RESEARCH ARTICLE

Learning Deliberative Capacities in Brazilian Schools

Rousiley C. M. Maia*, Danila Cal†, Gabriella Hauber‡ and Augusto V. Leão*

What are the impacts of teaching deliberation on students' attitudes in practical discussions? This study presents research findings from a field experiment involving more than 500 students from five public schools in the Brazilian cities of Belo Horizonte and Belém. We found a small effect of deliberative training on students' justifications of their views and telling personal stories. However, much larger effects emerged when data were analysed separately by schools' socioeconomic contexts, suggesting that middle-class students benefited more from training than disadvantaged students. Respect did not vary between groups and school contexts. Overall participation in discussion increased, and the effect was significantly greater in treatment groups, with positive inclusion of female students. The results support the view that learning deliberation is not a unidimensional process, but a complex combination of different components, and some capacities are more easily achieved than others.

1. Introduction

Over the past decade, deliberation-based initiatives have gained traction in the field of education. Deliberative techniques were used to engage students in discussions about controversial issues (Avery, Levy & Simmons 2013; Avery, Levy & Simmons 2014, Hess, 2009, 2022); and deliberative principles were applied in building pedagogy and teaching models (Andersson 2015; Longo & Shaffer 2019; Molnar-Main 2017; Nishiyama 2019, 2021; Samuelsson 2016; Shaffer et al. 2017). Some experiences replicated events in mini-publics format in educational environments (Bogaards & Deutsch 2015; Luskin et al. 2007). While these initiatives have advanced the theory and practice of deliberative democracy in the education sector, there remains critical questions about how deliberative attitudes and behaviours can be cultivated in schools.

This study covers new terrain in education and deliberation based on an experiment in five public schools in Brazil. It introduces an innovative analytical perspective that combines deliberative theory and the capability approach (Nussbaum 2006; Nussbaum 2011; Sen 1999; Sen 2009) to explore the influence of deliberation training workshops on students' discussions in small groups.

Two related arguments are advanced. First, our study finds that some deliberative attitudes and skills are more difficult to achieve than others. In this light, the capability

approach (Nussbaum 2006; Nussbaum 2011; Sen 1999; Sen 2009) provides important insights into deliberative behaviour as a process – as a combined product of internal skills or abilities and the provision of resources, incentives and opportunities. Second, our study helps to explain conditions of variation in learning deliberation in schools. By conducting identical deliberative training in public schools located in middle-class and in vulnerable environments, our study sheds light on the importance of context in learning separate dimensions of deliberation. By making these contributions, this study brings further realism to teaching deliberation in educational settings.

This article is structured as follows. In the first section, we briefly review recent developments at the intersection of education and deliberation fields; and clarify the concept of deliberative capacities adopted in our research. The second section addresses some challenges to build teaching strategies and measure learning, in order to explain our research design. The structure of our workshops and methods are presented in the third section and the description of the results in the fourth section. The conclusion explores the implications for advancing more context-sensitive research to investigate the development of deliberative capacities in schools.

2. Deliberation in the field of Education
2.1. Philosophical background

There has been a long tradition of political thought that calls for democratic principles and attitudes to be cultivated in the classroom and the school itself to function as a democratic institution (Dewey 2018; Dewey [1916] 1997; Freire 1996; Freire 2000). The foundational work of John Dewey (2018, [1916] 1997) argues that collaborative and respectful interactions in schools prepare children

* Department of Social Communication, Federal University of Minas Gerais, BR

† Department of Social Communication, Federal University of Pará, BR

‡ Organizational Communication, Federal University of Technology - Paraná, BR

Corresponding author: Rousiley Celi Moreira Maia (rousiley@ufmg.br)

for engaged citizenship in democratic societies. Different pedagogical initiatives share the commitment and hope that positive behaviours and attitudes for democracy can be learned in schools (Avery, Levy & Simmons 2013; Avery, Levy & Simmons 2014; Dassonneville et al. 2012; Hess, 2009, 2022; Latimer & Hempson, 2012).

Another important frontier is the work of the Brazilian philosopher and educator Paulo Freire (1996, 2000), who places authentic dialogue at the heart of educational praxis. In Freire's writings, dialogue between teachers and students, and among students themselves, is a central component of learning, motivating students to express their own assumptions, observations, and practical experiences; and to promote mutual understanding and self-development. Very much in line with deliberative theory assumptions, open dialogue is seen as beneficial for triggering critical self-reflection to broaden one's previous views and to build new understandings. Various teaching models have incorporated this approach, such as the 'open classroom climate model' and authentic discussion on controversial political issues (Dassonneville et al. 2012; Hess, 2009, 2022; Maurissen, Claes & Barber 2018) and 'critical pedagogy' (McInerney 2009; Molnar-Main 2017; Shaffer et al. 2017).

These initiatives hold enormous promise for advancing interdisciplinary interest in deliberation in school settings. According to Longo, Manosevitch, and Shaffer (2017: xxi), 'the work of deliberative pedagogy is about space-making: creating and holding space for authentic and productive dialogue, conversations that can ultimately be not only educational but also transformative'. However, this interdisciplinary field faces conceptual and methodological challenges. How should deliberation be taught? What deliberative skills should students learn? How can we know if learning processes are effective? Surveying previous studies in these intersecting fields enriches understanding of these questions at several overlapping levels.

2.2. The Conceptual Challenge
We operationalize the term deliberation by working with the short definition provided in the *Oxford Handbook of Deliberative Democracy*, where deliberation is defined as 'mutual communication that involves pondering and reflecting on preferences, values and issues related to the common interest' (Bächtiger et al. 2018: 2). Corollary to this, based on Habermas' writings (1987, 1996, 2017), we conceive deliberative capacities as skills and competences that allow discussion participants to: a) provide justifications, reflective considerations and explanations for their concerns and positions; b) reciprocally engage with each other's views in an uncoerced manner; c) treat participants with mutual respect, recognizing their interlocutors as political equals; d) be open to the inclusion of other partners, themes, visions or perspectives under discussion; e) and the openness to change preferences based on critical considerations and the possibility of reversing the results must be present (Habermas 1996).

Certainly, most discussions are not structured around these ideal requirements in real-world environments (Chambers 2018; Bächtiger & Parkinson 2019; Thompson 2008). There is now a current acknowledgement throughout the literature that deliberation is a contingent

and rare practice, but one that can occur at all levels of society from one-to-one discussions in everyday life until formal settings in parliaments. The nature and goals of settings significantly affect participants' expectations of appropriate behaviour, and several factors impact the quality of interactions – such as forum design, provision of incentives, moderation, timing, among others (Dryzek & Hendriks 2012; Gastil & Knobloch 2019; Maia et al., 2023). The normatively informed definition, however, helps us to devise teaching strategies, categorise and interpret the influence on students' perceptions and performances.

Different models of civic education and active learning have emphasised strategies aimed at motivating students to acquire political knowledge, confidence in institutions, or skills to enable them to become more politically engaged (Latimer & Hempson, 2012; Avery, Levy & Simmons 2013; Hess, 2009, 2022; Avery, Levy & Simmons 2014). Other initiatives focused on social capital and promoting cooperation to facilitate collective action in the community and political domains (Dassonneville et al. 2012; Maurissen, Claes & Barber 2018) or, also, acquiring a sense of effectiveness, the feeling that one can exert influence on a desired direction if one wants to (McInerney 2009). It is perhaps useful to introduce here a note of caution, since civic education programs often have different goals for citizenship and standards for what successful learning should look like. We are not saying that deliberative and other civic virtues (gaining political knowledge, trust in democratic institutions, political and civic engagement, community cooperation) are mutually exclusive. On the contrary, we believe that deliberation often leads to healthy civic engagement and constructive political participation. Our central argument, however, is that deliberative capacities should not be equated with different types of civic virtues, and deliberative capacities should not be seen as conflated with participatory political or civic agency. Clarity about a working definition of deliberation is important for empirical researchers to explore precisely how these virtues might interact.

Furthermore, the normative approach is important to help us identify which virtues are present or absent in practical discussion situations. Rather than seeking to find high levels of deliberativeness throughout the entire discussion, we expect, for example, that certain 'moments' are closer to deliberative ideals, while other moments may totally diverge from these patterns (Maia et al. 2020; Steiner et al. 2017). Students, who daily interact in the classroom, have distinct sorts of communication exchange (Shaffer et al. 2017; Nishiyama 2019; Nishiyama 2021), when compared to discussions in mini-publics or citizens' assemblies, which usually bring together people unknown to each other (Fishkin 2009, Reuchamps 2023). Furthermore, deliberative performance can vary across groups with different socioeconomic backgrounds (Gerber et al. 2016), as well as across gender and race divisions (Arneback & Englund 2020; Karpowitz & Mendelberg 2014).

2.3. Deliberative capacities
We assume that deliberation, as a dynamic interpersonal interaction, is inseparable from broader social relations, positions, and situational conditions. In our research,

we followed a definition of 'capabilities'[1] developed by Amartya Sen (1999, 2009) and Martha Nussbaum (2006, 2011) to address human development. Some caveats about terminology are necessary here, as John Dryzek 's (2009) famous concept of 'deliberative capacity building' refers to mechanisms to deepen democracy or facilitate democratic transition processes. He defines deliberative capacity building on a macro level as 'the extent to which a political system possesses structures to host deliberation that is authentic, inclusive and consequential' (Dryzek 2009: 4). This concept has been used, for example, to build indicators of democratic quality (Curato 2015) and to assess the potential of mini-publics to enhance deliberative practices in society (Felicetti, Niemeyer & Curato 2016).

The capability approach to human development, originally formulated by Amartya Sen (1999) in the field of economics, aims to further advance emancipatory models based on resources and rights. This approach has received renewed scholarly attention in different disciplines (Bonvin & Laruffa 2018). Sen (1999) argues that because people experience different sorts of social inequalities (related to class, race, gender, sexual orientation, physical disability, etc.) and types of oppression (such as exploitation, social exclusion, stigmatisation, etc.), they have different capabilities to convert income and rights to real (substantive) freedom and well-being. According to Sen (1999: 75), a person's capability is defined as 'the alternate combinations of functioning that are feasible for her to achieve'. In this light, the capability approach does not just seek to increase the abilities of a single individual, but also, and more importantly, transform socio-political, economic and human environments to enable a person to fulfil their potential. In other words, capability-focused public policies and actions should promote and expand effective opportunities for individuals to pursue and live the kind of life they value and have reason to aspire to (Sen 1999; Sen 2009).

Martha Nussbaum (2006) reiterates that the notion of capabilities should not be restricted to individual properties that naturally reside within a person, but dispositions and skills that can be created and developed in connection with resources, incentives, and human health and safety in different areas (Nussbaum 2006; Nussbaum 2011). She speaks in terms of 'complex combinations' of a person's internal capabilities – innate equipment and states that 'are not fixed, but flexible and dynamic' (Nussbaum 2011: 21). This also includes skills and traits that 'are trained and developed, in the most cases, in interaction with the social, economic, family and political environment' (Nussbaum 2011: 21). Developing capabilities, according to Nussbaum (2011), means expanding substantive freedom in a context of choice.

The capabilities approach seems particularly suited to our aim to investigate the impact of teaching deliberation on students' perceptions and behaviours. This approach also allows us to distinguish between 'capabilities' and actual 'functioning'. In Nussbaum's words, 'functioning is an active realisation of one or more capabilities' (2011: 25), including 'the opportunity to select' (Nussbaum 2011: 25). Deliberative scholars (Chambers 2018; Habermas

1996; Mansbridge et al. 2010) continually emphasise that people cannot be forced to deliberate; and deliberation cannot be imposed: skills and willingness to deliberate must be present. To function well, deliberatively speaking, a participant must combine intellectual disposition and emotional skills, including self-confidence and an aptitude for listening to others, and engaging with those with whom they disagree; interactions should be respectful and efforts should be made to include all participants, as indicated in the previous section. However, a person may be fully capable of evaluating different perspectives or respectfully interacting with others, yet still choose not to. Motivating and enabling students to act in a deliberative way is the objective of our research.

3. Focusing on deliberative capacities
3.1. Research Hypotheses
Like most research on deliberation in schools, we share the assumption that students' skills and competencies are developed through participation in concrete experiences (Andersson 2015; Hess, 2022; Longo & Shaffer 2019; Nishiyama 2019; Nishiyama 2021; Samuelsson 2016; Shaffer et al. 2017). Rather than taking deliberation in a relatively unified way, we examine different capacities as separate dimensions of communicative interactions. We seek to focus on some normative principles to better understand whether or not these skills and attitudes are successfully achieved in practice by students. We focus on norms of rationality, broken down into justification and storytelling, respect and inclusion, as explained below.

- *Justification*. In the Habermasian theoretical framework, justification refers to reflective considerations that speakers provide to explain why they have certain beliefs, feelings, or intentions or why they make certain requests, promises, judgments, and so on (Habermas 1996; 2017). Asking for and giving reasons on a day-to-day basis does not necessarily imply a well-formulated demand or proposal; and this practice encompasses any attempt to answer the 'why question' in relation to preferences, advice, recommendations, and so on (Habermas 2006; 2017; Karpowitz & Raphael 2014; Maia 2017; Maia et al. 2020). The empirical operationalization of justification in our study can be seen in **Table 3**.
- *Storytelling*. To broaden the idea of what counts as communicative rationality, most scholars now consider that storytelling and personal narratives are relevant to enabling people to understand the political world, engage in political discussions, and situate themselves in controversial issues (Black 2008; Maia et al. 2020; Polletta & Lee 2006; Polletta et al. 2011; Steiner 2012). Instead of providing formal justifications based on patterns of logic and evidence, people routinely tell stories, through a sequence of events, allusive in meaning, integrating cause and effect relationships, as indirect discursive expressions of explanations and evaluations (Maia & Garcêz 2014; Maia et al. 2020; Polletta et al. 2011). In the school context, storytelling helps students express their experiences, frustrations or uncertainties (Kishimoto

2018; Shaffer et al. 2017), and enable educators to deal with underlying conflicts in the classroom or to explore positive and negative developments of problems (Arneback & Englund 2020). For empirical operationalization, we classified stories related to the topic under discussion (both personal and third-person stories) and off-topic stories (see **Table 3**).

· *Respect*. For deliberative engagement, participants are expected to show equal respect for other participants (Habermas 1996). According to Gutmann and Thompson (1996: 79), respect 'requires a favourable attitude toward, and a constructive interaction with, the persons with whom we disagree'. Mansbridge and colleagues (2010: 2–3) argue that 'participants should treat one another with mutual respect and equal concern. They should listen to each other and give reasons to one another which they think the others can comprehend and accept'. In our research, we examined explicit expressions of respect and disrespect (intolerant statements, use of stereotypes, derogatory adjectives, vulgar terms, etc.) toward participants and their views (See **Table 3**).

· *Inclusion* is a basic requirement in democratic deliberation (Chambers 2003; Chambers 2018; Habermas 1996; Knight & Johnson 1997; Thompson 2008). The formal opportunity for participation is insufficient to guarantee equal opportunities to express opinions and concerns (Karpowitz & Mendelberg 2014; Knight & Johnson 1997; Young 2000). Power imbalances and social inequalities, such as structural and historical oppressions related to class, race and gender, for example, pose obstacles for members of disadvantaged groups to participate and be considered equitably in collective discussions (Gerber et al. 2016; Maia et al. 2017). To consider conditions for deliberative participation, we should therefore be sensitive to the social positions and inferior status of members of disadvantaged groups. In our study, we examined participation as turn-taking, as the overall distribution of speech acts per participant as well as the distribution of speech acts between male and female; and white students and Black, Mixed, Indigenous and People of Colour (BIPOC) students.

To summarise, to craft our research, we understand that deliberative capacities involve combined cognitive and emotional inner dispositions, self-confidence, and behaviours that can be developed and trained, when opportunities, incentives, and resources are provided. We expect that teaching deliberation will have a positive impact on students; and those in the treatment group will develop capacities and perform better (i.e., more deliberatively) in real discussion situations when compared to the control group. Our null hypothesis, which would describe a situation where deliberative capacities cannot be positively trained, can be stated as following:

H0: Students after deliberation workshops will not show any difference in their deliberative capacities compared to the control group

If successful, the learning will allow students who participated in our workshops to exercise their voice and develop the ability to participate more actively in discussions on controversial issues, in schools located in middle-class as well as in vulnerable settings, somehow mitigating inequalities. So, we raised four alternative hypotheses:

H1: Students after deliberation workshops will have an increase in justifications to support their positions compared to the pre-measure
H2: Students after deliberation workshops will display more stories focused on the topic under discussion compared to the pre-measure
H3: Students after deliberation workshops will have increases in respect compared to the pre-measure
H4: Students after deliberation workshops will have increases in participation compared to the pre-measure

4. Field experiment Design

In our study, we were interested in examining whether teaching deliberative principles and practices has a significant effect on students' behaviour during discussions on a controversial issue. The objective was to observe the different deliberative capacities and investigate how well students are able to achieve them. Following the experimental research design, we used before and after questionnaires and content analysis of discussions before and after our workshops, with treatment and control groups (see **Figure 1**).

4.1 Schools and Classroom Profiles

This study was carried out from March to June 2019 in 15 classes (last year of elementary school and first year of high school) in five public schools in Brazil – that is, four schools in the central and metropolitan region of Belo Horizonte (BH) and one public school in Pará. In Brazil, all public schools follow a National Education Plan (PNE) that establishes the basic guidelines and objectives of educational policy. The teaching methods basically reflect the conventional format, as the teachers are the central agent delivering content in the classroom and the students, for the most part, passively listen to the lectures, without intervening.

It is widely acknowledged that socioeconomic background is an important factor in the analysis of political attitudes and capacities (Brady, Verba & Schlozman 1995; Solt 2008). To observe how and to what extent different socioeconomic contexts affect the learning of deliberative capacities, we selected two middle-class schools (both in BH) and three schools from vulnerable neighbourhoods (one in BH; one in BH metropolitan region, and one in Belém). The same training workshops were held in all of them. The public education sector in Brazil stipulates that students should be enrolled close to their home. Thus, as a consequence of social inequality, students from low-income families are typically nested in schools in poor neighbourhoods and more violent environments.

In all five schools, three parallel classes were selected, two for treatment and one for control. The schools shared an interest in adhering to our project and the corresponding experimental protocol. In each class, only students who themselves and their responsible tutor have expressed explicit consent participated in our project. The number of participating students was considered to be those who answered the questions in the questionnaire at the first school meeting. In total, 516 students from the last year of elementary school and the first year of high school, aged between 15 and 18, participated in the workshops. Ten Treatment Deliberation Classes (n = 326 students) were matched across grade levels with five Control Classes (n = 134 students).

In contrast to laboratory experiments, individual-level randomization is difficult to achieve in field experiments (Andersson 2015; Druckman et al. 2011; Esterling 2018). In our case, classes in the five selected schools organise their local administrative routine, while following a standard curriculum and national agenda. Within schools, entire classes were randomly selected to serve as treatment and control groups, leading to a random treatment allocation on the group level. To mitigate factors that might deviate from the conventional experimental design, we adopted three strategies. In the first meeting, we asked students to answer questionnaires with basic demographic information and self-reports to understand the distribution of gender, race, religion, and social class between the classrooms. With the data obtained, we could confirm these characteristics were 'balanced' between treatment and control groups, as there were no systematic differences between the individuals participating in the groups. The results are reported in the Appendix (see Table A1 and Figure A1). Secondly, the interventions of the workshops were identical in all classes, with the same didactic material, sequence of pedagogical practices and duration of dynamics. To avoid spillover issues (Druckman et al. 2011; Esterling 2018), we assigned treatment and control groups to different school shifts. Third, to capture the effects of deliberative workshops, we conducted two discussion events (that happened before and after the workshops). Students were randomly assigned to small subgroups for the discussions to avoid the problem of self-selection. Our research protocol required students to remain in that same subgroup for the first and second discussion events.

4.2. Workshops strategies: teaching, reflecting and training deliberation

A recurring challenge faced by proponents of deliberation in educational settings is translating deliberative principles and behaviours into appropriate teaching strategies. In recent years, different models have been developed (Andersson 2015: Longo & Shaffer 2019; Nishiyama 2019; Nishiyama 2021). Some scholars focus on creating an open dialogical environment in classrooms. Teachers are expected to offer opportunities for students to discuss controversial issues and provide instructions for deliberative interactions, such as thoughtful argumentation, discursive cooperation and respectful listening (Anderson 2015; Longo, Manosevitch & Shaffer 2017; Samuelsson 2016). Other initiatives are centred in building mini-publics events so that students can experience and practice discussions in contexts that resemble ideal conditions of deliberation (Bogaards & Deutsch 2015).

As our study aimed to develop conceptual understanding of deliberation among high school students, we combined dialogic teaching and peer learning about deliberative principles, values and behaviours. Thus, the concept was not theoretically taught from above, but worked from below with students as they were motivated to think for themselves and put their thoughts into words. We also created a game (named 'Which profile is that?') that requires students to play both deliberative and non-deliberative roles in order to offer the best possible conditions for active reflection and practical understanding of behaviours that help or hinder deliberation. Finally, students were invited to engage in discussions on sensitive issues based on reality-based situations. We assumed that multiple teaching strategies that encourage interactive, playful and authentic discussion-based learning complement each other to produce the desired effects on learning deliberative capacities. Trained facilitators – including researchers, undergraduate and graduate students from our institution – conducted workshops in the treatment classes in a total of eight meetings, each lasting one to two hours. **Table 1** describes the activities in each meeting, including the workshops.

The workshop activities were carried out with the whole class or small subgroups, according to the purpose of each meeting (see **Table 3**). The entire experiment took place simultaneously in the 15 classrooms over a period of five months.
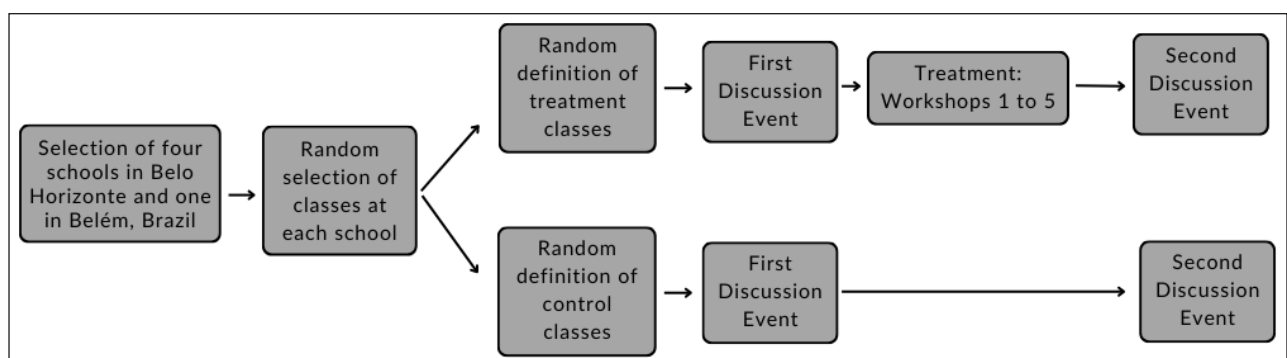

Figure 1: Experimental design.

Table 1: Workshops – Description of activities in each meeting.

Meeting	Activity
1	*Introductory meeting* Students respond pre-workshops survey
2	*First Discussion on the selected topic* First discussion event on the limits of freedom of expression and intolerance and hate speech on social media
3	*Workshop 1* was designed for students to understand two distinct forms of collective decision-making: voting and deliberative discussion practices. Students were asked to vote on four performing arts options (dance, drama, music, recitation) in which their class would present at the 'Talent Show' to be organised in the coming months on the university campus. Then, students were motivated to engage in a collaborative discussion (clarifying and explaining their preferences) for collective decision-making. At the end, the facilitators presented a banner with six benefits of deliberation (inspired by Cooke 2000) for students to discuss and discover the benefits of deliberative practices for collective problem solving.
4	*Workshop 2* was designed to enable students to gain awareness and reflect on seven deliberative norms as pillars of deliberation (justification, respect, equality, inclusion, non-coercion, reciprocity and reflexivity) Facilitators instructed a small subgroup of students to build a banner focusing on a single normative criterion and collect input from other subgroups. Depending on the size of the classroom, one or two subgroups were assigned to each criterion. Then, students were motivated to bring all the banners into the classroom conversation, and students helped each other build arguments and explanations.
5	*Workshop 3* was based on a game ('Which profile is that?'), involving a small subgroup of participants. Students were instructed to play different deliberative roles (explaining their opinions and preferences, helping others present their arguments, listening carefully to each other, being respectful) or non-deliberative roles (talking too much, interrupting others, sounding arrogant or deviating from discussion of others with off-topic stories). After playing different roles, students were encouraged to reflect and discuss their feelings and reactions to behaviours that help or hinder deliberation.
6	*Workshop 5* was based on small subgroup discussions about controversial topics. It was designed for students to gain self-awareness and learn from each other about how to put deliberative principles into practice. The pictures representing particular profiles in the game ('Which profile is that') and the banner with the 'Seven pillars of deliberation' were displayed in the centre of the discussion subgroup. The strategy sought to motivate students to focus on deliberative attitudes and signal to another if a participant seemed to contribute to or disrupt deliberative engagement.
7	*Second Discussion on the selected topic* Second discussion event on the limits of freedom of expression in relation to intolerance and hate speech on social media. Unlike the first event, students were asked here to write practical recommendations for solving problems, as a collective undertaking.
8	*Project Conclusion* Students responded to a survey and participated in a round of conversation to evaluate the project. We finished with a collective snack and distribution of gifts.

4.3. Measuring learning

Generally, defining appropriate parameters and measures to assess the effectiveness of learning is a challenge for educators and deliberative scholars alike. It should be kept in mind that pedagogical strategies do not constitute a direct path to clearly detailed objectives. It includes provision of resources, methods and planned actions to build targeted capacities, in the classroom interactive dynamics. There are increasingly sophisticated schemes for observing and evaluating the quality of deliberation in parliaments, mini-publics and citizens' online discussions (Ercan et al. 2022; Fishkin 2003, 2009; Reuchamps 2023; Steiner et al. 2004). However, very few studies have developed specific measures to capture learning deliberation in educational settings.

In order to see whether training deliberation workshops would impact student behaviour during practical discussions, we decided that moderation would be neutral (Steiner et al. 2017). This is because the literature shows that active facilitators typically play an important role in promoting respectful exchanges and inclusiveness in group discussions, by recommending expected forms of interactions whenever necessary (Molnar-Main 2017;

Nishiyama, 2021). In our research, the facilitators did not intervene and allowed the discussions to develop freely. Furthermore, we did not provide informative material (data, research results, factual news, etc.) to students on the topic under discussion to increase their knowledge (Fishkin 2003; Fishkin 2009). We assumed that this mechanism would prevent us from knowing what deliberative skills students are able to achieve or perform in spontaneous discussions; and this would restrict the possibility of translating our findings into real-world discussions, such as in schools or community domains.

4.4. Data

To capture the effects of teaching deliberation, this study, as mentioned in the previous section, followed an experimental design. As our research involved the students' natural classrooms, the classes had different numbers of students, also varying from school to school. For each school, we randomly assigned one class to the control group and two classes to the treatment. We have made an effort to create small subgroups for discussion with a similar number of students. As there was a period of approximately six weeks between the first and second

discussion events, some factors were beyond our ability to control. As usually expected in natural field experiments, some students dropped out of the study; or missed the school day when the second discussion event took place. Overall, we coded all single speech acts from 36 small subgroups (423 students) in the first discussion event and 36 small subgroups (311 students) in the second event. To enable comparability, we refrained, however, from including subgroups with discrepant sizes in our sample. The present analysis is based on 31 small subgroups with a similar number of participants in each discussion event (see Appendix Table A2 and Table A3). **Table 2** shows

Table 2: Number of small subgroups, number of students and total number of speech acts per discussion events.

		Control Group	Treatment Group	Total
First Discussion	Small subgroups	10	21	31
	Students	100	230	330
	Speech Acts	1,397	3,159	4,556
Second Discussion	Small subgroups	10	21	31
	Students	105	191	296
	Speech Acts	1,594	3,677	5,248

Table 3: Analytical categories.

Categories	Subcategories	Examples
Justification	1. Speech act with justification (both simple and complex)	*On social networks, you have to think twice before liking any post, you have to think twice before sharing any post that you read that you suddenly find funny and don't... don't make a deep analysis of what that message is trying to say and think twice when you write, too, right? Because, whether you like it or not, you are expressing your opinion. That is, somehow the person will read you based on what you think. So, you have to be very careful about this.*
	2. Speech act with no justification	*I think that nowadays everybody is in need of some social networking thing. Everybody needs it.*
	(999) N/A	
Storytelling	1. Speech act with no story	
	2. Speech act with story related to the topic under discussion (both personal and third person's story)	*There is a game that I play, there are many people that play with me, and then one day I was playing and I caught racist people in the game, and they started messing with my team, calling me black, poor, and then I talked to a person, and that person told me that he was rich, that he had money. But maybe the person who is rich is not happy. Then they start to feel sad and take it all out on the games. That's why it can cause such discussions in social networks.*
	3. Speech act with story not related to the topic under discussion (both personal and third person's story)	*I read a phrase like this on the bathroom wall: define your style by saying you're great, you do great things. I was happy to read it; but when I got out, I heard the whisper: 'Oh, your sister doesn't have a [big] ass'.*
	(999) N/A	
Respect/ Disrespect	1. Speech act with explicit expression of respect: the speaker used explicit respectful language toward other participants and their arguments.	*Well, I agree with him in parts. I don't believe that it will really help to decrease events like this.*
	2. Speech act with explicit expression of disrespect: the speaker uses foul language	*You're a retard.*
	2. Speech act without foul language	*So why did you just now want to set limits on this? You said that you have to control it so that it doesn't become hate speech, if right now you are saying that it has no limits.*
	(999) N/A	*I wish the proof were like this.*

Table 4: Reliability test.

Variable	α
Justification	0,67
Storytelling	0.66
Respect/Disrespect	0.80

n = 1,581.

the number of small subgroup discussions analysed in this article, the number of participants in the treatment and control conditions, and the total number of speech acts per discussion event. In all, 4,556 speech acts were analysed in the first subgroup discussion event (1,397 from the control subgroups; 3,159 from the treatment subgroups) and 5,248 (1,571 from the control subgroups; 3,677 from the treatment subgroups) in the second event.

We employed an adapted version of DQI content analysis (Steiner et al. 2004; Steiner 2012) as a methodological strategy. It is noteworthy that the classroom context favours sociable conversations and exchanges not directly related to the topic under discussion. As informal conversation is important for understanding classroom dynamics, we included all speech acts in our analysis. The following analytical categories were considered for this study:

Two independent coders were trained to apply the instructions contained in our codebook. Three inter-coder reliability tests Krippendorff (2003) were performed – each test with a randomly generated sample of approximately 10% of the total material (Test 1 N = 1,382 statements; Test 2 – N = 1,341; Test 3 – N = 1,348). Each coder received the same material. After three rounds of tests, followed by discussions between the coders to adjust incongruences and settle discrepant understandings, coders reached adequate levels of agreement according to Krippendorff's Alpha Coefficient (alpha > 0.66). After the training process, the entire material was coded by the same two coders. **Table 4** displays the results of the reliability test, indicating the lowest alpha of the variable.

Reporting difficulties that were beyond our ability to control can be helpful in providing transparency to our research. First, as already pointed out, some students dropped out of our experiment or did not attend school at the second discussion event. However, the dropout rate is not higher in one condition than in the other (26% in the Control Group, 27% in the Treatment Group). Second, our protocol defined that gender and race would be self-reported; and, therefore, the lack of response to these items in the questionnaires made it difficult to analyse these variables. The corresponding adjustments we adopted will be explained below in our analysis. Third, and finally, we had technical issues with the audio recording and/or poor audio quality. Therefore, we could not transcribe a corresponding discussion in one case of small subgroup discussion. Missing data are reported in Table A2 and A3 in the Appendix.

4.5. Hypothesis tests

To explore whether teaching deliberation impacts student behaviour in discussion practices, we compared those who participated in our workshops (treatment) with those who, experimentally, did not. Our experimental design involves the possibility that the first discussion event can function as a causative agent to change students' behaviour in the second discussion event. Deliberative scholars, as well as those working in the education sector, often point out that participating in discussions is already a form of learning (Fishkin 2003, 2009; Hess, 2009, 2022; Shaffer et al. 2017; Samuelsson 2016); and therefore, students in the treatment and control groups may have gained knowledge of each other's views in the first event.

To test our hypotheses, we took two steps. First, we performed a Z-test to check if the proportion of speech acts that showed deliberative capacities (justification, storytelling, respect, and inclusion) was different in the first and second discussions. The Z-test verifies if there is a statistically valid difference in the proportion of our analytical categories in the two discussions. When we observe a statistically valid difference in the proportion (defined here as p-value < 0.05), it indicates that the differences in occurrence of these speech acts are not a result of a normal deviation from the same proportion. Instead, it shows a change in the distribution of a certain characteristic in a population, for example, a general decrease in the proportional occurrence of speech acts with stories. This test only refers to the existence or not of a statistically valid difference in the proportion, and does not indicate any cause-effect relationship between the treatment and the results in the second discussion.

Once we identified a significant change in the proportion of a variable between the treatment and control groups, the following step was to check whether the changes in the treatment groups were different from the changes in the control group. In other words, in the categories in which the Z-test showed significant differences in the proportions, we used a Difference in Difference test (DiD) to estimate the treatment effect, that is, the impact of our workshops on treated students. The DiD allows us to analyse trends in the proportional occurrence of speech acts between control and treatment groups by comparing the difference in proportions. Since it measures the proportional occurrence of the categories for both groups before and after the treatment, it is not affected by the differences in the starting or end-point of occurrences, the number of students, volume of speech acts or other differences inside the groups. A central assumption of the DiD procedure is that treatment and control groups would show parallel trends of change in the absence of treatment. That means that changes can happen in the control group, but treatment effects are perceptible when the treatment and control group show changes in different directions, or in different magnitudes. This test was chosen because it works well to mitigate effects of selection bias and other external factors, such as the effects of general events between both discussions.

To illustrate how the DiD works, we can observe the results in the proportion of speech acts with on-topic stories in the next section **(Figure 5)**. The control group shows a higher proportion for this category than the treatment groups before and after the treatment. But the DiD test allows us to observe that the proportion of stories does not change for the control groups, while it increases for the treatment groups, showing a possible impact of the

treatment in that trend. In the DiD graphs below, the X axis shows values for T0: pre-treatment and T1: post-treatment and the Y axis expresses the proportions of speech acts in a group for both treatment and control groups.

5. Results

During the small subgroup discussions, adolescents appeared to share a variety of linguistic and visual cues and exchange information that are not readily available to observers, including attempts to control boundaries on what should or should not be discussed. Among the nearly 10,000 speech acts analysed, we found a high occurrence of short utterances, with casual slang and inside jokes, such as "go, Luiz, talk, you always talk in class", "Tell that story, Pedro".

5.1. Justification

Our first hypotheses predicted that students exposed to the workshops would express more justifications to support their points of views (H1) and would tell stories more focused on the topic under discussion (H2). The prevailing assumption is that deliberation is associated with reasoning competence. As discussion practices

cannot be detached from the context, it should be noted that classrooms allow for relationships of sociability, friendship and, in some cases, intimacy between students. We begin with the measure of justification in speech acts. **Table 5** presents the results of the Z-test and DiD tests, **Figure 2** graphs the results of the DiD test for schools in middle-class context and **Figure 3** graphs the results of the DiD test for schools in vulnerable contexts.

When comparing the entire sample of the treatment group with the control group (i.e., omitting the socioeconomic origin of the schools), we found no significant difference (p-value = 0.19 and p-value = 0.12, respectively). However, it would be premature to conclude that treatment produced no effect. When we dichotomize schools in sub-samples (middle-class and vulnerable contexts) significant differences emerge in the treatment groups (p-value = 0.01 in middle-class and p-value = 0.00 in vulnerable context). Students in the treatment condition in middle-class schools increased their justifications compared to those in the control condition in this school context. In contrast, students in treatment condition in schools located in vulnerable environments had diminished justification compared to those in control condition.

Table 5: Speech acts with justification in Treatment Groups and Control Groups.

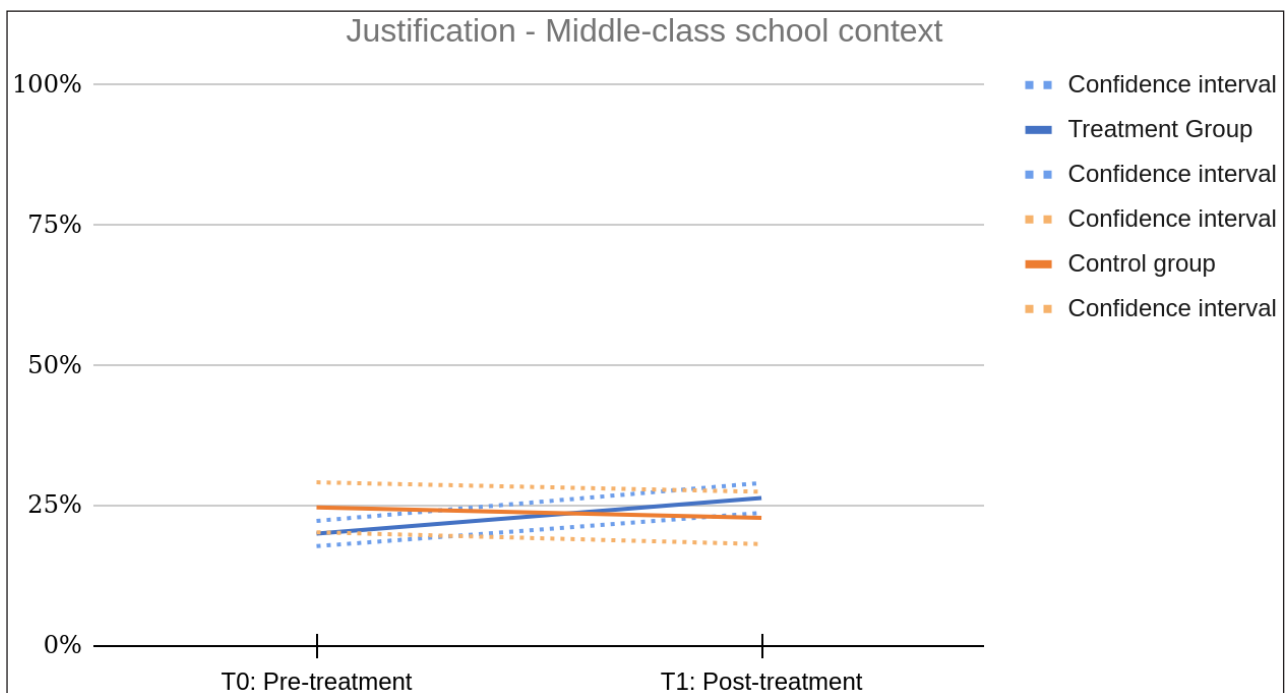| School		First Discussion	n	Second discussion	n	Difference in proportion	*p*-value
All schools together	Treatment	28%	357	26%	374	−2%	0.19
	Control	28%	196	24%	142	−4%	0.12
Vulnerable schools	Treatment	40%	184	30%	119	−10%	0.00
	Control	34%	115	29%	81	−5%	0.28
Middle-class schools	Treatment	20%	173	25%	255	5%	0.01
	Control	25%	81	23%	61	−2%	0.56

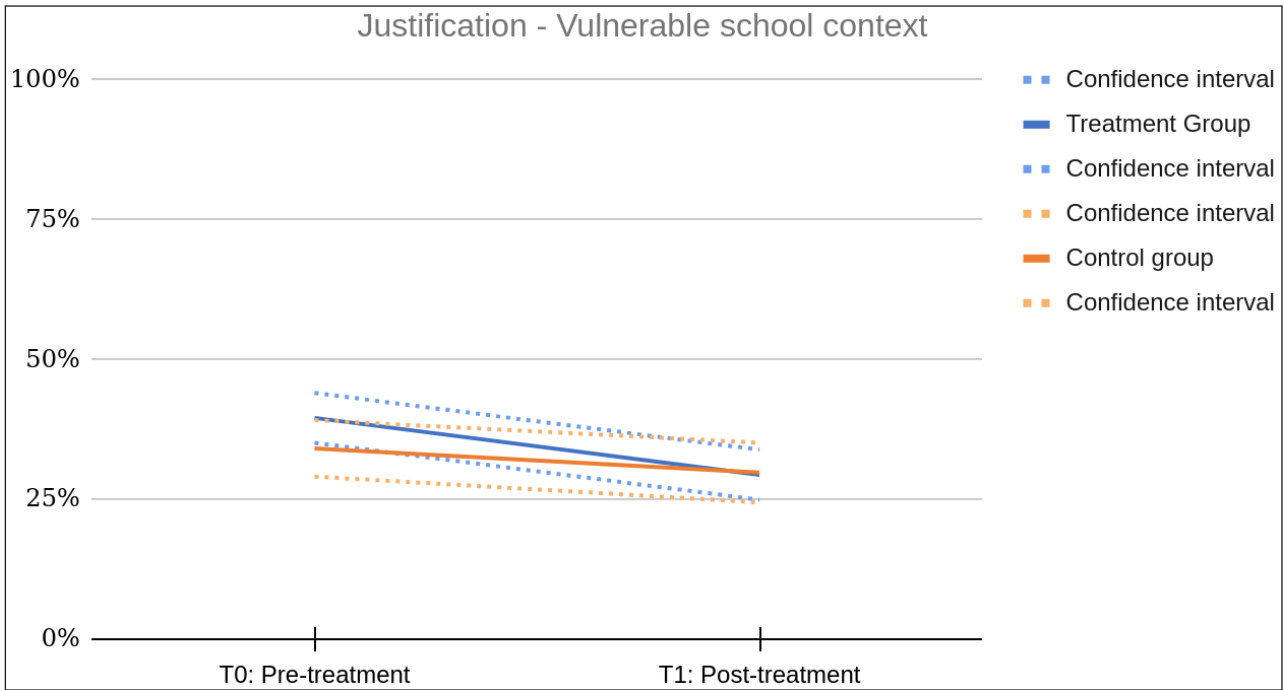**Figure 2:** DiD Test for Justification (Middle-class school Context).

Figure 3: DiD test for Justification (Vulnerable School Context).

For a better understanding of the results, as mentioned before, we performed a DiD analysis.

We observe a general decrease in justification in the second event when the entire sample is considered. Perhaps somewhat unexpectedly, we have to explain what might have caused this drop. It is noteworthy that the intervention itself cannot be considered a cause, as the decrease was observed in both the treatment and control groups (in the control group, the decrease was twice as large). Two complementary explanations seem plausible. The second discussion event can be much more demanding in terms of rationality than the first one. Students were asked whether freedom of expression should be curbed in the face of intolerance and hate speech on social media in the first event, while they were asked to provide collective recommendations on the matter in the second event. Argumentative skills are related to the fact that individuals are successful in converting their knowledge and resources into effective justifications (Habermas 1987). So, in the first event, students engaged mainly in discussions to express their points of view and explore each other's positions; that is, what a person cares about and where they stand, establishing commonalities and differences with others (Laden 2012; Maia et al. 2020; Mansbridge 1999). This is more related to how people engage in everyday discussions about controversial topics and offer reasons for the "why question" for one's position (Conover and Searing 2005; Habermas 2006; Karpowitz & Raphael 2014; Maia 2017; Maia 2018; Maia et al. 2023).

In the second event, students were expected to imagine solutions to resolve problematic issues, in order to answer the "why and what should be done" questions – that is, "state reasons for advancing proposals, supporting them, or criticising them" (Cohen 1997:74). It should be noted that regulation of social media is a complex problem where the facts are not yet well established, involving a series of political and legal uncertainties at the national and transnational levels. Discussing possible solutions requires more specific knowledge than just expressing preferences or taking a position in contentious political debates and, also, more sophistication to translate individual views or positions into collective recommendations or demands (Maia & Cal 2014; Maia et al. 2020). Second, and related, our research protocol stated that no external information would be provided to students, nor would we notify them in advance of the two discussion events. The literature on mini-publics consistently indicates that providing information to discussants greatly improves participants' knowledge and justifications for opinions (Fishkin 2003; Fishkin 2009; Gastil & Knobloch, 2019). In our case, students did not have the opportunity to prepare. In addition, we decided that the small discussion subgroups would be composed of the same students in both discussion events. Therefore, students might have assumed they would not need to repeat each previously stated justification, already known by the sub-group of colleagues.

Interestingly, the DiD test did not show linear results of reasoning competence across different socioeconomic contexts. The main effect we could observe is that both the treatment and control groups from schools in vulnerable settings, as well as the control group in middle-class schools, presented less speech acts with justification in the second discussion. In contrast, students in the treatment group in middle-class schools show an increase in speech acts with justification compared to their peers in the control group. Possibly, by receiving encouragement and learning about the importance of justifying their views, these students, even without receiving external information, were able to present their own reasons for solving problems and justify demands based on previous information. Prior knowledge is crucial for articulating concerns and developing reasoned considerations (Fishkin 2009; Habermas 1996, 2017). In group discussions, as

already pointed out, not all individual participants need to have prior or greater knowledge on controversial political issues, as they can increase understanding and learn from each other (Dryzek & Hendriks 2012; Gastil & Knobloch, 2019, Hess, 2009, 2022); and gain in knowledge may be obtained through reasons produced and reproduced in the discussion itself (Maia et al. 2018; Maia et al 2023).

Worryingly, however, students in the treatment group in schools located in vulnerable environments, receiving the same teaching incentives, expressed fewer justification speech acts than their peers in the control group. It is plausible to interpret that, as they became more aware of the value of justifying their own point of view, students felt discouraged from entering into argumentative discussions to solve complex problems. They may have been worried about not achieving high or qualified levels of justification or more self-conscious about their lack of information for consistent argumentative discussion. Among the disadvantaged students, information deficiencies may have had more repercussions on the interactive discussion dynamics. Furthermore, when individuals disengage from collective discussion, the group performs worse in terms of justificatory competence for collective recommendations.

5.2. Storytelling
Our research also examined personal stories and experiential knowledge. At first sight, our results showed a very small number of speech acts that presented stories of some kind. From a total 7,437 speech acts in this category, 413 (around 5,5%), contained stories. This small number presented challenges for the assessment of results.

The first stage of our analysis compared speech acts with stories (off-topic and in-topic) and speech acts without stories. **Table 6** presents the complete results, indicating a significant decrease in storytelling in both the treatment and control groups (p-value < 0.05), in relation to the first discussion event. **Figure 4** graphs the results of the DiD test for storytelling (both on- and off-topic stories) in all schools. We found the same result when comparing students from all schools and when disaggregating students from middle-class schools and vulnerable schools. There is just one exception: no statistically significant difference was found in the treatment group in vulnerable schools. Perhaps personal narratives are less productive when the effort is to articulate and systematise collective recommendations.

A closer look at the DiD test showed small differences between the treatment and control groups. Considering all schools together, we observed a greater decrease in storytelling in the treatment group. Yet, when treatment and control conditions are segmented along vulnerable and middle-class schools, we could not observe significant differences in the vulnerable school context.

To test H2, we performed a Z-test to compare on-topic and off-topic stories. The results are shown in **Table 7**. **Figure 5** graphs the results for the DiD test on-topic stories

Table 6: Speech acts with stories (both off and on topic) in Treatment Group and Control Groups.

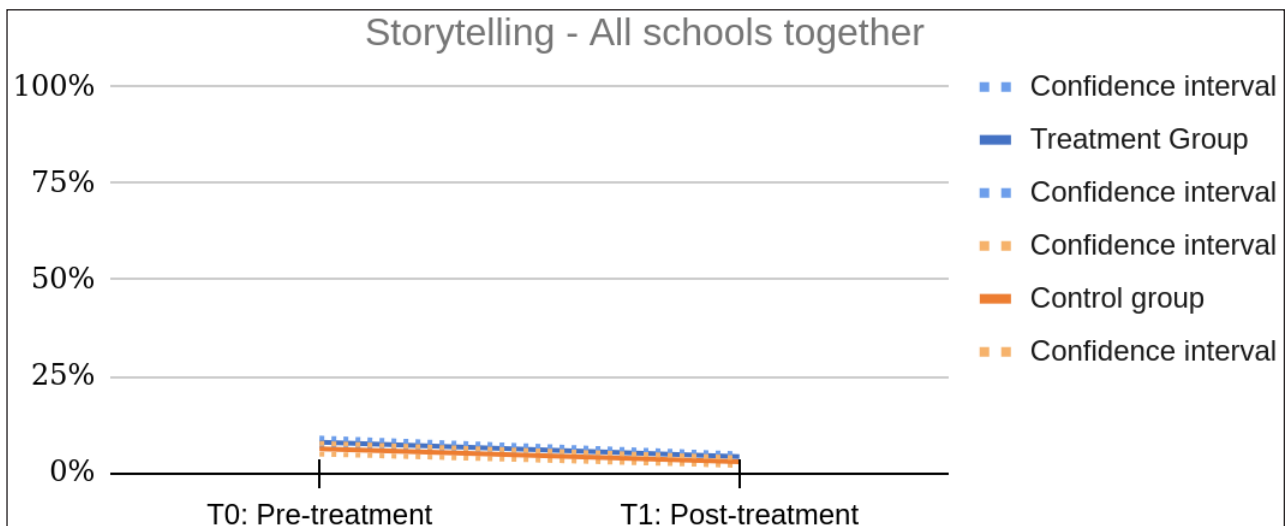|	School	First discussion	n	Second discussion	n	Difference in proportion	*p*-value
All schools together	Treatment	8%	196	4%	114	−4%	0.00
	Control	6%	71	2%	32	−4%	0.00
Vulnerable schools	Treatment	6%	54	4%	39	−2%	0.06
	Control	8%	43	4%	23	−4%	0.02
Middle class schools	Treatment	6%	142	4%	75	−2%	0.00
	Control	5%	28	2%	9	−3%	0.00

Figure 4: DiD speech acts with stories (All schools together).

in all schools and **Figure 6** graphs the results for the DiD test on-topic stories for schools in middle-class context. When we consider the aggregated sample of students, there is a significant increase in stories focused on the topic under discussion (*p*-value < 0.05) in the treatment group (no significant differences emerged in the control group). Looking at the socioeconomic context, this pattern,

however, is observed only in middle-class school students. Again, it was not possible to observe statistically relevant differences in students from vulnerable neighbourhoods.

The DiD test showed an increase in on-topic stories in the treatment condition both in the entire sample (all schools) and in the sample of middle-class schools. Thus, H2 can be only partially confirmed.

Table 7: Speech acts with on topic stories in Treatment Group and Control Group.

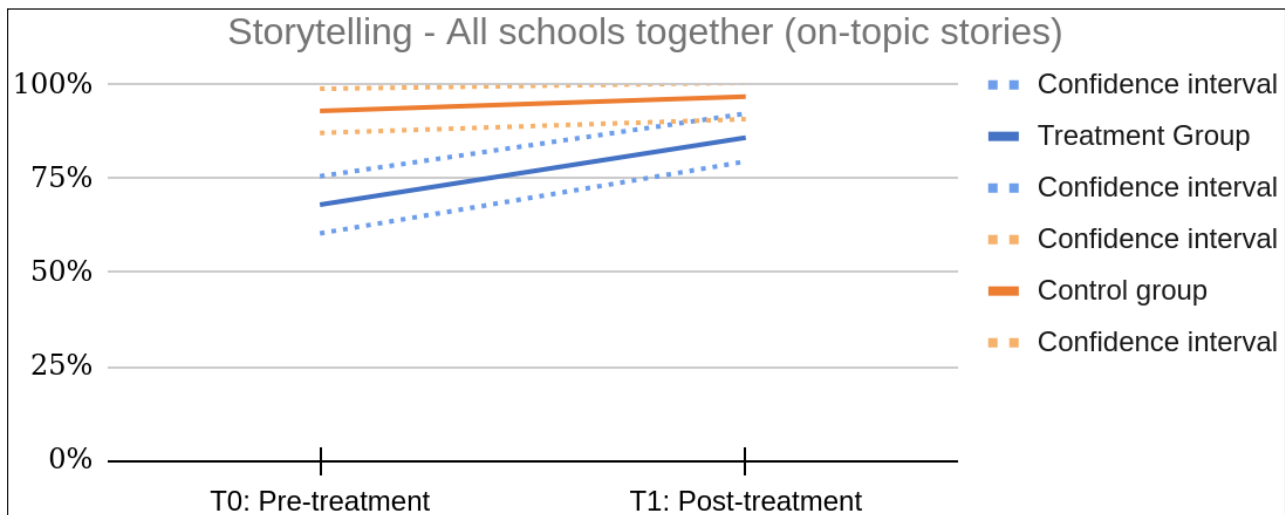| School		First discussion	n	Second discussion	n	Difference in proportion	*p*-value
All schools together	Treatment	68%	98	86%	98	18%	0.00
	Control	93%	67	96%	31	3%	0.96
Vulnerable Schools	Treatment	98%	49	90%	35	–8%	0.23
	Control	95%	41	100%	23	5%	0.99
Middle-class schools	Treatment	63%	49	87%	63	24%	0.00
	Control	89%	26	92%	8	3%	0.99

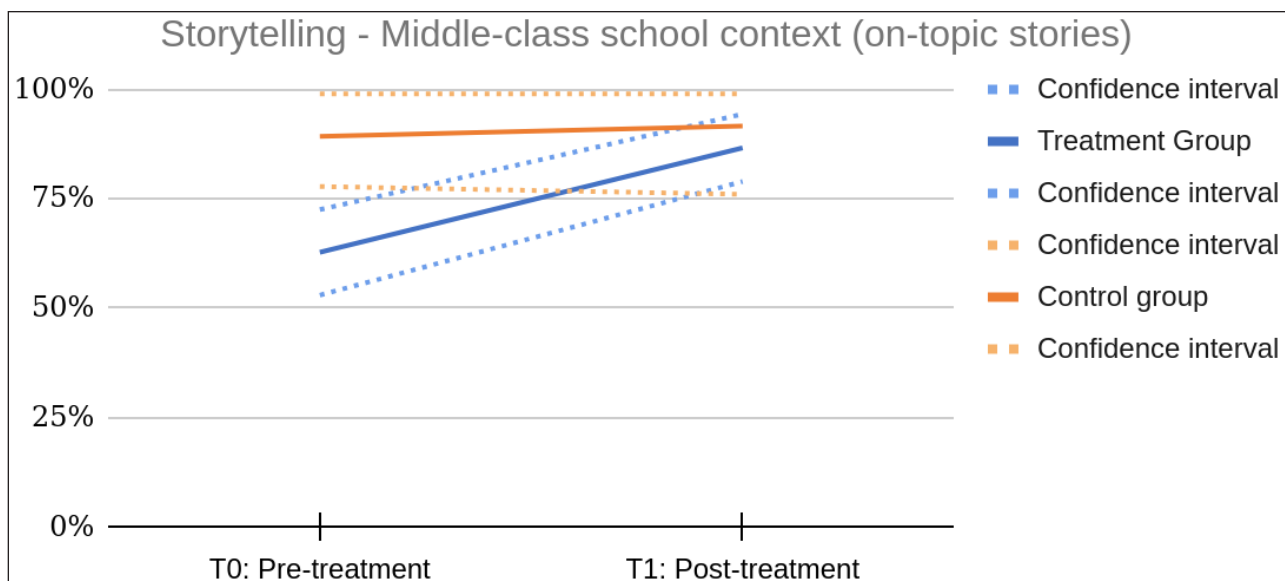**Figure 5:** DiD test for on-topic stories (All schools together).

Figure 6: DiD test for on-topic stories (Middle-Class school context).

These findings, most immediately, seem to corroborate the view that storytelling helps discussants to consider unfamiliar questions, especially when existing policies are unsatisfactory or legal rights are not upheld (Polletta & Lee 2006; Polletta et al. 2011). The distinction between on- and off-topic stories, in different school contexts, seems to add relevant elements to this interpretation. Overall, we observed that students in vulnerable schools make use of slightly higher proportions of storytelling, both in treatment and control conditions and between the first and second discussion events, when compared with middle-class students (**Table 6**); and also have larger shares of on-topic storytelling than middle-class schools (**Table 7**). In fact, the percentage of on-topic stories is so high that ceiling effects may have precluded an additional treatment effect, insofar as vulnerable schools still had higher post-treatment scores than middle-class schools.

It is easy to see why this important consideration can be directly applied to deliberative capacities. In the literal sense, telling unrelated stories can distract from relevant issues, disperse attention, or interrupt other participants' engagement. The fact that students in more vulnerable contexts brought more stories and much more focused stories than students in middle-class contexts, as well as comparatively less formal arguments, reinforces the view that personal experiences or narratives are particularly pertinent tools to move forward political discussions on issues of common concern among the less advantaged, in less resourceful environments. More research is needed to explore the contributions of storytelling to deliberation, as to clarify why participants tell stories for and what role this type of discursive expression plays in discussions occurring in different socio-economic contexts (Maia et al. 2020; Polletta et al. 2011; Steiner et al. 2017).

5.3. Respect

Our third expectation is that deliberative training will produce greater respect (H3). To test this hypothesis, we compared the explicit expression of respect and explicit expression of disrespect to other participants or to others' views. Our coding scheme differentiated between foul language without a clear target, such as a joke, slangs or youthful expressions and the explicit expression of disrespect – such as offence, use of stereotypes, derogatory adjectives, vulgar terms to attack other participants, accusing someone of lying or making fun of the other person's way of speaking. Unlike the other variables, it was not possible to disaggregate data from middle-class and vulnerable schools due to the low occurrence of explicit respect and disrespect. Out of the 9,616 speech acts coded in this category, a total of 134 (1%) contained some kind of disrespect. **Table 8** shows the expression of disrespect considering the data from all schools.

No impact of training on increasing students' respect in discussions was observed, as we found no variation in respect and disrespect between discussion events and between treatment and control groups (*p*-value > 0.05). Taken together, these results suggest that neutral language was predominant among adolescents; and discussions run smoothly most of the time. We can explain this result in two complementary ways. First, to the extent that intemperate and disrespectful interventions were almost non-existent, occasional insults were not enough to statistically impact discussions in the treatment and control groups. Second, the school environment itself may induce norms that favour ongoing discussions (Gutmann & Thompson 1996; Longo, Manosevitch & Shaffer 2017; Samuelsson 2016), particularly when compared to other environments such discussions in distinct digital platforms (Maia et al. 2023; Maia & Rezende 2016). Comparative studies on citizen forums (Gerber et al. 2016; Maia et al. 2018; Steiner et al. 2017) show that participants, who are invited to engage in face-to-face discussion on controversial topics, typically interact in a respectful manner. Our research was conducted with adolescent students, who interact daily in the classroom. The similar pattern of respectful interactions was observed in all classes, independently from treatment workshops and socioeconomic contexts – what seems good news for those interested in developing deliberative capacities in schools.

5.4. Inclusion

Deliberation starts with inclusion – a component that is not reducible to individual skills, but part of a collective process. We expected that the treatment group to show higher levels of inclusive participation (H4). We compared the proportion of speech acts per student in the first and second discussion events in the treatment and control groups. We observed an increase in the number of speech acts per student in both the treatment and control groups in the second event. As already indicated, the very opportunity to participate in discussion events may enhance students' ability to express themselves – as a kind of learning by doing, a point often stressed in the literature about deliberation (Fishkin 2003; Fishkin 2009; Hess, 2009, 2022; Shaffer et al. 2017; Samuelsson 2016). Yet, a greater increase is observed in the treatment group (3 speech acts per participant in the control group; and 6 speech acts in the treatment group). To rule out the possibility that this growth is simply due to the variation in the number of participants (see **Table 2**), we observed the distribution of speech acts also in relation to gender and race divisions. This is important because members of disadvantaged social groups may be formally present in the small subgroup discussions, passively listening to others without finding a way to express their opinions (Karpowitz & Mendelberg 2014; Maia et al. 2017; Young 2000).

Table 8: Speech acts with explicit expression of disrespect compared to speech acts without foul language in Treatment and Control groups.

	First discussion	n	Second discussion	n	Difference in proportion	*p*-value
Treatment Group	2%	47	1%	53	−1%	0.29
Control Group	2%	22	0%	12	−2%	0.08

In other words, viewing inclusion only as an opportunity to express one's own idea is highly unsatisfactory for the current stage of deliberative studies. As competing theories make different predictions about the attributes of gender and race as important components of the process that took place, we sought to develop a more refined analysis. First, the student author of the speech act was identified in our transcripts and video recordings, and classification was based on a socio-demographic questionnaire filled by students, including self-report about gender and race. To perform this specific analysis, we excluded small subgroups where we were unable to identify participants. Note that here our analysis is based on 19 small subgroup discussions in treatment condition and 10 in control condition in the first event; and 21 small subgroup discussions in treatment condition and 9 in control condition in the second event, respectively. **Table 9** shows the volume of total speech acts in the first and second discussions. To achieve better statistical significance, we used the entire sample and examined opportunities to speak related to gender and, then, to race, without simultaneously examining the socioeconomic context of schools. The results are shown in **Tables 10** and **11**.

It should be noted that the adequate control of gender, race and socioeconomic level of the participants, simultaneously, for the composition of discussion groups is a highly difficult requirement to be achieved in all stages of the process; and, to the best of our knowledge, we have not found any experimental study that embraces this ambition for statistical analysis. However, testing separate observations of these factors within the context of the study is helpful in reorienting expectations or interpreting results. Regarding gender participation, a significant increase in female students' speech acts and a significant decrease in male' speech acts was observed in the treatment

group (*p*-value < 0.05). We found an opposite dynamic in the control group: the participation of female students decreased, while there was no significant difference in the volume of statements made by male students.

Figure 7, which displays the results of the DiD test, shows this difference in relation to the increase in the proportion of girls' speech acts in the treatment group compared to the control group.

In parallel with the general increase in the proportion of students' speech acts, the results show that female students in the treatment group became more engaged in the second discussion event, providing partial support to H4 regarding gender. Our groups varied in gender composition: girls became more active and influential in the second discussion event also in male-dominated groups. In contrast, female students in the control groups, although being the majority on average, became more silent in the second event.

Regarding participation based on race, **Table 11** shows an increase in the participation of BIPOC students in both treatment and control groups (*p*-value < 0.05). **Figure 8** shows that there are practically no differences between the two groups (1.09%).

BIPOC students were equitably the majority in the treatment and control groups, a configuration typical of most public school classrooms in the country and representative of broader populations in Brazil. In terms of race, we could not observe effects related to the deliberative workshops. BIPOC students became more active in the treatment and control groups, which is insufficient to confirm H4 in relation to race.

The overall results allow us to maintain the expectation that training deliberation contributes to more active and inclusive discussions, having observed an impact in mitigating gender disparity. However, this expectation

Table 9: Volume of speech acts per student in the first and second discussions.

		First discussion	Second discussion
Total speech acts (n)	Treatment	2,932[a]	3,251[a]
	Control	1,135[a]	1,594[a]
Participants (n)	Treatment	141	117
	Control	66	75
Speech acts per participant	Treatment	20.79	27.79
	Control	17.20	21.25

[a]Considering only the speech acts of students.

Table 10: Proportion of male and female speech acts in the discussion groups.

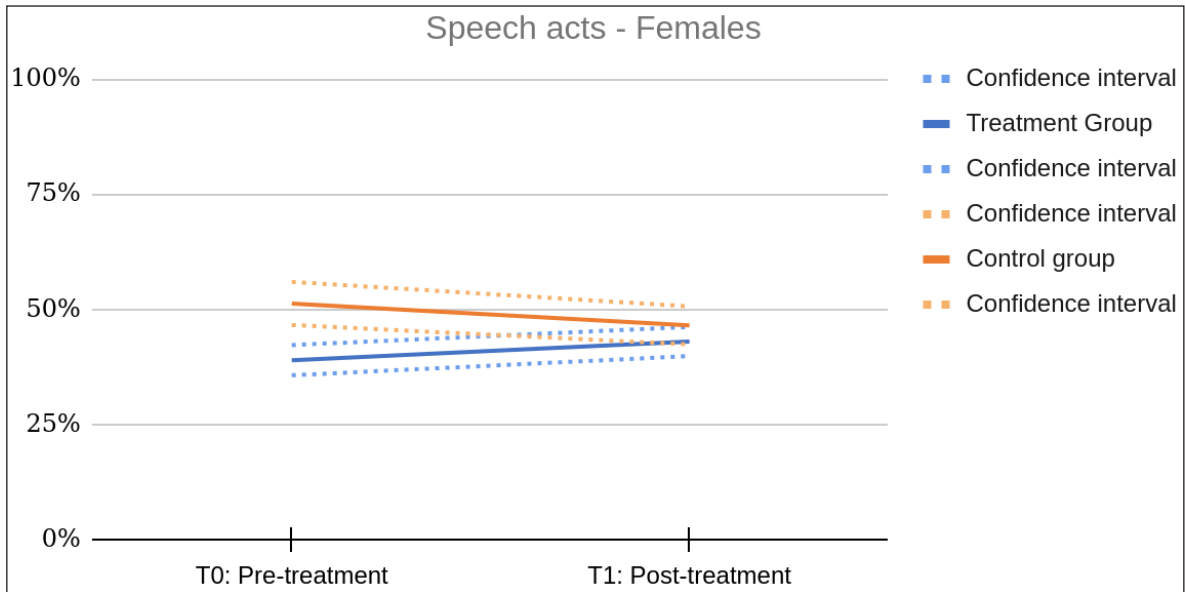| Gender	Group	First discussion (%)	n	Second discussion (%)	n	Difference in proportion	*p*-value
Female	Treatment group	38.92	850	42.97	941	4.05	0.00
	Control group	51.23	438	46.47	559	−4.76	0.00
Male	Treatment group	61.08	1,334	57.03	1,249	−4.05	0.00
	Control group	45.96	393	49.21	592	3.25	0.15

Figure 7: DiD Test for proportion of speech acts by female students.

Table 11: Proportion of BIPOC students' and white students' speech acts in the discussion groups.

Race	Group	First discussion (%)	n	Second discussion (%)	n	Difference in proportion	p-value
BIPOC	Treatment group	57.85	1,268	65.11	1,543	7.26	0.00
	Control group	63.25	382	74.07	657	10.82	0.00
White students	Treatment group	41.70	914	34.73	823	−6.97	0.00
	Control group	36.75	222	14.21	126	−22.54	0.00
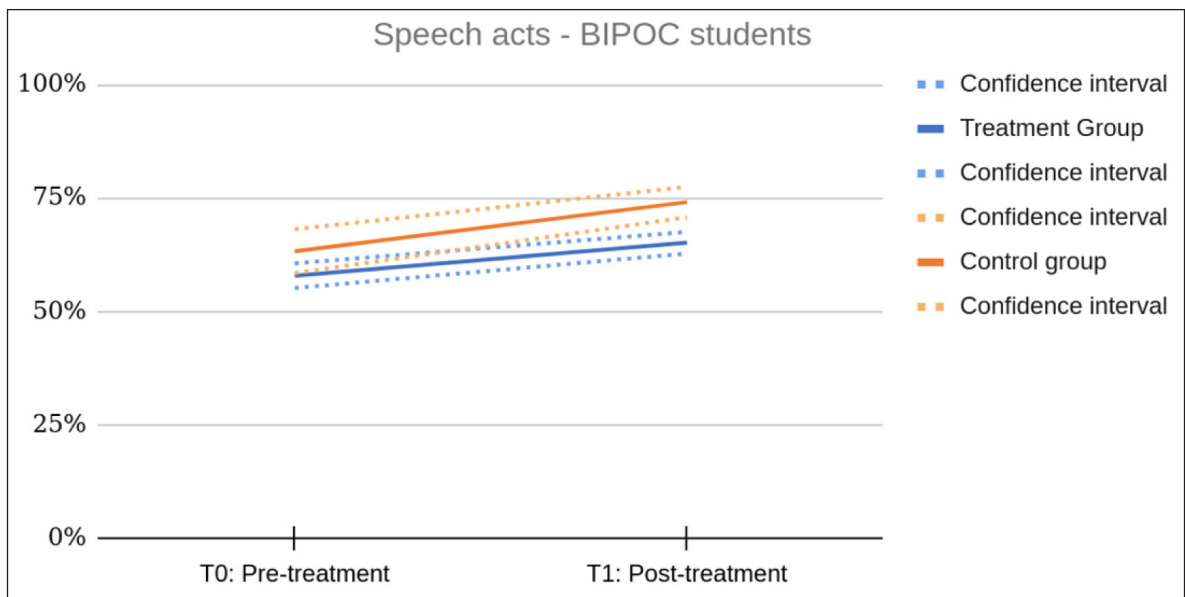
Figure 8: DiD Test for proportion of speech acts by BIPOC students.

could not be confirmed also in terms of race inequality. Thus, our previous excess in hypothetical training deliberation for integral overcoming of exclusionary dynamics must be cut. In a way, these findings serve as a critical reminder that several other factors must be considered when dealing with group inclusion processes, taking into account intersectional historical explanations.

6. Conclusion

Does teaching deliberation affect the development of students' deliberative capacities? Our findings suggest that the answer is yes, but attention should be paid to socioeconomic factors that moderate the effects or complicate the picture in various ways. As for reasoning competence, the treatment group in middle-class schools

became better able to offer formal justifications, that is, reach conclusions through the logical articulation of reasons in a situation without prior or extra informational material. Students from schools located in vulnerable contexts resorted more to personal narratives to bring the problem into discussions. However, for the treatment group in schools located in vulnerable neighbourhoods, the requirement to make recommendations (beyond explaining why they hold certain opinions) produced negative results. As reasoning together is an interactive process, where individuals can influence one another, small group discussion can also echo the school context within which the students receive deliberative training.

We found a similar pattern of respectful interactions in both treatment and control groups, in middle-class and vulnerable settings alike. The results also indicate a greater participation of female students in the treatment group, contributing to reducing the gender gap in collective discussions. Yet, our results recommend parsimony regarding mitigation of the race gap. To capture more specific participatory mechanisms at play, future studies should be designed to introduce systematic variation in the gender and race composition in groups, simultaneously with differences of socioeconomic backgrounds. As individual randomization to all these levels is highly difficult to achieve in experimental studies, our results, by distinguishing sub-types of cases, indicate important lines of complexity in students' participation in collective discussions, when different axes of inequality are considered.

Two important points emerge from our study. First, our analytical framework offers a more nuanced view of learning deliberation than is currently available in the literature. The analysis shows that learning deliberation is not a uni-dimensional process, but some capacities are more easily achieved than others. Overall, teaching deliberation in public schools produces positive outcomes, but it also raises concerns about how and when the expected effects occur.

Our results show that students of the treatment group in middle-class schools perform better in line with deliberative expectations (expressed in our hypotheses) in comparison to those in schools in poor neighbourhoods. Considering reasoning competence, ambivalent logic may be at play among less-resourced students: by being more aware about the importance to justify opinions, they may also become more silent to recommend solutions on problematic matters that they lack expertise. Storytelling was only helpful to advance the definition of the problem in this case. This has implications for a growing contemporary debate on how education and empowerment training help to overcome social inequalities and imbalances of power to provide voice and agency to the more underprivileged individuals and social groups. In this sense, our research carried out in public schools urges caution to understand how learning deliberation can be translated into voice, justificatory competency and inclusion. Scholars and practitioners should be more interested in understanding the conditions under which specific outcomes occur (and the mechanism by which they occur), rather than

revealing the frequency with which specific practice or outcomes occur.

Second, and theoretically, our study offers some important insights into learning deliberation. To avoid the reductive conception of capacity as a matter of developing the skills of a single individual, it is crucial to pay attention to complex interactions with socioeconomic and contextual factors. In this sense, the capability approach allows us to ask numerous questions about deliberation as "enabling conditions" in educational settings, to overcome obstacles and expand rights to full inclusion in society. This approach can be extended to address differences in learning and functioning in a deliberative way.

Despite these contributions, some limitations of our study and avenues for future research must be considered. First, our findings depend on the design of the experimental research. Some measures used in this study are not optimal; and due to the low occurrence, some results are less revealing, while others are mixed and ambiguous. As our experimental research was based in regular classrooms, we focused on socioeconomic inequalities. Future research could include systematic variation in gender and race composition. Future studies could also examine whether and to what extent providing qualified information improves students' justification competence; and whether active moderation substantially alters the interaction patterns observed in our study. Second, the controversial topic chosen for discussion – issues of freedom of expression and hate speech on social media and how and when regulation is welcomed in digital environments – seems very complex and may have impacted our findings. Thus, repetition would be necessary, including different topics for discussion, and different school contexts. Third, our research raises questions about how to properly discriminate between learning deliberative capacities (i.e., understanding and assigning value to that practice) and actually functioning consistently in a deliberative way in a discussion situation. Other qualitatively oriented analyses could better address these issues. We started this research concerned with students' abilities, dispositions and increment of resources for learning and training deliberation. A closer understanding of such complex combinations and variations in socio-economic contexts appears to be worth pursuing in future research.

Notes

[1] In this manuscript, we distinguish between "capability" or "capability approach" from "[deliberative] capacities". The former terms refer to the perspective advanced by Sen, Nussbaum and others, to conceive achievements people are actually able to be and do. We argue here that deliberative capacities refers to a set of skills a person can learn to individually perform better in a deliberation and, at the same time, reach better collective results. These deliberative capacities do not immediately translate into capabilities because these depend on individual choice, the resources and incentives available and real opportunities to participate in deliberation and decision-making.

Acknowledgements

Additional File

The additional files for this article can be found as follows:

- **Appendix.** The additional files for this article details the results of the balancing test (Table A1 and Figure A1), shows the number of participants per small sub-groups in the first (Table A2) and second discussion (Table A3) and offers additional information about the statistical analyses performed in the study. DOI: https://doi.org/10.16997/jdd.1156.s13

Competing Interests

References

Andersson, K. (2015). Deliberative teaching: Effects on students' democratic virtues. *Scandinavian Journal of Educational Research*, *59*(5), 604–622. DOI: https://doi.org/10.1080/00313831.2014.965789

Arneback, E., & **Englund, T.** (2020). Teachers' Deliberation on Communicative Potentials in Classrooms When Students Express Racism' *Reflective Practice*, *21*(1), 28–40. DOI: https://doi.org/10.1080/14623943.2019.1708304

Avery, P. G., Levy, S. A., & **Simmons, A. M.** (2013). Deliberating controversial public issues as part of civic education. *The Social Studies*, *104*(3), 105–114. DOI: https://doi.org/10.1080/00377996.2012.691571

Avery, P. G., Levy, S. A., & **Simmons, A. M.** (2014). Secondary students and the deliberation of public issues. *PS: Political Science & Politics*, *47*(4), 849–854. DOI: https://doi.org/10.1017/S1049096514001164

Bächtiger, A., Dryzek, J. S., Mansbridge, J., & **Warren, M. E.** (2018). In A. Bächtiger, J. S. Dryzek, J. Mansbridge and M. E. Warren (Eds.). *The Oxford handbook of deliberative democracy*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oxfordhb/9780198747369.001.0001

Bächtiger, A., & **Parkinson, J.** (2019). *Mapping and measuring deliberation*: Towards a new deliberative quality. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780199672196.001.0001

Black, L. W. (2008). Deliberation, storytelling, and dialogic moments. *Communication Theory*, *18*(1), 93–116. DOI: https://doi.org/10.1111/j.1468-2885.2007.00315.x

Bogaards, M., & **Deutsch, F.** (2015). Deliberation by, with, and for University Students. *Journal of Political Science Education*, *11*(2), 221–232. DOI: https://doi.org/10.1080/15512169.2015.1016036

Bonvin, J. M., & **Laruffa,** F. (2018). Deliberative democracy in the real world, the contribution of the capability approach. *International Review of Sociology*, *28*(2), 216–233. DOI: https://doi.org/10.1080/03906701.2018.1477101

Brady, H. E., Verba, S., & **Schlozman, K. L.** (1995). Beyond SES: A resource model of political participation. *American political science review*, *89*(2), 271–294. DOI: https://doi.org/10.2307/2082425

Chambers, S. (2003). Deliberative democratic theory. *Annual review of political science*, *6*(1), 307–326. DOI: https://doi.org/10.1146/annurev.polisci.6.121901.085538

Chambers, S. (2018). The Philosophic Origins of Deliberative Ideals. In A. Bächtiger, J. S. Dryzek, J. Mansbridge and M. E. Warren, (Eds.) *The Oxford handbook of deliberative democracy* (pp. 55–69). Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oxfordhb/9780198747369.013.1

Cohen, J. (1997). Procedure and Substance in Deliberative Democracy. In J. Bohman and W. Rehg, (Eds.), *Deliberative democracy: Essays on reason and politics*. Cambridge, Massachusetts: The MIT Press. DOI: https://doi.org/10.7551/mitpress/2324.003.0017

Cooke, M. (2000). Five Arguments for Deliberative Democracy. *Political Studies*, *48*(5), 947–969. DOI: https://doi.org/10.1111/1467-9248.00289

Curato, N. (2015). Deliberative capacity as an indicator of democratic quality: The case of the Philippines. *International Political Science Review*, *36*(1), 99–116. DOI: https://doi.org/10.1080/10888691.2012.695265

Dassonneville, R., Quintelier, E., Hooghe, M., & **Claes, E.** (2012). The relation between civic education and political attitudes and behaviour: A two-year panel study among Belgian late adolescents. *Applied Developmental Science*, *16*(3), 140–150. DOI: https://dx.doi.org/10.1080/10888691.2012.695265

Dewey, J. (1997). *How we think*. Massachusetts: Courier Corporation.

Dewey, J. (2018). *Democracy and education: An Introduction to the Philosophy of Education*. NY: Simon & Brown.

Druckman, J. N., et al. (2011). *Cambridge handbook of experimental political science*. New York, NY: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511921452

Dryzek, J. S. (2009). Democratisation as deliberative capacity building. *Comparative political studies*, *42*(11), 1379–1402. DOI: https://doi.org/10.1177/0010414009332129

Dryzek, J. S., & Hendriks, C. (2012). Fostering deliberation in the forum and beyond. In F. Fischer & H. Gottweis (Eds.). *The argumentative turn revisited: Public policy as communicative practice*, 31–57. DOI: https://doi.org/10.1215/9780822395362-002

Ercan, S. A., Asenbaum H., Curato, N., & Mendonç, R. F. (Eds)(2022). *Research Methods in Deliberative Democracy* Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780192848925.001.0001

Esterling, K. M. (2018). Deliberation and Experimental Design. In A. Bächtiger, J. S. Dryzek, J. Mansbridge and M. E. Warren, (Eds.). *The Oxford Handbook of Deliberative Democracy*, (pp. 447–460). Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oxfordhb/9780198747369.013.13

Felicetti, A., Niemeyer, S., & Curato, N. (2016). Improving deliberative participation: Connecting mini-publics to deliberative systems. *European Political Science Review*, *8*(3), 427–448. DOI: https://doi.org/10.1017/S1755773915000119

Fishkin, J. S. (2003). Consulting the Public Through Deliberative Polling. *Journal of Policy Analysis and Management*, *22*(1), 128–133. DOI: https://doi.org/10.1002/pam.10101

Fishkin, J. S. (2009). *When the People Speak: Deliberative Democracy and Public Consultation*. Oxford: Oxford University Press.

Freire, P. (1996). *Pedagogy of the oppressed* (revised). New York: Continuum. DOI: https://doi.org/10.1007/978-1-349-25349-4_25

Freire, P. (2000). *Pedagogy of freedom: Ethics, democracy, and civic courage*. Mayland: Rowman & Littlefield Publishers. DOI: https://doi.org/10.1111/rsr.13807

Gastil & Knobloch (2019). *Hope for democracy: How citizens can bring reason back into politics*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780190084523.001.0001

Gerber, M., Bächtiger, A., Shikano, S., Reber, S., & Rohr, S. (2016). Deliberative Abilities and Influence in a Transnational Deliberative Poll (EuroPolis). *British Journal of Political Science*, *48*(4), 1093–1118. DOI: https://doi.org/10.1017/S0007123416000144

Gutmann, A., & Thompson, D. F. (1996). *Democracy and disagreement: Why moral conflict cannot be avoided in politics and what should be done about it*. Cambridge, MA: Belk nap Press.

Habermas, J. (1987). *The Theory of Communicative Action: Lifeworld and System: A Critique of Functionalist Reason*, trans. T. McCarthy. Boston, MA: Beacon Press. [orig. German edn 1981].

Habermas, J. (1996). *Between facts and norms*, trans. William Rehg. Oxford: Polity. DOI: https://doi.org/10.7551/mitpress/1564.001.0001

Habermas, J. (2017). *Postmetaphysical Thinking II: Essays and Replies*, trans. C. Cronin, Kindle edn. Malden, MA: Polity Press.

Hess, D. E. (2009). *Controversy in the classroom: The democratic power of discussion*. New York: Routledge

Hess, D. E. (2022). Making Classroom Discussions Work: Methods for Quality Dialogue in the Social Studies: New York: Teachers College

Karpowitz, C. F., & Mendelberg, T. (2014). *The silent sex: Gender, Deliberation, and Institutions*. Princeton: Princeton University Press. DOI: https://doi.org/10.1515/9781400852697

Karpowitz, C. F., & Raphael, C. (2014). *Deliberation, democracy, and civic forums: Improving equality and publicity*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9781107110212

Kishimoto, K. (2018). Anti-racist pedagogy: From faculty's self-reflection to organizing within and beyond the classroom. *Race Ethnicity and Education*, *21*(4), 540–554. DOI: https://doi.org/10.1080/13613324.2016.1248824

Knight, J., & Johnson, J. (1997). What sort of political equality does deliberative. In J. Bohman and W. Rehg, (Eds.), *Deliberative democracy: Essays on reason and politics*. (pp. 279–319). Cambridge, Massachusetts: The MIT Press. DOI: https://doi.org/10.7551/mitpress/2324.003.0013

Krippendorff, K. (2003). *Content Analysis: An Introduction to its Methodology*. Oaks, CA: Sage Publications.

Latimer, C., & Hempson, K. M. (2012). Using deliberation in the classroom: A teaching pedagogy to enhance student knowledge, opinion formation, and civic engagement. *Journal of Political Science Education*, *8*(4), 372–388. DOI: https://doi.org/10.1080/15512169.2012.729447

Longo, N., & Shaffer, T. (2019). *Creating Space for Democracy*. Stylus Publishing. Kindle Edition.

Longo, N., Manosevitch, I., & Shaffer, T. (2017). Introduction. In T. J. Shaffer, N. V. Longo, I. Manosevitch, & M. S. Thomas (Eds.), *Deliberative Pedagogy: Teaching and Learning for Democratic Engagement* (pp. Xix–Xxxvi). East Lansing: Michigan State University Press.

Luskin, R., Fishkin, J., Malhotra, N., & Siu, A. (2007). Deliberation in the schools: A way of enhancing civic engagement. In *biennial General Conference of the European Consortium for Political Research, Pisa, Italy*.

Maia, R. C. M. (2017). Politicisation, New Media and Everyday Deliberation. In: C. Hay, M. Flinders, P. Fawcett et al., eds., *Anti-Politics, Depoliticization, and Governance*. Oxford: Oxford University Press, pp. 68–90.

Maia, R. C. M. (2018). Deliberative media. In A. Bächtiger, J. S. Dryzek, J. Mansbridge and M. E. Warren, eds., *The Oxford Handbook of Deliberative Democracy*. Oxford: Oxford University Press, pp. 348–364. DOI: https://doi.org/10.1093/oxfordhb/9780198747369.013.11

Maia, R. C. M., & Cal, D. (2014). *Recognition and Ideology: Assessing Justice and Injustice in the Case of Child Domestic Labor. Journal of Political Power*, *7*(1), 63–85. DOI: https://doi.org/10.1080/2158379X.2014.887543

Maia, R. C. M., & Garcez, R. L. (2014). Recognition, Feelings of Injustice and Claim Justification: A Case Study of Deaf People's Storytelling on the Internet.

European Political Science Review: EPSR, *6*(3), 359–382. DOI: https://doi.org/10.1017/S1755773913000143

Maia, R. C. M., Cal, D., Bargas, J., & **Crepalde, N. J.** (2020). Which Types of Reason-Giving and Storytelling are Good for Deliberation? Assessing the Discussion Dynamics in Legislative and Citizen Forums. *European Political Science Review*, *12*(2), 113–132. DOI: https://doi.org/10.1017/S1755773919000328

Maia R. C. M., Cal D., Bargas J., Oliveira V., Rossini P., & **Sampaio R.** (2017). Authority and Deliberative Moments: Assessing Equality and Inequality in Deeply Divided Groups, J*ournal of Public Deliberation 13*(2). DOI: https://doi.org/10.16997/jdd.283

Maia, R. C. M., Cal, D., Oliveira, V. V., Vimieiro, A. C., Hauber, G., & **Rossini, P. G.** (2018). Deliberation across a Space of Reasons: Assessing Epistemic Changes in Group Discussions. *Human Communication Research*, *44*(4), 399–426. DOI: https://doi.org/10.1093/hcr/hqy007

Maia, R. C. M., Hauber, G., & **Choucair, T.** (2023). *The Deliberative System and Inter-Connected Media in Times of Uncertainty.* Palgrave Macmillan/ Spring Nature, 2023 p. 127–169. DOI: https://doi.org/10.1007/978-3-031-23466-8_7

Maia, R. C. M., & **Rezende, T. A.** (2016). Respect and Disrespect in Deliberation across the Networked Media Environment: Examining Multiple Paths of Political Talk. *Journal of Computer-Mediated Communication*, *21*(2), 121–139. DOI: https://doi.org/10.1111/jcc4.12155

Mansbridge, J., Bohman, J., Chambers, S., et al. (2010). The place of self-interest and the role of power in deliberative democracy. *Journal of political philosophy*, *18*(1), 64–100. DOI: https://doi.org/10.1111/j.1467-9760.2009.00344.x

Maurissen, L., Claes, E., & **Barber, C.** (2018). Deliberation in citizenship education: how the school context contributes to the development of an open classroom climate. *Social Psychology of Education*, *21*(4), 951–972. DOI: https://doi.org/10.1007/s11218-018-9449-7

McInerney, P. (2009). Toward a critical pedagogy of engagement for alienated youth: Insights from Freire and school-based research. *Critical studies in education*, *50*(1), 23–35. DOI: https://doi.org/10.1080/17508480802526637

Molnar-Main, S. (2017). *Deliberation in the classroom: Fostering critical thinking, community, and citizenship in schools.* Dayton, OH: Kettering Foundation. Kindle Edition.

Nishiyama, K. (2019). Enabling children's deliberation in deliberative systems: Schools as a mediating space. *Journal of Youth Studies*, *22*(4), 473–488. DOI: https://doi.org/10.1080/13676261.2018.1514104

Nishiyama, K. (2021). Democratic education in the fourth generation of deliberative democracy. *Theory and Research in Education*, *19*(2), 109–126. DOI: https://doi.org/10.1177/14778785211017102

Nussbaum, M. (2006). *Frontiers of Justice: Disability, Nationality, Species Membership. The President and Fellows of Harvard College.* Cambridge: Harvard University Press. DOI: https://doi.org/10.2307/j.ctv1c7zftw

Nussbaum, M. C. (2011). Capabilities, entitlements, rights: Supplementation and critique. *Journal of human development and capabilities*, *12*(1), 23–37. DOI: https://doi.org/10.1080/19452829.2011.541731

Polletta, F., Chen, P. C. B., Gardner, B. G., & **Motes, A.** (2011). The Sociology of Storytelling. *Annual Review of Sociology*, *37*, 109–130. DOI: https://doi.org/10.1146/annurev-soc-081309-150106

Polletta, F., & **Lee, J.** (2006). Is telling stories good for democracy? Rhetoric in public deliberation after 9/11. *American sociological review*, *71*(5), 699–721. DOI: https://doi.org/10.1177/000312240607100501

Reuchamps, M., Vrydagh, J., & **Welp, Y.** (eds.) (2023). *Handbook of Citizens' Assemblies.* Berlim: De Gruyter Publisher. DOI: https://doi.org/10.1515/9783110758269

Samuelsson, M. (2016). Education for deliberative democracy: A typology of classroom discussions. *Democracy and Education*, *24*(1). Available at: https://democracyeducationjournal.org/home/vol24/iss1/5. DOI: https://doi.org/10.48059/uod.v24i1.1031

Sen, A. K. (1999). Democracy as a universal value. *Journal of democracy*, *10*(3), 3–17. DOI: https://doi.org/10.1353/jod.1999.0055

Sen, A. K. (2009). *The idea of justice.* Cambridge: Harvard University Press. DOI: https://doi.org/10.4159/9780674054578

Shaffer, T. J., Longo, N. V., Manosevitch, I., & **Thomas, M. S.** (Eds.) (2017). *Deliberative pedagogy: Teaching and learning for democratic engagement.* Michigan: Michigan State University Press.

Solt, F. (2008). Economic inequality and democratic political engagement. *American Journal of Political Science*, *52*(1), 48–60. DOI: https://doi.org/10.1111/j.1540-5907.2007.00298.x

Steiner, J. (2012). *The foundations of deliberative democracy: Empirical research and normative implications.* Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9781139057486

Steiner, J., Bächtiger, A., Spörndli, M. & **Steenbergen, M. R.** (2004). *Deliberative Politics in Action: Cross National Study of Parliamentary Debates.* Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511491153

Steiner, J., Jaramillo, M. C., Maia, R. C., & **Mameli, S.** (2017). *Deliberation across deeply divided societies.* Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/9781316941591

Thompson, D. F. (2008). Deliberative Democratic Theory and Empirical Political Science. *Annual Review of Political Science*, *11*(1), 497–520. DOI: https://doi.org/10.1146/annurev.polisci.11.081306.070555

Young, I. M. (2000). *Inclusion and Democracy*, New York: Oxford University Press.