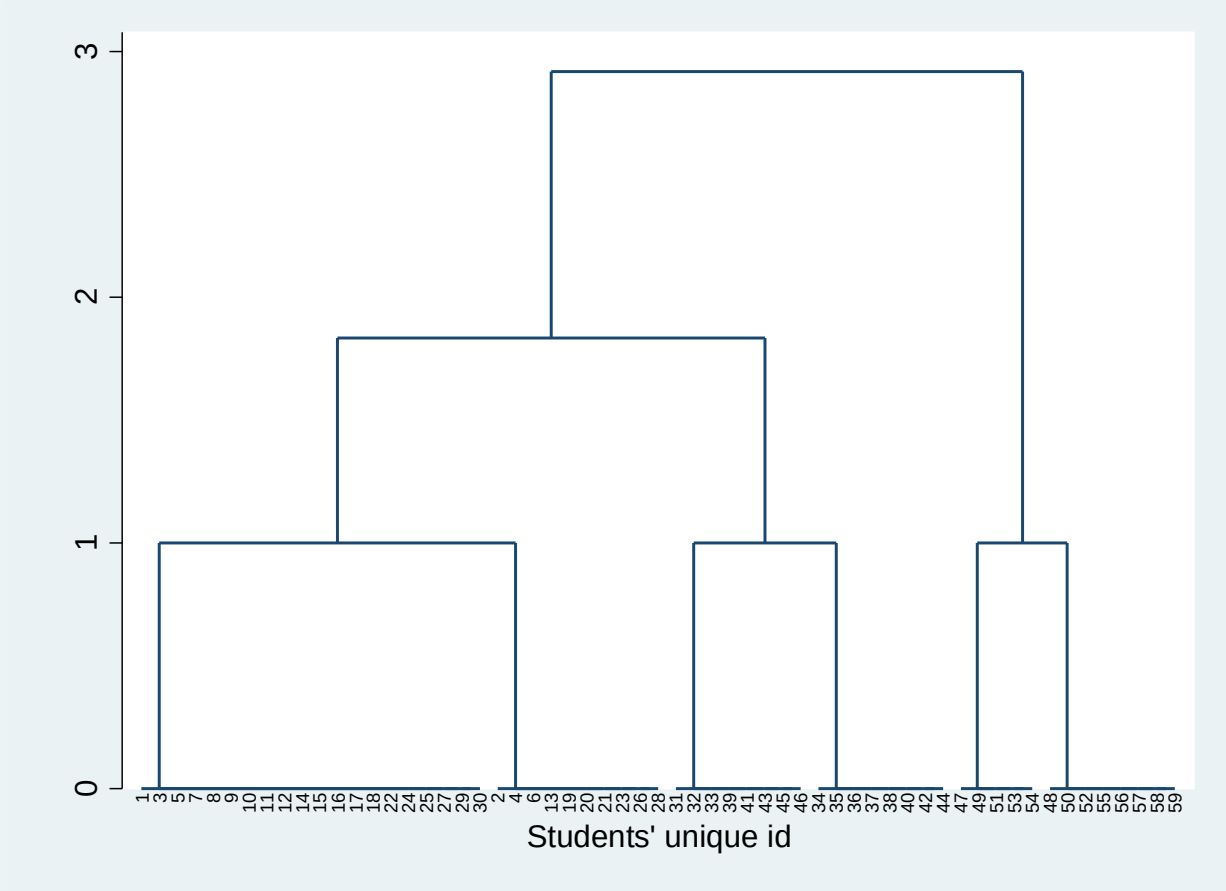
Opinion strength	30	5.2	0.7	3.7	6.7
Knowledge level_1	30	3.8	1.0	1.6	5.7
Knowledge level_2	30	4.7	0.7	3	5.9
			Cluster 2		
Opinion change (%)	16	7.6	9.8	0	33.3
Opinion change	16	0.5	0.5	0	1
Opinion strength	16	5.4	0.6	4.2	6.5
Knowledge level_1	16	3.9	1.4	1.9	6.1
Knowledge level_2	16	4.8	0.9	3.2	6.2
			Cluster 3		
Opinion change (%)	13	45.4	9.3	30.7	57.1
Opinion change	13	4.6	0.5	4	5
Opinion strength	13	4.9	0.4	4.2	5.8
Knowledge level_1	13	3.5	0.9	2.3	5.3
Knowledge level_2	13	4.6	0.7	3.1	5.8

Source: Authors' elaboration.

The results of the cluster analysis clearly indicate the presence of three groups, and comparing the statistics reported in Table 12 with those reported in Table 9, it emerges that the three groups identified by the cluster analysis match the three groups of students hypothesized. In fact, the mean values of the relevant variables are very similar between the two tables. Cluster 1 represents the "average students", Cluster 2 represents the "impermeable students", and Cluster 3 represents the "permeable students". Comparing the students of each cluster (identified by their unique id and reported in Figure 6) with the three groups identified by the random intercepts extracted from the multilevel logistic regression (Figure 5), it emerges how they overlap only partially, however, the discrepancies are only relevant in terms of significance. Figure 5 shows that the random intercept is non-significant, namely individuals follow different strategies with respect to the decision of

change or not their opinion adapting their behaviour to the different motions and their discussions. Figure 6, instead, confirms the presence of three different clusters of students with different propensity to change their opinion.

Figure 6: Dendrogram average linkage opinion change



Source: Authors' elaboration.

The cluster analysis, therefore, confirm that students can be divided into three groups based on their predisposition to change their minds. Of course, we do not know if this individual characteristic could be more generally applicable and if, for example, there are permeable subjects that could be also more likely to change the political party they vote from one election to the other, or, on the other hand, if there are impermeable subjects that could be those who perpetually vote

for the same party. Research on voting behaviour produced a lively debate about individual voting changes among political parties and several explanations have been proposed with respect to the determinants of such a phenomenon. Until the 1970s electoral research focused on personal and socio-environmental characteristic (Berelson et al. 1963; Campbell et al. 1980; Key, 1966; Lazarsfeld et al. 1968); later the attention has been switched to the characteristics of the political system itself (Pedersen 1979); more recently some scholars proposed that changes in individual choices of parties could be related to the way in which parties treated specific issues (Carsey and Layman 2006). Indeed, for those who intend to persuade the public opinion, it would be crucial to know if there are citizens who can be convinced more easily and citizens who do not change their minds. At the same time the existence of permeable and impermeable individuals has consequences also for the study of voting behaviour.

The cluster analysis, therefore, allows us to accept H6. These results, moreover, could be a good starting point to try to elaborate a strategy able to more directly verify the presence of such an individual characteristic. In addition, it would be interesting also to assess whether it would be possible to generalize the findings to other deliberative contexts. Indeed, the presence of the three categories of individual, as hypothesized in our exercise, could be of greatest interest to the political dynamics, since the impermeable group would be not contendible, while the permeable one would be easily contendible, and this second group would be the one to which political parties should direct their efforts during electoral campaigns.

Conclusion

This article explored the effects of deliberation on opinion change - and its efficacy as a way of teaching - in a political science student community. The exercise, conducted in the *Global Justice*

master course within the Department of Political and Social Sciences, confirmed the findings of previous research in deliberative democracy by showing that discussion lead participants to increase their knowledge and sometimes even to change their opinions. It also produced useful insights on the efficacy of the deliberative method as a teaching tool when students are required to discuss topics inherent to the course's programme. While most of the research on deliberative democracy has focused on practical or ethical issues, we have shown that the deliberative model is also useful in the classroom.

On the ground of the theoretical and empirical literature on deliberative democracy and on the pedagogical literature builds on it, we hypothesized that: H1) the discussion had the effect of favouring a change of opinion in aggregate terms; and that H2) following the discussion, people will show higher levels of knowledge on the debated topic. Our exercise suggests that the deliberative democracy model, with its stress of the usefulness of discussion, is something worth considering not only for the political discourse, but also for education.

Secondly, aiming at understanding the mechanisms underlying the processes of opinion change, we hypothesized that, within the dynamics of the discussion: H3) less informed people tend to change opinion relatively more often than most informed ones; and that H4) less convinced people tend to change opinions more frequently than the less convinced ones; H5) the level of conviction and the level of information are positively correlated. Reading our data, we also hypothesized that H6) there are people more or less predisposed to change their opinion, in other words that in the deliberative contexts there are "naturally" more permeable and impermeable subjects. We have therefore hypothesised that there are three ideal groups of "permeable", "average" and "impermeable" students.

Our data confirms the hypothesis according to which the discussion contributes to the change of opinion in aggregate terms: data showed a change of opinion of 24.6 percent (H1). Data also confirm that discussion increases the perceived individual knowledge on the debated topics. As a result of the discussion, 50.5 percent of the students thought that their knowledge of the topics discussed was greater than in the phase prior to the discussion, and discussion proved to have a significant positive effect on the perceived individual knowledge (H2).

Concerning our secondary hypotheses, first, the level of students' knowledge is not significantly associated to their opinion change. Therefore, we had to refuse H3. Second, we have also checked if students with ex-ante strong views were less likely to change their opinions, finding out that there is a negative and significant relation between the strength of conviction and opinion change, allowing us to confirm H4. Third, the hypothesis of a positive correlation between the level of conviction and the level of information is also significant, confirming H5.

Finally, we have carried out a cluster analysis on opinion change showing the presence of three groups of students. We supposed that the three groups could represent different degrees of predisposition in changing opinion after discussion. We developed this idea only during the analysis of the data and therefore we have been able to perform exploratory analyses only. However, our analysis confirmed the presence of individuals who are more permeable and individuals who are more impermeable to the effects of discussion on opinion change, allowing us to accept H6. Notwithstanding, further research is needed to assess whether such an individual characteristic can be generalized to other deliberative contexts, and whether it could be also applicable to voting behaviour.

Given the nature of our data and the methodological limitations, our results on opinion change cannot be generalized to different deliberative contexts. But the results concerning the usefulness of discussion as a teaching tool, and more specifically the method to collect votes before and after discussion, has proven fruitful and it can be recommended to classes of political science and perhaps also to several other disciplines.

Appendix - Questionnaires

Part A: Pre-deliberative Questionnaire

Student Nickname: _____ Date: _____

Motion's Title:_____

Motion Number: _____

Moderator: _____

Favourable:_____ Unfavourable:_____

Voting Method: Only **one choice** for each question

Are you favouring the motion?	Yes No Undecided
How are you convinced of the judgment expressed?	(Low) 1 2 3 4 5 6 7 (High)

Have you already read the materials of the exam program about the topic?	(Low) 1 2 3 4 5 6 7 (High)
Are you aware of the terms of the debate?	(Low) 1 2 3 4 5 6 7 (High)
Do you have an opinion on the topic?	(Low) 1 2 3 4 5 6 7 (High)
Do you think your beliefs:	
They depend on the importance that the topic has for you	(Low) 1 2 3 4 5 6 7 (High)
They depend on being widely shared	(Low) 1 2 3 4 5 6 7 (High)

Part B: Post-deliberative Questionnaire

Student Nickname: _____ Date: _____

Motion's Title:_____

Motion Number: _____

Moderator: _____

Favourable:_____ Unfavourable:_____

Voting Method: Only **one choice** for each question

Are you favouring the motion?	Yes No Undecided
How are you convinced of the judgment expressed?	(Low) 1 2 3 4 5 6 7 (High)
Do you think that your opinion depends on how the theses have been presented?	(Low) 1 2 3 4 5 6 7 (High)

Do you think the debate has changed:

Your knowledge of the subject	(Low) 1 2 3 4 5 6 7 (High)
The relevance that the topic has to you	(Low) 1 2 3 4 5 6 7 (High)
The opinions of your fellow students	(Low) 1 2 3 4 5 6 7 (High)

After the debate, were the arguments in favour or against the motion reformulated?

If so, answer the following questions:

Thesis in favour of the motion Yes No Undecided

Do you think the reformulated question:

Is more accurate than the original question	(Low) 1 2 3 4 5 6 7 (High)
Reduces the differences of opinion	(Low) 1 2 3 4 5 6 7 (High)

Thesis against the motion Yes No Undecided

Do you think the reformulated question:

Is more accurate than the original question	(Low) 1 2 3 4 5 6 7 (High)
Reduces the differences of opinion	(Low) 1 2 3 4 5 6 7 (High)

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