

Teaching a Utopia? On the Conditions for Deliberative Discussion in Social Science Education

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Teaching a Utopia? On the Conditions for Deliberative
Discussion in Social Science Education



PhD dissertation

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2023

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Jonas Henau Teglbjærg. København. August, 2023.

Summary

In light of the advent of post-truth politics, this PhD project set out to investigate the conditions for improving the democratic quality of student discussions in social science education. The project started out by discussing whether the ideal of deliberation can be used as an appropriate standard for assessing the quality of student discussions. It argued that this ideal can be seen as one marker of quality discussion among others if one employs definitions of quality, social science education, and deliberation that match each other. While matching definitions of the terms exist, there are also definitions that would render the concepts incompatible. Three different arguments for why deliberation might be seen as a kind of quality were advanced. The first asserted that teaching, which approximates deliberative ideals, is an instance of good, fair, and just teaching and hence valuable in itself. The second asserted that teaching, which approximates deliberative ideals, is an instance of successful teaching because it likely promotes desirable civic learning outcomes. The third asserted that teaching, which approximates deliberative ideals, is an instance of aligned teaching because it fits the core content, form, and purposes of social science education. The discussion of deliberation as a kind of quality underlined, moreover, that there are certain aspects of quality in social science education that are not captured by the notion of deliberation – particularly aspects related to students’ emotions and motivations for participation. Following the normative discussion, the project moved on to explore the empirical conditions for deliberative classroom discussion in its three articles.

Article I entitled “*Contexts and prevalence of classroom discussion in Nordic Social Science teaching. A large N observational study*” investigated the prevalence and contexts of classroom discussion in a Nordic sample of 375 teaching segments (each lasting 15 minutes). The sample was gathered through video observations, and discussion was measured by an element from the Protocol for Language Arts Teaching Observations (Grossman, 2021), which has also been used to structure observations of social science teaching (Christensen, A. S. & Mathé, 2023). While 147 (39.2%) of the investigated segments contained at least five minutes of discussion (considered as deliberative opportunities), discussion segments were very unequally distributed across classes. The article found classroom discussion to be most likely during small group work, in the middle of a 45-minute lesson, and in schools with high achieving students. The findings made by article I suggest that there may be pronounced inequalities in opportunities

for deliberation across social science classes in the Nordic countries, and that students in low-achieving schools might experience systematically fewer opportunities for deliberation than students in high-achieving schools. Since many of the investigated classes experienced no opportunities for discussion at all, the findings made by article I, moreover, suggest that many students are formally excluded from participating in processes of deliberative classroom discussion. An important limitation of the findings made in article I was that the investigated teaching segments were gathered through non-probability sampling and were hence not representative of the larger population of Nordic social science teaching segments.

Article II entitled “*Chasing deliberation in the Social Science classroom. A study of deliberative quality in whole-class, small group, and pair discussions*” examined classroom discussion in three conditions: a whole-class condition, a small group condition, and a pair condition (different discussion settings). The article made use of video observations from a classroom intervention to evaluate how each condition affected the deliberative quality of the discussion process. To this end, it coded 585 student utterances for aspects of deliberation using the Stromer-Galley (2007) observation manual. The article found both the small group and pair conditions to promote key aspects of deliberation compared to the whole-class condition. The small group condition generated the highest levels of contestation and engagement, whereas the pair condition generated the highest level of equality. Article II’s findings, hence, suggested that the deliberative quality of classroom discussion may sometimes benefit from the absence of the teacher. It argued, moreover, that this might be especially true when students disregard the teacher’s authority or when past interactions between the students and the teacher have been troublesome.

Article III entitled “*Chasing deliberation in the Social Science classroom. A study of deliberative quality in factual and controversial issue discussions*” investigated the deliberative quality of classroom discussion in three conditions: a factual issue condition, a controversial issue condition, and a scaffolded controversial issue condition. It used video observations from a classroom intervention to assess how each condition affected the deliberative quality of the discussion. To this end, article III identified 202 student utterances and coded them by use of the Stromer-Galley (2007) manual for measuring aspects of deliberation. Though the scaffolded controversial issue condition produced more argumentation, contestation, and engagement than

the factual issue condition, the controversial issue conditions also opened the door to more inequality, exclusion, and chitchat. The results of article III, hence, suggested that reasoned classroom discussion might co-exist with problems related to inequality and exclusion, and that different conditions of discussion might promote different aspects of deliberation.

Articles II and III each used a single case experiment, which is a specific kind of classroom intervention design, to investigate whether specific micro conditions (classroom settings) can push opportunities for deliberation closer to realization. Here, the results showed that some conditions (such as scaffolding, a controversial topic, and a small group setting) can help promote the partial realization of deliberative opportunities. An important drawback, however, was that these conditions seemed unable to promote aspects of deliberation related to equality and inclusion. It is worth noting, moreover, that the findings were all subject to several limitations. The most serious of these was a lack of external validity, which implied that the findings could not readily be generalized to the larger population of Nordic social science students. Based on the empirical findings, the project makes two overarching conclusions. First, attempts at promoting deliberative discussion in Nordic classrooms seem to suffer from deficits with respect to equality and inclusion. From a deliberative point of view, these issues are severe, and more research and innovative practice is needed to counter them. Second, however, manipulating the micro conditions of classroom discussion can have a positive effect on the deliberative quality of such discussions. Social science teachers can, hence, use their role as designers of classroom discussion to improve the deliberative quality of discussions in social science education. In so doing, they can prepare their own students for future participation in democratic life and simultaneously improve the current quality of discussion in an important corner of the public sphere. In the right circumstances, social science teachers and students can, hence, together provide a little resistance to the powerful anti-democratic forces of our time.

Resumé på dansk

I lyset af den udbredte bekymring for at vestlige demokratier er på vej ind i en post-faktuel fase, undersøgte dette ph.d.-projekt betingelserne for elevdiskussioners demokratiske kvalitet i samfundsfagsundervisningen. Projektet startede med at diskutere, om det deliberative ideal (idealet for den demokratiske samtale) kan bruges som en passende standard for vurdering af elevdiskussioners kvalitet. Projektet argumenterede for, at dette ideal kan ses som én markør for kvalitetsdiskussion blandt andre, hvis man anvender definitioner af kvalitet, samfundsfag og deliberation, der matcher hinanden. Selvom der findes matchende definitioner af begreberne, er der også definitioner, der ville gøre begreberne uforenelige. Tre forskellige argumenter for, hvorfor den demokratiske samtale kan ses som en slags kvalitet, blev fremført. Det første argument hævdede, at undervisning, som nærmer sig deliberative idealer, er et eksempel på god, retfærdig og fair undervisning og derfor værdifuld i sig selv. Det andet argument hævdede, at undervisning, som tilnærmer sig deliberative idealer, er et eksempel på vellykket undervisning, fordi en sådan undervisning sandsynligvis fremmer ønskværdig demokratisk viden, demokratiske færdigheder og demokratiske værdier. Det tredje argument hævdede, at undervisning, som tilnærmer sig deliberative idealer, er et eksempel på afstemt undervisning, fordi denne undervisning understøtter kerneindholdet, formen og formålene med samfundsfag. Diskussionen af deliberation som en slags kvalitet understregede desuden, at der er visse aspekter af kvalitet i samfundsfag, som ikke indfanges af deliberationsbegrebet – især aspekter relateret til elevernes følelser og motivation for deltagelse. I kølvandet på den normative diskussion udforskede ph.d.-projektet de empiriske betingelser for deliberativ klasserumsdiskussion i dets tre artikler.

Artikel I med titlen "*Kontekster og udbredelse af klasserumsdiskussion i nordisk samfundsfagsundervisning. Et stort N-observationsstudie*" undersøgte udbredelse af og kontekster for klasserumsdiskussion i en nordisk stikprøve bestående af 375 undervisningssegmenter (à 15 minutters varighed hver). Stikprøven blev indsamlet gennem videoobservationer, og diskussionen blev målt gennem et element fra PLATO observationsmanualen (Grossman, 2021), som også af andre er blevet brugt til at strukturere observationer af samfundsfagsundervisning i Norden (Christensen, A. S. & Mathé, 2023). Selvom 147 (39,2%) af de undersøgte segmenter indeholdt mindst fem minutters diskussion (som blev betragtet som

muligheder for deliberation), så var diskussionssegmenterne meget ulige fordelt på tværs af klasser. Artiklen fandt, at diskussion forekom oftest i forbindelse med gruppearbejde, midt i en 45-minutters lektion og på skoler med højt-præsterende elever. Resultaterne fra artikel I tydede på, at der kan være udtalte uligheder i mulighederne for deliberation på tværs af samfundsfagsklasser i de nordiske lande, og at elever i lavt-præsterende skoler formentlig oplever systematisk færre muligheder for deliberation end elever på højt-præsterende skoler. Da mange af de undersøgte klasser slet ikke oplevede muligheder for diskussion, tyder resultaterne fra artikel I desuden på, at mange elever helt er udelukket fra at deltage i deliberativ klasserumsdiskussion. En vigtig begrænsning ved resultaterne i artikel I var, at de undersøgte undervisningssegmenter blev indsamlet gennem non-probability sampling og derfor ikke var repræsentative for populationen af samfundsfagssegmenter i Norden.

Artikel II med titlen "*På jagt efter deliberation i samfundsfagsundervisningen. En undersøgelse af deliberativ kvalitet i plenum-, gruppe- og pardiskussioner*" undersøgte klasserumsdiskussion under tre betingelser: en plenum-betingelse, en gruppe-betingelse og en par-betingelse. Artiklen gjorde brug af videoobservationer fra en klasserumsintervention til at evaluere, hvordan hver enkelt betingelse påvirkede diskussionsprocessens deliberative kvalitet. Til dette formål kodede den 585 elevytringer for aspekter af deliberation ved hjælp af Stromer-Galley (2007) observationsmanualen. Artiklen fandt, at såvel gruppe som par betingelserne fremmede nøgleaspekter af deliberation sammenlignet med helklassebetingelsen. Gruppebetingelsen genererede det højeste niveau af anfægtelse og engagement, mens parforholdet genererede det højeste niveau af lighed. Artikel II's resultater antydede derfor, at klasserumsdiskussioners deliberative kvalitet nogle gange kan drage fordel af lærerens fravær. Artiklen argumenterede desuden for, at dette muligvis især er tilfældet, når eleverne mangler respekt for lærerens autoritet, eller når tidligere interaktioner mellem eleverne og læreren har været udfordrende.

Artikel III med titlen "*På jagt efter deliberation i samfundsfagsundervisningen. En undersøgelse af deliberativ kvalitet i diskussioner af faktuelle og kontroversielle emner*" undersøgte klasserumsdiskussioners deliberative kvalitet under tre betingelser: en betingelse, hvor diskussionen omhandlede et faktuel emne; en betingelse, hvor diskussionen omhandlede et kontroversielt emne; og en betingelse, hvor diskussionen omhandlede et stilladseret

kontroversielt emne. Artiklen benyttede videoobservationer fra en klasserumsintervention til at vurdere, hvordan hver enkelt betingelse påvirkede diskussionens deliberative kvalitet. Til dette formål identificerede artiklen 202 elevytringer og kodede dem ved hjælp af Stromer-Galley (2007) manualen til måling af deliberation. Selvom den stilladserede diskussion af det kontroversielle emne frembragte mere argumentation, anfægtelse og engagement end diskussionen af det faktuelle emne, åbnede diskussionen af det kontroversielle emne også op for mere ulighed, eksklusion og sniksnak. Resultaterne af artikel III pegede derfor på, at reflekteret klasserumsdiskussion kan sameksistere med problemer relateret til ulighed og eksklusion, og at forskellige diskussionsbetingelser kan fremme forskellige aspekter af deliberation.

Artikel II og III gjorde begge brug af et case-eksperiment, som er en specifik form for interventionsdesign, til at undersøge, om specifikke diskussionsbetingelser kan forbedre mulighederne for deliberativ klasserumsdiskussion. Selvom nogle betingelser viste sig i stand til at fremme visse aspekter af diskussionernes deliberative kvalitet var disse betingelser ude af stand til at fremme aspekter af deliberation relateret til lighed og inklusion. Det er desuden værd at bemærke, at artiklernes resultaterne ikke umiddelbart kan generaliseres til en bredere kontekst, da de byggede på observationer af en enkelt case. På baggrund af de empiriske fund drog ph.d.-projektet to overordnede konklusioner. For det første synes forsøg på at fremme deliberativ diskussion i nordiske klasserum at have svært ved at fremme aspekter af deliberation relateret til lighed og inklusion. Fra et deliberativt synspunkt er dette et alvorligt problem, som kræver mere forskning og innovativ praksis for at blive imødegået. For det andet kan ændringer af mikrobetingelserne for diskussion i klasserummet have en positiv effekt på sådanne diskussioners deliberative kvalitet. Samfundsfagslærere kan derfor bruge deres rolle som designere af klasserumsdiskussion til at forbedre den deliberative kvalitet af diskussioner i samfundsfagsundervisningen. På den måde kan de forberede deres egne elever til fremtidig deltagelse i det demokratiske liv og samtidig forbedre den aktuelle kvalitet af diskussioner i en delvist afsondret afkrog af offentligheden. Under de rette omstændigheder kan samfundsfagslærere og elever derfor sammen yde lidt modstand mod vor tids stærke antidemokratiske kræfter.

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1 Introduction

« À prendre le terme dans la rigueur de l'acception, il n'a jamais existé de véritable démocratie, et il n'en existera jamais. » Jean-Jacques Rousseau (1762/2010, p. 196) ¹

The above quote by Rousseau illustrates an important feature of the notion of democracy that is often too hastily dismissed – namely its ideal character. The notion of democracy, and especially the notion of deliberative democracy, contains an element of aspiration. They are, in a certain sense, goals that we can strive towards, yet never fully achieve in practice (Estlund, 1997). Regrettably, however, recent anti-democratic developments suggest that we are moving further away from, rather than approaching the democratic ideal. The second decade of the 21st century saw the renaissance of authoritarian movements, the spread of fake news on social media, dwindling support for democratic institutions, and an uptick in political polarization (Bächtiger, Dryzek, Mansbridge & Warren, 2018; Hendricks & Vestergaard, 2019, p. 104). These developments have led some scholars to fear for the advent of a postfactual democracy that threatens the vigor and future of democracy as we know it (e.g., Hendricks & Vestergaard, 2019, p. 104), and Habermas (2022, p. 11-12) has argued that the rise of unregulated social media in 21st century qualifies as a new structural transformation of the public sphere that threatens its ability to function as a space for democratically legitimate opinion and will formation. While post-truth politics, fake news, and the rise of unregulated social media might not always directly disrupt the formal institutions of democracy, they are detrimental to the deliberative and epistemic aspects of democratic societies (Bächtiger, Dryzek, Mansbridge & Warren, 2018).

It is against this backdrop of (deliberative) democratic crisis, and in keeping with the aspirational character of democracy, that the present PhD project sets out to investigate what can be done to strengthen the deliberative quality of students' discussions in social science education.

¹ "In the literal sense of the term, no true democracy has ever existed, and none will ever exist"

1.1 Research questions

To strengthen the deliberative quality of students' discussions in social science education, we need to know which micro and macro conditions are most conducive to its exercise. However, as Reich (2007) and Howe and Abedin (2013) have pointed out, much of that knowledge still needs to be unearthed.

“The real problem is that we do not know enough about empirical deliberation in school settings in order to decide which setups and which intervention strategies are likely to work better than others.” (Reich, 2007, p. 196)

The lack of knowledge about how specific conditions promote or obstruct the possibilities for deliberative classroom discussion prompted the following research questions.

Main research question:

To what extent and in which conditions can and should interactions in the Social Science classroom approach the ideals of deliberation put forward by Jürgen Habermas (1996) and Joshua Cohen (1989)?

Sub-questions:

1. To what extent and in which senses is it desirable to pursue deliberative discussion in the social science classroom?
2. To what extent and in which conditions do social science teachers provide students with opportunities for deliberative discussion?
3. In which conditions do opportunities for deliberative discussion come closest to realization?
4. Do the conditions in which opportunities are given match the conditions in which they come closest to realization?

As can be seen, these questions focused not only on the empirical conditions for deliberative discussion but also on the desirability of using deliberation as a standard against which to judge teaching in the first place. The latter focus was added because there is a lively discussion within

and beyond the field of social science education about the merits of the deliberative ideal itself (e.g., Christensen, 2005; Hess, 2009; Samuelsson, 2018; Sandahl, 2015; Tryggvason, 2019). The first sub-question is pursued here in the extended abstract. The second sub-question is pursued in article I. The third sub-question is pursued in articles II and III, which focus on a number of prespecified conditions that are often theoretically assumed to promote the deliberative quality of classroom discussions. Finally, answering the third sub-question requires a synthetization of findings made in articles I, II, and III, and this synthetization is pursued here in the extended abstract.

The different sub-research questions (and articles) followed from one another. Answering the first research question led to an engagement with the critics of deliberation, who have shown that discussion often turns counterproductive and coercive (e.g., McMillan & Harriger, 2002). These critics, therefore, effectively disproved the idea that discussion is a *sufficient condition* for the emergence of deliberation. While classroom discussion is not sufficient for deliberative discussion to emerge, it remains, however, a *necessary condition* for deliberative discussion. If students are not invited for discussion, and are, hence, not given any opportunities for deliberation, they will surely not end up being engaged in deliberative discussion. While researchers wishing to study the conditions for classroom deliberation, thus, still need to focus on discussion, they cannot leave it by that but have to add a focus on when and where discussion tends to turn deliberative. Answering the first sub-question, therefore, made it clear that the project had to focus on the conditions required for discussion (the second research question, which was pursued in article I) as well as the conditions required for discussion to turn deliberative (the third research question, which was pursued in articles II and III).

1.2 Delimitations

This subsection briefly narrows the scope of the project along four different dimensions.

1.2.1 Focus on deliberative quality rather than on other forms of quality

It is important to acknowledge from the outset that there are innumerable interesting and useful ways of conceptualizing the quality of classroom discussion as well as teaching quality, understood more broadly. While this project had good reasons for focusing on deliberative quality (see subsection “Why focus on deliberation?”), this by no means implies that the

deliberative perspective on quality discussion is generally preferable to other perspectives. Other perspectives include but are by no means limited to (1) the enormously influential paradigm of *Dialogic Teaching*, where quality discussion is seen as an open-ended collaborative construction of meaning that requires the teacher and the students to share control over central aspects of classroom talk (e.g., Reznitskaya & Glina, 2013); (2) the off-shot of dialogic teaching referred to as *Exploratory Talk*, where quality discussion is understood as involving explicit and visible reasoning and requires that participants should engage critically and constructively with each other's ideas (Mercer, Wegerif & Dawes, 1999); (3) Johnson and Johnson's *Structured Academic Controversy* (SAC) and their *Cooperative Learning* paradigm, which focus on the conditions and incentive structures required for discussion to promote student learning and other desirable educational outcomes (Avery, Levy & Simmons, 2013; Johnson, Johnson & Smith, 2014); (4) Giesecke's *conflict didactics*, which emphasizes the captive nature and creative power of conflicts and involves both conflict presentation, conflict analysis, position taking, and debate (Reinhardt, 2015, p. 90); and (5) the *genetic method* (Reinhardt, 2015, p. 161), which is based on a "learning through experience" approach to social science education and, though based on a long tradition, has recently been formulated anew by Petrik (Petrik, 2010a; Reinhardt, 2015, p. 156). Importantly, however, while both SAC, conflict didactics, and the genetic method include some form of discussion in their teaching designs, neither focus exclusively on the quality of classroom discussions.

1.2.2 Focus on deliberation in social science education rather than in other subject areas

Contrary to other scholars, who tend to advocate deliberation and discussion as generic pedagogical methods applicable to a wide array of subject disciplines (e.g., Aashamar, Mathé & Brevik, 2018; Englund, 2006; Howe & Abedin, 2013), this project seeks to explore deliberative discussion in the specific context of social science education. Investigating classroom deliberation in the context of social science education adds a particular meaning to the notion of deliberation that is not necessarily added when investigating the notions of deliberation or discussion in the context of other subject disciplines, or more generically. A central aim of social science education is to promote students' political and democratic education (Christensen, T. S. 2015). In the context of social science education, it, therefore, makes good sense to understand deliberation as it was originally understood in theories of deliberative democracy; namely as a

way of ensuring the present and future justifiableness and democratic legitimacy of students' political opinions and actions. While social science education, hence, provided a unique context for the study of classroom deliberation and colored the meaning of the term, it remained, however, in important respects somewhat in the background, since classroom deliberation was the phenomenon being scrutinized. This is for example evident in the theoretical review section, which focuses on the field of Education for Deliberative Democracy, rather than on the field of social science education.

1.2.3 Focus on deliberation in a Nordic, Danish, and lower-secondary school context

The project investigated classroom discussion in a Nordic and particularly Danish context. While article I is based on classroom observation data from all the Nordic countries, articles II and III are based on observational data from two Danish classrooms. All observations and interventions were carried out in 8th and 9th grade (lower-secondary school social science). The Nordic, Danish, and lower-secondary school contexts should be kept in mind when interpreting the results of the study, since the way in which specific conditions of discussion promote or obstruct deliberative quality might depend on factors related to the formal curriculum or to the local teaching culture of a particular country, region, or classroom. The findings reported as part of this project, hence, cannot be straightforwardly transferred to other contexts with differing teaching cultures.

1.2.4 Focus on oral rather than written deliberation

While deliberative discussion can consist of oral as well as written communication (see e.g., Habermas, 1962/1990, p. 84-85, 96-97) and in some instances even include non-verbal forms of communication (Habermas, 1984, p. 278), this project focused exclusively on oral forms of deliberative discussion. Oral discussion (including non-verbal gestures) was prioritized because the project was part of a larger project that focused on classroom observation research.

1.3 Why focus on deliberation?

1.3.1 Why use the ideal procedure as theoretical lens?

This project used the ideal procedure of deliberation, as developed within the framework of procedural deliberative democracy, as its theoretical point of departure (Cohen, 1997; Habermas,

1996, p. 305-306). Quality discussion was conceptualized as the ideal procedure of deliberation because this conceptualization of quality was able to capture all aspects of the phenomenon being studied, namely “processes of quality discussion in social science education”. First, the ideal procedure is well-suited for capturing *processes of discussion* because the criteria of the ideal procedure pertain only to such processes (Habermas, 1996, p. 305-306). Conversely, some other conceptions of quality discussion (e.g., Johnson and Johnson’s SAC or Giesecke’s conflict didactics) include criteria that do not just pertain to the discussion process but to other elements surrounding the practice of discussion. Second, the ideal procedure is appropriate for studying *quality*, because it constitutes a normative regulative ideal against which real practices of discussion can be assessed (Bächtiger, Dryzek, Mansbridge & Warren, 2018). The criteria put forward by the ideal procedure were not meant to neutrally describe a phenomenon or a classroom practice but were from their inception meant to be normative tools suited for critique (Rostbøll, 2009). Third, the ideal procedure, which was developed within the framework of deliberative democracy, is particularly well-suited for capturing processes of discussion in *social science education*. One of the single most important purposes of social science education is to educate students for their role as democratic citizens (Christensen, T. S., 2015, p. 39). Conceptions of quality discussion that are rooted in democratic theory (such as the ideal procedure of deliberation) can, hence, help social science education fulfill its purpose. Conversely, conceptions of quality discussion that are detached from democratic theory risk promoting student skills and virtues that are, at best, not needed in a democracy. Finally, and somewhat unrelatedly, the ideal procedure is recognized as the most systematic and canonical theoretical expression of deliberation (Goodin, 2018). Using the ideal procedure as theoretical point of departure for empirical investigations of classroom deliberation, therefore, prevents the empirical investigation from becoming too detached from deliberative theory.

1.3.2 Blind angles of the ideal procedure of deliberation

Though the ideal procedure was well-suited for the purposes of the present study, it is important to mention that empirical analyses assessing classroom discussion on the basis of the ideal procedure cannot shed light on aspects of quality discussion that are not articulated by the procedure. Aspects of quality discussion related to for example creativity, the education of emotions, and motivation for political participation are all left unarticulated by the procedure,

and, hence, constitutes its theoretical blind spots. For alternative approaches that do articulate these aspects of quality, one might consult for example Garrett (2020), Ruitenberg (2009), and Wegerif (2005).

1.4 Outline of the extended abstract

The extended abstract is structured as follows. First, the *theory section* offers a theoretical review of the field of Education for Deliberative Democracy and locates the project's theoretical point of departure within the field. It then clarifies six key concepts used in the project: discussion (and deliberative discussion), deliberation, deliberative democracy, social science education, and quality teaching. Second, the *normative framework section* discusses to what extent and in which senses deliberation is desirable in social science education and then sums up the discussion. In so doing, the normative framework section answers the first research question. Third, the *empirical framework section* presents the empirical framework underlying the analyses offered in the three articles. One central element of the empirical framework is a model that depicts the social science classroom as a deliberative venue and shows the roles of the teacher, the students, and the classroom context in shaping the possibilities for deliberative classroom discussion. Fourth, the *results section* sums up the results of the analyses carried out in the three articles and compares them to each other. Fifth, the *discussion section* discusses the project's contributions to the research field, its limitations, and its implications for teaching practice as well as democracy. Finally, the *conclusion* sums up the main insights and answers the project's research questions.

2 Theory: Education for Deliberative Democracy

2.1 Theoretical review: a look into the field of Education for Deliberative Democracy

This theoretical review aims to locate the project's theoretical point of departure within the broader field of Education for Deliberative Democracy. It rests on a meticulous review by Samuelsson and Bøyum (2015), who were the first to map the contours of the field. The primary differences between the review offered here and the one made by Samuelsson and Bøyum (2015) is that the present review adds a couple of more recent publications and further subdivides the

category of studies that Samuelsson and Bøyum referred to as “studies focusing on deliberation as a political ideal”. This further subdivision is based on the different types of deliberative democracy invoked by studies focusing on deliberation as a political ideal. The review provides illustrative examples of how each type of deliberative democracy is studied within the field but by no means includes an exhaustive list of studies touching upon deliberation within the field of education.

Samuelsson and Bøyum (2015) identified two points of overall agreement within the field as well as three points of disagreement. The two points of agreement are the following. First, studies within the field of Education for Deliberative Democracy generally share the view that deliberative skills, knowledge, and values are learned through *practice*. Students are generally assumed to learn deliberative skills, knowledge, and values by participating in deliberative discussions themselves (learning by doing), and there is, hence, an assumption of parallelism between the learning goal and the learning method (Samuelsson & Bøyum, 2015; see also Parker, 2010). Second, studies within the field generally agree that a deliberation constitutes a dialogue where different voices and perspectives can be heard and expressed, and where participants act respectfully towards each other and listen to what others have to say. The studies, moreover, share the view that deliberations are encounters that offer equal opportunities for participation and require participants to formulate reasons and arguments that they believe others can understand and accept (Samuelsson & Bøyum, 2015). Apart from the two overall points of agreement sketched out above, however, the field is mostly characterized by internal disagreements, and empirical studies of deliberation tend to measure deliberation in differing ways and thereby obstruct the cumulativeness of the field as a whole (Samuelsson & Bøyum, 2015). The first and main line of difference divides the field into a group of theoretically driven studies and a group of practically or empirically driven studies. The theoretically driven studies are further subdivided into a group of studies that focus on deliberation as a *political construct* and a group of studies that investigate deliberation as a *way of life*. The practically or empirically driven studies are for their part further subdivided into a group of studies that employ qualitative methods to study practices of deliberation and a group of studies that make use of quantitative methodology (Samuelsson & Bøyum, 2015).

2.1.1 Practice-based and pedagogical approaches to Education for Deliberative Democracy

Within the field of education, “deliberation” is often understood as a pedagogical concept and referred to as “deliberative pedagogy”, “deliberative teaching”, or “deliberative communication” (e.g., Andersson, 2012, p. 37; Englund, 2006). The pedagogical concept of deliberation has acquired an independent meaning, which is not necessarily attached to the notion of deliberative democracy (Englund, 2006; Samuelsson & Bøyum, 2015). Studies based on the pedagogical concept of deliberation understand deliberation as a classroom practice and investigate its potentials and limitations as well as the extent to which it is able to foster the skills and values it aspires to foster. The practice-based and pedagogical studies are divided into a qualitative and a quantitative camp (Samuelsson & Bøyum, 2015). Apart from these two research camps, it is worth mentioning, moreover, that practices of deliberation have long been a central ingredient in differing teaching traditions, for example the Danish Folk High School tradition (Koch, 1945/2005) and a US educational reorientation emanating from the post-war period (Fallace, 2016).

2.1.1.1 Qualitative practice-based studies

Many of the qualitative practice-based approaches to classroom deliberation use Tomas Englund (2006; 2022)’s notion of *deliberative communication* as their theoretical point of departure or as a steppingstone for further theorizing (e.g., Andersson, 2012, p. 37; Samuelsson, 2016), and the notion of deliberative communication in turn draws primarily on the pragmatist philosophies of Dewey and Habermas (Englund, 2006; Englund, 2022). Put succinctly, deliberative communication is a form of communication in which (1) different views are confronted with each other and backed up by arguments, (2) interactions are characterized by tolerance, respect, and a will to listen to others, (3) aspects of collective will-formation exist so that participants either aim for consensus or for a clarification of existing differences, (4) students get the opportunity to question authorities and traditional views, including views from within their own traditions, and (5) there is room for students to communicate without teacher control (Englund, 2006). Englund has, moreover emphasized that the pursuit of deliberative communication requires the existence of a *discursive situation* in the classroom. A discursive situation involves the presence of a situated common frame of reference as well as the basic conditions for understanding and respect, and it is up to the teacher to judge whether a discursive situation

prevails or can be created in due time (Englund, 2006). Examples of studies from within the qualitative practice-based camp include (but are far from limited to) Andersson (2012), Larsson (2007), Liljestrand (2002), and Samuelsson (2016).

2.1.1.2 Quantitative practice-based studies

The quantitative practice-based studies are primarily interested in measuring the effect of participation in classroom deliberations on educational outcomes, such as political skills, knowledge, democratic values, and political engagement (Samuelsson & Bøyum, 2015). Examples include Forsberg (2011), Almgren (2006), and Ekman (2007). Some of the educational scholars within the quantitative practice-based camp have, moreover, applied Fishkin's *Deliberative Polling*® paradigm to the field of education. Luskin, Fishkin, and Jowell (2002) understand *Deliberative Polling*® as an attempt to institutionalize deliberative democracy in practice. A conventional *Deliberative Poll*® is carried out as follows. First, a representative sample of the adult population is invited to take part and asked to fill in a questionnaire on a specific policy issue. Second, balanced briefing materials are provided to the people who agree to participate to make them reflect upon the policy issue in question. Third, the participants travel to the same location and spend around two days discussing the policy issue in moderated and randomly assigned small groups. These group discussions are typically interjected with question-answer sessions involving policy experts and politicians. Fourth, at the end of the discussion event, the participants are once again asked to fill in the questionnaire, they filled in at the outset. As a final step, researchers investigate the differences between the pre-post questionnaire responses to see if the *Deliberative Poll*® had any effect on participants' self-reported knowledge, values, and opinions; and the results of these investigations are publicized in an attempt to illustrate to politicians and the wider public what "considered public opinion" on the issue in question would look like (Luskin, Fishkin & Jowell, 2002). While Fishkin was categorized here as a practitioner of deliberation, it should be mentioned that he is also a democratic theorist belonging to the liberal deliberative paradigm (see next section). Studies applying the *Deliberative Polling*® paradigm to the educational setting include, for example, Luskin, Fishkin, Malhotra, and Siu (2007) as well as Latimer and Hempson (2012) who found that students exposed to *Deliberative Polling* were more likely to increase their knowledge, change opinions on the issue discussed, and increase their levels of anticipated political

participation than a control who were not exposed to the intervention. Still, it should be noted that not all studies find lasting measurable effects of deliberative teaching pedagogies (see e.g., Persson, Andersson, Zetterberg, Ekman & Lundin, 2020).

2.1.1.3 Mixed practice-based studies: controversial issues discussion

Though not mentioned by Samuelsson and Bøyum (2015), the highly influential controversial issues approach to teaching (e.g., Hess, 2009; Hess & McAvoy, 2015) is an example of a practice-based approach to Education for Deliberative Democracy that mixes qualitative and quantitative methods. The controversial issue approach is at least partially related to deliberative theory and practice (Hess, 2009, p. 11-37), though it has a long history of its own (Hess, 2009, p. 27). Hess (2009, p. 37) has defined controversial political issues as open, authentic questions of public policy that spark significant disagreement. The feature of openness implies that there are multiple and often very different legitimate answers to such questions, and Hess (2009, p. 41) argues that controversial issues are generally best suited to promote high quality democratic classroom discussions. More recently, Hess (2022) has endorsed as specific definition of high-quality discussion that understands quality discussions as content-specific, educative group conversations (with or without the teacher) that offer participants (1) different points of view, (2) a chance to reflect upon their own opinions and varying perspectives, and (3) an opportunity to develop their understanding and co-construct knowledge of the subject at hand (Hess, 2022 citing Lo, 2022).

2.1.2 Theoretical approaches to Education for Deliberative Democracy

The theoretically driven studies understand deliberation as a political concept and base their investigations on notions of deliberative democracy. Deliberative democracy is, in other words, the starting point from which these studies extrapolate the skills and values that future citizens should acquire (Samuelsson & Bøyum, 2015). The theoretical studies are split in a camp that treats deliberative democracy as a way-of-life and a camp that treats deliberative democracy as a political ideal. It is to the latter camp that this project aims to contribute, and this camp is, hence, described more thoroughly than the way-of-life camp.

2.1.2.1 *Deliberation as a way of life*

Studies viewing deliberation as a way-of-life tend to perceive deliberation and its associated skills and virtues as components of a substantive *moral* ideal that offers prescriptive guidelines for how people should behave towards each other in general. Way-of-life approaches to deliberation are often inspired by Dewey, and contrary to political conceptions of deliberation, they see deliberation as a way of communicating that should preferably permeate the way we live together in all corners of society (Samuelsson & Bøyum, 2015). A key difference between Dewey's moral understanding of deliberation and political understandings of deliberation based on Habermas and Rawls is that Dewey embraces a kind of naturalism and conventionalism that is in sharp contrast to the universal procedures espoused by Habermas and Rawls (Johnston, 2012, p. 119). Examples of studies treating deliberation as a way-of-life include but are not limited to Yeager and Silva (2002) and Laguardia and Pearl (2009) (Samuelsson & Bøyum, 2015).

2.1.2.2 *Deliberation as a political ideal*

Studies investigating deliberation as a political ideal primarily conceive of deliberation as an ideal way of forging legitimate beliefs, opinions and collective decisions, and these studies often base their definitions of deliberation on the works of democratic theorists engaged in the conceptualization of deliberative democracy (Samuelsson & Bøyum, 2015). In the broadest sense of the term, deliberative democracy is a theory of democracy that regards opinions and political decisions as legitimate if they are preceded by processes of public deliberation (Hansen & Rostbøll, 2012). Legitimacy requires public deliberation, because the deliberative process is assumed to make the deliberators' opinions and decisions more considered and publicly defensible. As opposed to aggregative accounts of democracy, which understand democracy as a way of aggregating fixed individual preferences, deliberative accounts of democracy assume people's opinions and preferences to be shaped and reshaped during deliberation rather than fixed in advance. Opinions and beliefs are in other words assumed to be endogenous to the deliberative process (Hansen, 2004, p. 183). The proponents of deliberative democracy are often challenged by democratic or educational theorists who build on Chantal Mouffe's agonistic democracy and self-identify as agonists or feminists (Samuelsson & Bøyum, 2015). Since these agonist and feminist lines of thought are openly critical of deliberation, they are not treated as

deliberative theories here but are treated as critics of deliberation instead (see the normative framework section). One exception, however, is Iris Marion Young, who criticizes some accounts of deliberation but remains committed to deliberative ideals. The different deliberative accounts of democracy are outlined briefly below.

2.1.2.2.1 Liberal accounts of deliberative democracy

The primary exponents of the liberal account of deliberative democracy are Amy Gutmann and Dennis Thompson (1996; 2004), who use Rawlsian axioms to formulate a theory of deliberative democracy. Gutmann and Thompson (2004)'s account of deliberative democracy is not only influential within political theory but has inspired much work in the field of education, including but not limited to Parker (2010), Parker (2011), Hanson and Howe (2011), and some elements of the controversial issues approach (e.g., Hess, 2009; Hess & McAvoy, 2015). Gutmann and Thompson (2004) define deliberative democracy in terms of four criteria. First, citizens and their representatives are required to give each other reasons for their opinions and policy proposals. These reasons should appeal to principles that people, who are searching for fair terms of cooperation cannot reasonably reject, and reasons first and foremost serve as justifications for the use of power over others (Gutmann & Thompson, 2004, p. 3, 4). In the liberal account of deliberative democracy, reason-giving, then, essentially serves as a check on power, and as way of holding power accountable; cf., the notion of "deliberative accountability" (Hansen & Rostbøll, 2012). The check on power is necessary to ensure that it does not unduly encroach upon the liberty and autonomy of individual citizens; and giving reasons is, therefore, a sign of *respect* for the autonomy of others. Second, the reasons that citizens and representative give each other should be mutually acceptable, comprehensible, and accessible to the people they are given to (Gutmann & Thompson, 2004, p. 4, 7). The requirement for reasons to be mutually acceptable to the parties involved essentially means that liberal deliberative democrats favor *impartial* reasons over other reasons. In a democracy, representatives and citizens do not only have power over themselves but also over others, because the policies endorsed by representatives and the opinions held by citizens at election time affect particular others, who are members of the same political community (Elster, 1997; Gutmann & Thompson, 2004, p. 4). Representatives and citizens should, hence, not only justify their opinions in the abstract but justify them *to the specific people* who might be affected by those opinions. This process of justification should

center on accessible and impartial reasons, which can show that the opinions being justified are also in the interest of the people affected by them. Importantly, however, in cases, where there are no overlapping interests (or no common values) and where impartial reasons, hence, cannot be found, citizens should *tolerate* the different interests and values of the other and opt for bargaining and compromise in order to settle their disputes (Gutmann & Thompson, 1996, p. 73-74,77). In these cases, which are widespread in pluralist societies, the role of deliberation is not to arrive at a common understanding but rather to clarify individual interests and values (Gutmann & Thompson, 1996, p. 18-19). In that sense, there is a limit to the transformation and degree of intersubjective understanding strived for in the liberal account of deliberative democracy. The third and fourth requirement for deliberative democracy advanced by Gutmann and Thompson (2004, p. 5-6) are the following. Third, deliberative democracy is a process that aims at producing collective decisions that are binding for some limited period of time; and fourth, deliberative democracy is dynamic in the sense that debate on collective decisions should continue also after the decisions have been made. Though binding, decisions are, therefore, temporary and always subject to potential revision in the future (Gutmann & Thompson, 2004, p. 5-6). Proponents of the liberal account of deliberative democracy within the field of education, argue that classroom deliberation should include careful listening and reason-giving and should primarily promote values such as tolerance and respect for the autonomy of the concrete other (Hanson and Howe, 2011; Hess, 2009, p. 31; Parker, 2010). Parker (2011) acknowledges the liberal basis of his deliberative approach. He writes:

“We facilitate learning in order to achieve valued curriculum goals (in today’s jargon, standards). In schools, the facilitation of liberal- democratic civic consciousness is integral to—and aimed at— the goal of increasing it.” (Parker, 2011, p. 4).

2.1.2.2.2 Procedural accounts of deliberative democracy

Jürgen Habermas (1996, p. 304-306) and Joshua Cohen (1989) are the primary proponents of the procedural account of deliberative democracy (Bächtiger, Dryzek, Mansbridge & Warren, 2018). They are both proceduralists because they share the view that the legitimacy of a collective decision depends solely on the extent to which the decision results from discussions

approximating the ideal procedure of deliberation (see also Benhabib, 1996, p. 69). Though Cohen and Habermas concurred on the notion of the ideal procedure of deliberation (elaborated in the conceptual clarification section) and came to define and inspire much later work on deliberative democracy, they had somewhat different theoretical backgrounds. Cohen was not only inspired by Habermas' philosophical works but also strongly influenced by John Rawls, whereas Habermas' theoretical point of departure was and remains the critical theory of the Frankfurt school (Bächtiger, Dryzek, Mansbridge & Warren, 2018; Dryzek, 2000, p. 24). While sharing the same vision of deliberation, Habermas and Cohen, moreover, had somewhat different visions of the role of deliberation in deliberative democracy. Contrary to Cohen, Habermas explicitly rejected the idea that society can be deliberatively controlled as a whole on the ground that "*democratic procedure must be embedded in contexts it cannot itself regulate*" (Habermas, 1996, p. 305). The rejection rested on his sociological attempt to comprehend deliberation within the framework of late modern societies characterized by pluralism and systemic complexity (Parietti, 2019). Works within the field of education inspired by procedural or Habermasian deliberative democracy include but are not restricted to Carleheden (2006), Lefrançois and Ethier (2010), and Roth (2003). The theoretical point of departure of this project was Habermas' procedural account of deliberation and deliberative democracy, and both will, therefore, be elaborated further in the conceptual clarification section.

2.1.2.2.3 Radical accounts of deliberative democracy

Radical accounts of deliberative democracy are advanced by scholars such as Iris Marion Young (1996) and John Dryzek (2000). Young criticizes the liberal and procedural accounts of deliberation for not being sufficiently inclusive and attentive to social differences and to the ways that power sometimes enters speech itself (Young, 1996). While endorsing the Habermasian notion of communicative action, Young emphasizes the need to allow a broader range of types of speech to enter deliberation. Reason-giving is not sufficient on its own because it privileges already privileged social groups and individuals, who are well-versed in the skills of public reasoning. Consequently, Young proposed to expand the notion of deliberation to include the communicative categories of rhetoric, greeting, and storytelling (Young, 1996), and many deliberative scholars have since accepted these proposed revisions to the deliberative ideal (Bächtiger, Dryzek, Mansbridge & Warren, 2018). Dryzek, for his part, argues for an expansion

of the venues of deliberation to include parts of the public sphere and civil society that are outside the confines of the liberal democratic state, because this state is itself unable to function as an adequate site for critical, authentic, and contestatory deliberation. The inadequacy of the liberal democratic state and its institutions as venues for authentic deliberation stems from the fact that the liberal state is itself subject to economic imperatives imposed by the transnational capitalist political economy. These imperatives essentially constrain the scope of what can be deliberated (Dryzek, 2000, p. 29). Dryzek envisions a completely unconstrained form of deliberation, where all kinds of inputs are allowed and all sorts of differences (including ingrained differences related to value and identity) can be subjected to contestation and critique (Dryzek, 2000, p. 74-80, 169). An example of educational research building on aspects of Dryzek (2000)'s deliberative democracy is Nishiyama (2019), and an example of educational research building on Young (1996)'s version of deliberative democracy is Weasel (2017).

2.1.2.2.4 Epistemic accounts of deliberative democracy

An entirely different critique levied against procedural deliberative democracy comes from epistemic deliberative democrats, who argue that the merits of deliberation stem from deliberation's ability to produce the best outcomes for a political community (Elster, 1997; Landmore, 2017; Loftager, 2004, p. 41-42). Deliberation is, hence, not primarily desirable because it is in itself a fair and just procedure of collective decision making but because it tends to ensure that collective decisions approach a *procedure-independent standard of correctness* (Estlund, 1997; Goodin, 2008). This procedure-independent standard of correctness might be a specific notion of justice, the common good, or (with respect to factual questions), quite plainly, the truth (Landmore, 2017). Yet, it is important to emphasize that epistemic deliberative democrats do not consider which thick substantive outcomes are best for a particular political community (i.e., they do not subscribe to communitarianism) but only argue that *if* a specific common good exists, *then* critical, contestatory deliberation is an effective means of unveiling it (Estlund, 1997). Deliberation's unique ability to unveil the better outcome is due to its validation and information sharing properties (Goodin, 2008, p. 95-100, 103-106; Hansen & Rostbøll, 2012, p. 506). When deliberating, participants can clarify the direction and strength of arguments or other pieces of information by asking others to explain and elaborate the arguments and information they bring to the table. Deliberation is, thus, a more efficient way of becoming

informed than for instance reading a newspaper or a schoolbook (Goodin, 2008, p. 95-100, 103-106), since these non-interactive ways of information acquisition do not allow people to ask for clarifications of the information and arguments they meet. Deliberation gives participants a chance to cross-check the conveyed information and thereby avoid misinterpretations, misunderstandings (Goodin, 2008, p. 95-100, 103-106). Through disputative processes of cross-examining and questioning advanced beliefs and opinions, deliberation can, moreover, unveil which of these are supported by credible arguments and which are not. Beliefs resulting from biased internal processes of motivated reasoning will, hence, be exposed as unreasonable when coming under public scrutiny (Bächtiger, 2011; Goodin, 2008, p. 95-100, 103-106). From an educational point of view, the epistemic qualities of deliberation are interesting because they imply that group deliberation is an effective means of problem solving (Landemore & Page, 2015). An example of educational research that draws explicitly on the epistemic account of deliberative democracy is Guérin (2017).

2.1.3 Location within the field

This project's theoretical point of departure was Habermas' procedural account of deliberative democracy, and the project might, hence, be said to belong to the group of studies within the field of Education for Deliberative Democracy that conceive of deliberation as a political ideal. Though standing on firm theoretical ground, the primary aim of the project was not to develop theory but rather to make empirical and methodological contributions to the field.

2.2 Clarifying eight key concepts

This section defines and delimits the eight most central concepts used in the project.

2.2.1 Clarifying the concepts of "Discussion" and "Deliberative discussion"

The concept of "discussion" was defined in accordance with the definition offered by the Cambridge Dictionary as "*the act of talking about something with other people and telling them your ideas and opinions*" (Cambridge Dictionary's American Dictionary, 2023). Discussion was, hence, understood as a kind of dialogue that includes the exchange of views between at least two people. This definition sets it apart from a monologic encounter characterized by one-way communication (such as ex-cathedra teaching). Discussion was, moreover, understood as an act

(or practice) capable of approximating the ideals of deliberation to a greater or lesser extent; and a “deliberative discussion” was understood as discussion that comes closer to the ideals of deliberation than an average discussion. The presence of discussion was seen as an opportunity for deliberation and as a *necessary condition* for deliberative ideals to be approximated, since communication, which is not characterized by discussion but rather by one-way communication, is by definition unable to approximate deliberative ideals.

2.2.2 Clarifying the concepts of “Deliberation” and “Deliberative quality”

The concept of “deliberative quality” (and “deliberativeness”) was defined as the extent to which discussions approximate deliberative ideals. The concept of “deliberation” (and the concept of “deliberative ideals”) was defined as the ideal procedure of deliberation put forward by Jürgen Habermas (1996, p. 305-306) and Joshua Cohen (1989). Deliberation was, hence, understood as a counter-factual and regulative normative ideal, rather than as a practice or a skill. When understood as a regulative ideal, deliberation is something participants and observers of discussion can strive to achieve but never fully realize (see e.g., Bächtiger, Dryzek, Mansbridge & Warren, 2018; Habermas, 2018). Since deliberation was defined as a counter-factual ideal against which to judge the reality of classroom practices, it was not itself “adapted” to the reality of these classroom practices. On the contrary, however, the discussion interventions outlined in the articles *were* adapted to the reality of the specific classrooms and to the perceived level of the participating students. As a counter-factual regulative ideal, the ideal procedure was designed as a *standard against which to evaluate the reflective practices of a collectivity*. This sets it apart from phenomena often thought to be similar to deliberation, such as attentive listening and individual discussion skills (Hess, 2009, p. 166-167; Parker, 2010; Parker, 2011). When defined as the ideal procedure, deliberation is different from attentive listening because it does not evaluate psychic phenomena but intersubjective phenomena (talk among people). It is also different from individual discussion skills because it does not just evaluate individual aspects of discussion (e.g., argumentation) but also evaluates collective aspects such as equality and inclusion, which are not defined at the level of the individual participant. As a normative ideal, the ideal procedure embodies a thin procedural kind of normativity, since it does not require discussion to lead to a particular outcome or moral value but stipulates that the discussion process should adhere to standards of universalism (Benhabib, 1996; Habermas, 1996, p. 306).

In the project's three articles, Habermas's (1996, p. 305-306) rendition of the ideal procedure was condensed into six criteria for deliberation. These condensed criteria were the following. Deliberations has to be (1) argumentative in form, (2) unconstrained by received norms and values, (3) characterized by inclusion and equality, (4) aimed at reaching understanding (rationally motivated consensus), (5) focused on a publicly relevant topic, and (6) free from any kind of coercion.

The *first* of these condensed criteria corresponds to the criterion that Habermas labels criterion (A) in *Between Facts and Norms*. This criterion stipulates that deliberations should take place in argumentative form, through the regulated exchange of information and reasons among parties who introduce and critically test proposals (Habermas, 1996, p. 305). Criterion (A), therefore, stipulates that participants should engage in critical argumentation. It is important to emphasize, in this regard, that argumentation does not aim to persuade through sophisticated rhetoric or complex formal logic. Rather an argument counts only as an argument if it aims to persuade others by virtue of its intrinsic validity (Manin, 2005). For an argument to be a good argument it must appeal to what counts as valid within the intersubjective frame of reference shared by the participants. Importantly, moreover, this intersubjective frame of reference must be universal rather than local, since deliberations should in principle include everyone (see below).

The *second* of the condensed criteria, which stipulates that deliberation must be unconstrained by prior norms and values, corresponds to the criteria Habermas labels (C) and (G); and one might also add (A) here because of (A)'s emphasis on *critical* argumentation. Criterion (C) requires that deliberations are free of any external coercion, and, hence, bound only by the presuppositions of communication and rules of argumentation. Criterion (G) requires that deliberations include the interpretation of needs and wants and the change of pre-political attitudes and preferences. Importantly, the consensus-generating force of arguments is not assumed to be based only on a value consensus previously developed in shared traditions and forms of life (Habermas, 1996, p. 305-306).

The *third* of the condensed criteria, which stipulates that deliberation should be characterized by inclusion and equality, corresponds to the criteria Habermas labels (B) and (D). Criterion (B) requires that deliberations are inclusive and public; that no one may be excluded in principle; and that all, who are possibly affected, have equal opportunities of access. Criterion

(D) requires that deliberations are free of any internal coercion that could detract from the equality of the participants, and that each participant has an equal opportunity to be heard, to introduce topics, to make contributions, and to suggest and criticize proposals (Habermas, 1996, p. 305-306). It serves mentioning here, moreover, that one of the aspects of criterion (D), which could not be measured adequately, was the requirement that acceptance of standpoints should be motivated only by the forceless force of the better argument.

The *fourth* of the condensed criteria, which required deliberation to be aimed at reaching understanding (rationally motivated consensus), corresponds to the criterion that Habermas labels (E). Criterion (E) stipulates that deliberations must aim at rationally motivated consensus and can in principle be indefinitely continued or resumed at any time. However, Habermas further specifies criterion (E) requirement by pointing out that *political* deliberations must be concluded by majority decision in view of pressures to decide (Habermas, 1996, p. 306). So, criterion (E) only stipulates that participants in deliberation should *aim* at consensus in the sense of reaching mutual understanding. It is not meant as a decision rule (imposed by an external institution) that requires deliberations to conclude with unanimously forged collective decisions.

The *fifth* of the condensed criteria, which required deliberation to be about a publicly relevant topic, corresponds to the criterion Habermas labels (F). Criterion (F) stipulates that political deliberations may extend to any matter that can be regulated in the equal interest of all, and, thus, also comprise matters that concern the unequal distribution of resources on which the actual exercise of rights of communication depends (Habermas, 1996, p. 306). In *Between Facts and Norms*, Habermas went on to discuss the meaning of criterion (F) whilst drawing on Nancy Fraser's thoughts on where to draw the line between public and private matters (Habermas, 1996, p. 312). Based on Fraser, Habermas argues that participants must be allowed to discuss any matter as long as they *construe* it as a public concern. What is important is that participants themselves must be able to define what is publicly relevant. The only topic restriction endorsed by the ideal procedure is, hence, that participants must frame their talk as a common concern. Others cannot in advance delineate what is public and what is not (Fraser, 1992, cited in Habermas, 1996, p. 312).

Lastly, the *sixth* of the condensed criteria, which required deliberation to be free from any kind of coercion, captures the coercion-related aspects of Habermas' criteria (C) and (D)

(Habermas, 1996, p. 305-306). These aspects of criteria (C) and (D) were important to capture separately because the absence of coercion is in itself a fundamental criterion of deliberation as Habermas conceived of it (Bächtiger, Dryzek, Mansbridge & Warren, 2018). The indicators used to measure coercion (interruptions and harmful social talk) might be said to have primarily captured aspects of coercion related to an overt lack of respect for specific other participants.

2.2.3 Clarifying the concept of “Deliberative Democracy”

Using the ideal procedure of deliberation as a normative standard for evaluating discussions in social science education requires careful consideration of the theoretical context in which it was originally developed since this context colored the meaning of the procedure itself. As Habermas originally conceived of it, the ideal procedure played an instrumental role in the legitimization of collective will- and opinion formation in Habermas’ rendition of deliberative democracy, which he termed Deliberative Politics (Habermas, 1996, p. 287, 305). The notion of deliberative politics constitutes part of Habermas’s Discourse Theory of Law and Democracy, which was presented in *Between Facts and Norms* and is ultimately a critical theory of actually existing democracies (Habermas, 1996). The theory had different aims, which included but were far from limited to (1) reconstructing the existing normative foundations of law and democracy (extracting and articulating the normative foundations in order to make them explicit and, hence, available as tools for critique), (2) contrasting these aspects with the factual (positive) aspects of law and democracy; (3) exploring the linkages and tensions between them, and (4) investigating the special circumstances in which, and mechanisms through which, the normative aspects (deliberatively generated communicative power emanating from the public sphere) can have an influence on the political system (Habermas, 1996, p. 6-7, 23-27, 358). In Habermas’ discourse theory, democracy is itself seen as a dynamic, unfinished, fallible and revisable structure that must be continuously actualized and interpreted *anew* in practices of deliberation among citizens (Habermas, 1996, p. 384; Habermas, 1997, p. 58, emphasis in original; Lefrançois & Ethier, 2010). The institutions of democracy (including the democratic constitution), which formally guarantee the public freedom and equality of all citizens and provide the formal basis for public deliberation, themselves stand on the moving ground of public discourses. In these discourses, citizens simultaneously (1) use, defend, and maintain the institutions of democracy (Habermas, 1997), (2) continuously (re)interpret, (re)actualize and adapt the institutions of democracy to

ever-changing social circumstances, and (3) attempt to institutionalize the ideals of democracy more appropriately, draw out their contents more radically, and, hence, contribute to the continuous perfection of existing democratic institutions (Habermas, 1996, p. 384). Importantly, the task of continuously maintaining, re-actualizing, and perfecting democracy presents itself anew *for each generation* (Habermas, 1996, p. 384, emphasis added). In Habermas' discourse theory of democracy, rights and popular sovereignty are co-constitutive and joined together in the medium of public discourses (Habermas, 2022, p. 92-93). Public discourses must be protected by rights of freedom and equality to meaningfully and rationally express the popular will of the entire political community (e.g., Habermas, 1996, p. 307); and to survive, rights in turn require continuous rearticulation and confirmation in public discourses expressing the popular will.

Habermas distinguished his discourse theory and his model of deliberative politics from republican as well as liberal theories of democracy. Liberal theories of democracy view processes of democratic opinion and will-formation as guaranteeing fair compromises between competing interests. While these processes ensure a balance of power and aggregate more or less conscious individual decisions, they lead to unconscious outcomes at the collective level of politics, and democracy therefore needs a strong administrative state capable of making rational political decisions on behalf of the people (Habermas, 2005, p. 50, 52). Republican theories of democracy, by contrast, view processes of democratic opinion and will-formation as ritualized acts that reproduce a particular political community's collective identity and lead to a collectively conscious sovereign will, capable of serving the common good. The role of the state is correspondingly much more modest, since the people is regarded as an autonomous entity capable of rational self-determination (Habermas, 2005). Habermas' discourse theory draws on both understandings of democracy but embraces an intersubjective, dispersed, and procedural notion of sovereignty as opposed to the subjective notions of sovereignty employed by liberal and republican theories (Habermas, 2005, p. 55). The foundation of Habermas' theory are the communicative presuppositions required for processes of opinion- and will formation to become processes of deliberative discussion that can be presumed to produce sound and just results (Habermas, 2005, p. 49-50). In the context of politics, Habermas defines these communicative presuppositions as the ideal procedure of deliberation, which becomes infused with the practical

reason that was previously either represented by the constitution and universal human rights (in the case of liberal democracy) or embodied in the virtues of a particular political community (in the case of republican democracy) (Habermas, 2005, p. 49-50). In the ideal case, informal and deliberative processes of opinion formation taking place in civil society and in the diffuse communication networks of the public sphere result in communicative power able to indirectly influence the administrative power wielded by the institutions of the state. When approximating the requirements of the ideal procedure, the communicative power generated in the public sphere and in civil society can, hence, in certain restricted circumstances, serve as means to rationalize the political decisions made by the government and the administration (Habermas, 2005, p. 52-53). For the public sphere and civil society to function as vehicles of deliberatively generated communicative power they are, however, dependent on “*a rationalized lifeworld that meets them halfway*” and a “*societal basis in which equal rights of citizenship have become socially effective*” (Habermas, 1996, p. 358, 308). Habermas, moreover, acknowledged that the public sphere and civil society would only seldomly and in very specific circumstances, characterized by crisis and heightened public attention, be able to influence the political system with deliberatively generated communicative power (Habermas, 1996, p. 356-358).

In line with this sociologically sensitive view of deliberation (Parietti, 2019), Habermas, moreover, distinguished between (1) the kind of unregulated deliberation that takes place in the public sphere’s “wild publics” which are structured as contexts of discovery and, as such, well-suited to finding new ways of looking at problems, and (2) the kind of regulated deliberation that takes place in “arranged publics” (such as parliamentary bodies) which are structured as contexts of justification and, as such, primarily oriented towards choosing and justifying problems and corresponding solutions from a set of competing alternatives. Compared to arranged publics, wild publics offer unique opportunities for *unrestricted* communication and articulation of need-interpretation, but they are also more vulnerable to the repressive effects of unequally distributed social power, structural violence, and systemically distorted communication (Habermas, 1996, p. 307-308).

To sum up, the concept of deliberative democracy employed in this project corresponds to Habermas’ discourse theory of democracy. The ideal procedure of deliberation was originally fleshed out as a key component of this discourse theory, where it served to rationalize and

legitimize both (1) informal processes of opinion and will-formation taking place in the public sphere, and (2) formal processes of decision-making taking place in parliamentary bodies. With respect to the former, Habermas even seemed to support empirical research based on the ideal procedure:

“The quality of public opinion, insofar as it is measured by the procedural properties of its process of generation, is an empirical variable. From a normative perspective, this provides a basis for measuring the legitimacy of the influence that public opinion has on the political system” (Habermas, 1996, p. 362).

2.2.4 Clarifying the concept of “Condition”

Conditions for discussion were defined as contexts that are able to shape the possibilities for discussion and for discussion to turn deliberative (deliberative discussion) but are not part of the interactions that comprise the process of discussion and, hence, not part of the interactions among interlocutors. They include for example classroom settings, teacher and student characteristics (including e.g., their knowledge and values), discussion group composition, school leadership, curricular stipulations, and subject discourses such as the social science discourse (elaborated below).

2.2.5 Clarifying the concept of “Social Science Education”

When defining the concept of “social science education” it is worth emphasizing that conceptions of social science education are varied both within the social science education literature and across national and local social science curricula (see e.g., Christensen, A. S. 2015). This section first outlines the definition of social science education used in this project and then goes on to provide an extremely brief illustration of the different ways in which the concept is defined within the field. This project employed T. S. Christensen (2015)’s discursive definition of social science education, which argues that social science education is socially constructed through the discourses taking place within and about the subject discipline (Christensen, T. S. 2015; see also Christensen, T. S. 2022). It is through continuous re-

articulations of the subject that its stakeholders (including both educational policy makers, teachers, and students) keep it alive and ensure its continued legitimacy, relevance, and sensitivity to the outside world. Following Sigmund Ongstad, T. S. Christensen (2015) terms the discursive process through which the subject discipline (re)constitutes itself *didactization*, and although the processes of didactization impacting social science education tend to be intense, the subject does not change randomly but fluctuates around a common stabilizing core. Though formally a product of political decisions and steering documents, the subject is, hence, in practice a product of the way it is used by its stakeholders. This product is, moreover, not always harmonious and internally coherent but might encompass the stakeholders' conflicting interests (Christensen, T. S. 2015). The subject's stabilizing core comprises overarching contents, forms, and purposes that are relatively (but not completely) fixed over time. The *contents* of the subject discipline is understood to be a fusion of (1) students' lifeworld knowledge, (2) methodological knowledge (*savoir-faire*), (3) societal knowledge about social institutions, processes, and products, and (4) social scientific knowledge stemming from the social sciences – including at least political science, sociology, and economics. The two latter forms of knowledge are characterized by controversiality and mostly constituted by contested concepts (Christensen, T. S. 2015). An important task of teaching in social science education is to invite students for participation in discussions and conversations that give them the opportunity to integrate the different knowledge forms with each other. From the teacher's perspective the aim is to ensure that the students' initial life-world perspective on society becomes qualified through the engagement with knowledge, theories, and methods from the discipline (Christensen, A. S. & Christensen, T. S. 2015). Following T. S. Christensen (2015), discussions and discourses are prominent *forms* of teaching in social science education since the subject is constituted through discourse, and since students are encouraged to connect the subject's different knowledge forms through participation in discussions and conversations. With respect to the *purposes* of social science education, T. S. Christensen (2015, p. 31) draws on Walter Gagel and argues that social science education has two overarching purposes. The first purpose is political and democratic education, and the second is social scientific education. The political and democratic education of students entails a promotion of democratic opinions, values, and actions, including participation in societal and democratic processes, and an ability to speak up in a public setting

(Christensen, T. S. 2015, p. 39). The key challenge and tension is to socialize students to democratic norms (the thin rules of the democratic game) while simultaneously empowering them to criticize and contest any particular sitting government (Christensen, T. S. 2015, p. 33). While other notions to social science education aim to make students adopt particular thick values (such as an appreciation of environmentalism), this is not the approach taken by Christensen, A. S. and Christensen, T. S. (2015). The social scientific education of students entails acquisition of social scientific knowledge as well as a more fundamental understanding of the invisible aspects of society; including for example its socially constructed nature and the way in which it is influenced by structural and systemic dynamics (Christensen, T. S. 2015, p. 32).

Having sketched out the main contours of Christensen, T. S. (2015)'s discursive notion of social science education, this approach will now very briefly be contrasted with a couple of other approaches. First, Christensen T. S. (2015)'s approach differs from definitions of the subject that rely on particular curriculum goals and formal steering documents in any country or region because such definitions will tend to emphasize core curriculum goals of the subject rather than its continued reformulation in processes of didactization. Second, while T. S. Christensen (2015)'s approach puts equal emphasis on the purposes of democratic education and social scientific education, some other approaches (e.g., Sandahl, 2015) seem to put slightly more emphasis on the purpose of social scientific education than on the purpose of democratic education. Sandahl (2015) for example writes that a central goal of social science education is to make students "think like social scientists". Third, while T. S. Christensen (2015) emphasizes socialization to thin democratic rules, other approaches argue that social science education should make students feel a sense of responsibility for the community and country in which they live (e.g., Detjen, 2010, p. 22). While there are, hence, different conceptions of social science education, the method of high-quality discussion plays a central role in many if not most of these conceptions (Campbell, 2012; Reinhardt, 2015).

2.2.6 Clarifying the concept of "Quality Teaching"

This project employed three definitions of quality teaching, which each captures a specific aspect of the concept. The first definition understands quality teaching as "good teaching". Teaching can be characterized as good if (1) the content of teaching is appropriate, proper, and aimed at some worthy purpose, and (2) the methods employed are morally defensible and grounded in

shared conceptions of reasonableness (Fenstermacher & Richardson, 2005). The second definition understands quality teaching as “successful teaching”. Teaching is successful if it is effective in the sense of achieving its intended goals by making students learn what is taught (Fenstermacher & Richardson, 2005). The third definition understands quality teaching as “aligned teaching”. Aligned teaching is teaching that aligns to prespecified standards (Harvey & Green, 1993; see also Reinhardt, 2015, p. 26).

3 Normative framework: is deliberation desirable?

This section discusses the normative deliberative framework employed throughout the project. Specifically, it discusses whether deliberation can be understood as a kind of teaching quality and, as part of that discussion, whether social science teaching that strives towards the ideal of deliberation is at odds with the subject’s core content, form, and purposes. These questions open for various considerations, and it should be admitted from the outset that it was only possible to pursue a small number of them here. The discussion begins by offering three arguments *for* the desirability of deliberation in social science education, and then offers and reflects upon a number of arguments *against* the desirability of deliberation, which are frequently voiced by the critics of deliberation and deliberative democracy. It ends with a sub-conclusion that sums of the discussion’s main points.

3.1 Arguments for deliberation in social science education

This section presents three different arguments for why deliberation can be seen as a kind of quality in social science education. The first argument builds on a notion of quality called “good teaching”, developed by Fenstermacher and Richardson (2005). The second argument builds on a notion of quality called “successful teaching”, which was also developed by Fenstermacher and Richardson (2005). According to Fenstermacher and Richardson (2005), teaching must be both good and successful to be characterized as quality teaching. The third argument draws on a notion of quality as “alignment to prespecified standards”. This idea of quality has been

elaborated by Harvey and Green (1993) and also appears in the social science education literature (e.g., Reinhardt, 2015, p. 26).

3.1.1 Deliberation as good teaching

Fenstermacher and Richardson (2005) have argued that teaching can be characterized as good teaching if (1) the content of teaching is appropriate, proper, and aimed at some worthy purpose, and (2) the methods employed are morally defensible and grounded in shared conceptions of reasonableness. Good teaching, hence, concerns the extent to which the contents, methods, and purposes used in a specific teaching situation are themselves morally defensible. The ideal procedure requires content to be about a publicly relevant matter and requires classroom interactions to be characterized by equality, openness, inclusion, critical and autonomous participation, genuine intersubjective understanding, and a lack of coercion. Using the definition of good teaching advanced by Fenstermacher and Richardson (2005), one might, hence, reasonably argue that teaching that approximates the ideal procedure qualifies as morally defensible and intrinsically good (e.g., Roth, 2003). As mentioned previously, the original purpose of the ideal procedure was, moreover, to generate legitimate, reasonable, and just outcomes. If social science teachers also have this purpose in mind when striving towards the ideal procedure in their classrooms, they arguably employ the ideal procedure for a worthy purpose too. Teaching that approximates the ideal procedure, hence, not only qualifies as good teaching but might also be said to confer legitimacy upon the educational outcomes produced by that teaching. In sum, social science teaching might be said to qualify as good teaching, when it approximates the criteria put forward by the ideal procedure of deliberation. Using a distinction made by Biesta (2007), one might say that teaching which approximates the ideal procedure of deliberation is not only teaching *for* democracy (in the future) but also teaching *through* democracy (in the present) because it ensures the democratic character of classroom interactions in the present moment of teaching.

3.1.2 Deliberation as successful teaching

Following Fenstermacher and Richardson (2005), successful teaching is teaching that achieves its intended goals by making students learn what is taught. Teaching that approximates the ideal procedure is likely to be successful for the following interconnected reasons: (1) empirical

research has (with some exceptions) shown that classroom discussion tends to promote the achievement of civic learning outcomes (elaborated below); (2) empirical research has shown that high-quality discussion is even more likely to lead to civic educational outcomes than other forms of discussion (Gastil, 2004; Hess & McAvoy, 2015, p. 59, 68); (3) teaching that approximates the ideal procedure of deliberation is by definition a specific kind of high-quality classroom discussion. Teaching that approximates the ideal procedure of deliberation, therefore, likely leads to normatively desirable civic learning outcomes.

While classroom discussion is believed to engender many desirable outcomes, empirical studies of the effects of classroom discussion are not always able to confirm these beliefs (e.g., Andersson, 2012, p. 192-193; Forsberg, 2011:1; Persson, Andersson, Zetterberg, Ekman & Lundin, 2020). Despite the occasional absence of significant positive findings, however, many empirical studies seem to confirm that classroom discussion can indeed sometimes cultivate students' communicative and deliberative abilities (Gastil, 2004; Hess, 2009, p. 28; Jerome & Algarra, 2005; McDevitt & Kiouisis, 2006), academic skills and knowledge (Almgren, 2006; Avery, Levy & Simmons, 2013; Hess, 2009, p. 28-32; Latimer & Hempson, 2012; Luskin, Fishkin, Malhotra & Siu, 2007), democratic values (e.g., tolerance) (Avery, Levy & Simmons, 2013; Hess, 2009; Miklikowska, Rekker & Kudrnac, 2022), opinion formation and change (Latimer & Hempson, 2012; Luskin, Fishkin, Malhotra & Siu, 2007), and propensity to participate in political life (Andersson, 2012:192-193; Avery Levy and Simmons, 2013; Gastil, 2004; Hess, 2009:28; Latimer & Hempson, 2012; McAvoy & Hess, 2013; McDevitt & Kiouisis, 2006). However, McDevitt & Kiouisis (2006) reported no significant association between participation in classroom discussion and knowledge gains, and Luskin, Fishkin, Malhotra & Siu, 2007) neither found significant relationships between classroom discussion and democratic values nor between classroom discussion and political participation. Despite occasionally negative findings, the accumulated evidence, however, suggests that classroom discussion has a positive impact on civic learning outcomes (Campbell, 2012; Hess, 2009, p. 28). Since teaching that approximates the ideal procedure of deliberation is not just any kind of classroom discussion but classroom discussion of a particularly high level, it seems reasonable to assume that such teaching promotes the achievement of civic learning outcomes.

3.1.3 Deliberation as aligned teaching

This subsection briefly argues that social science teaching, which approximates the ideal procedure of deliberation, is in alignment with the standards and core elements of the Social Science subject as they were formulated by T. S. Christensen (2015). If one uses T. S. Christensen (2015)'s definition of the subject, teaching that approximates the ideals of deliberation is, hence, not at odds with the requirements of the subject. First, classroom interactions that approximate the ideal procedure must be about publicly relevant *content*, and such content is also required by social science education. T. S. Christensen (2015) emphasizes that the content of social science education consists of societal knowledge about social institutions, processes and outcome as well as knowledge from the social sciences, methodological knowledge and students' life-world knowledge. When combined, these knowledge forms do not seem to be at odds with the ideal procedure of deliberation, which requires the content of discussion to be about matters that are framed as publicly relevant. Habermas (1996, p. 358) even emphasizes the need of the public to be able to perceive and interpret society-wide problems, and one might, hence, argue that the content mandated by the ideal procedure is more or less in line with the core content of social science education as defined by T. S. Christensen (2015). Second, classroom interactions that approximate the ideal procedure must be discursive or dialogic in *form*, and these forms are also constitutive of social science education. T. S. Christensen (2015; 2022) defines social science education as being fundamentally discursive in form; and he emphasizes that the different kinds of knowledge mentioned above should ideally be integrated through a discussion he refers to as "the social science conversation". Since the ideal procedure was specifically designed to evaluate discursive and conversational forms of interaction, it is, hence, not at odds with the form of social science education as defined by T. S. Christensen (2015). Third, classroom interactions that approximate the ideal procedure are not at odds with the subject's *purpose* of promoting student's political, democratic, and social scientific education, since the ideal procedure was originally developed for similar purposes. Following T. S. Christensen (2015), the first purpose of social science education is democratic and political education, and the ideal procedure is not at odds with this purpose. The ideal procedure of deliberation was originally understood as a means to make the decisions, opinions, and beliefs of citizens more just, publicly defensible, reasonable, and

democratically legitimate. Consequently, the original purpose of the ideal procedure is in line with the subject's purpose of democratic and political education. Following T. S. Christensen (2015), the second purpose of social science education is social scientific education, and the ideal procedure is probably not at odds with this purpose either. Since the ideal procedure requires discussion to be critical (uproot and contest common and widespread traditions and assumptions) and include publicly relevant topics that “*concern the unequal distribution of resources on which the actual exercise of rights of communication and participation depends*” (Habermas, 1996, p. 305-306), it makes sense to argue that classroom interactions, which approximate the ideal procedure, will provide students with the critical distance, analytical depth and structural insights that make up social scientific education and can have empowering effects for students.

3.2 Arguments against deliberation in social science education

This section presents and responds to some of the most prominent arguments against classroom deliberation. Some of the responses are accommodating, others are skeptical, and still others point to the need for empirical research to settle the issues raised. While the first three critiques are directed against the notion of deliberation as good teaching, the fourth critique is directed against the notion of deliberation as aligned teaching. The fifth argues that deliberation is unrealistic.

3.2.1 Deliberation promotes rational consensus at the expense of difference

Critics of deliberation have argued that it risks leading to domination, inequality, and exclusion of students who are not used to engage in deliberative forms of discussion requiring argumentation and critique and that this risk is compounded by its focus on consensus. Deliberation, it is argued, will end up privileging already advantaged students from academic homes at the expense of students who are culturally, ethnically, or socio-economically marginalized (e.g., Sanders, 1997; Weasel, 2017; Young, 1996). While Sanders (1997) and Weasel (2017) argue that deliberative forms of discussion (e.g., argumentation) privilege the already privileged, Young (1996), argues that story-telling, rhetoric and greeting should be included as legitimate forms of deliberative discussion in order to make deliberation more equitable.

From the perspective of deliberative democracy, it is important to emphasize first that the ideal procedure of deliberation does not require discussions to end with a unanimous collective decision. In fact, Habermas (1996, p. 305-306) stated explicitly that decisions should be made by majority rule due to general pressures to decide. What is required by the ideal procedure is that participants *strive towards* reaching an intersubjective understanding with each other. One might, moreover, respond that it is important to uphold the distinction between the ideal of deliberation and the practice of discussion. While it is a task for empirical research to uncover when and where practices of discussion are characterized by exclusion and inequality, these elements of discussion are incompatible with the deliberative ideal, which explicitly requires discussions to include everyone on an equal basis and mandates the absence of both formal and informal kinds of coercion. That said, it might be correct that certain formulations in the ideal procedure are unduly rationalistic² and (if approximated) end up working against the ideals of inclusion and equality. In line with Young (1996), one might argue that the ideal of deliberation should make room for arguments based on story-telling and, hence, lifeworld knowledge. Story-telling might be incorporated more explicitly into the ideal procedure without compromising the requirement for discussion to be argumentative in form. The reason for this is that personal narratives can function argumentatively as evidence that backs up a particular conclusion. Though narrative evidence is always bounded and specific, it might constitute a strong premise if it defends a modest conclusion. If for example a student wishes to defend the conclusion that “not all US citizens support the death penalty”, telling a personal story about an encounter with a US citizen, who advocated for the abolishment of the death penalty, provides strong support for the conclusion. What is important from a deliberative point of view is, however, that discussions should be able to contest narratives that provide only weak evidence for a conclusion (e.g., “I saw a US citizen paint graffiti on a wall yesterday, therefore all US citizens must be graffiti-painters”). It is worth mentioning here, moreover, that the empirical analyses carried out in the articles did indeed endorse premises based on narratives as mandated by argumentation theory (Fisher, 2004). While narratives were allowed to function as premises in the analyses, this was not the case for rhetoric and greetings. Occurrences of rhetoric were understood as instances of

² For example the formulation “*Processes of deliberation take place in argumentative form, that is, through the regulated exchange of information and reasons among parties who introduce and critically test proposals*” (Habermas, 1996, p. 305).

strategic action and were, hence, seen as incompatible with the fourth criterion of the ideal procedure, which requires deliberative discussion to be characterized by communicative action aimed at reaching intersubjective understanding. Greetings were seen as instances of social talk, and hence, coded as private talk (i.e., talk not framed as publicly relevant) in line with the Stromer-Galley coding manual (Stromer-Galley, 2007).

3.2.2 Deliberation is a manifestation of liberal hegemony

Agonistic democrats and scholars from within the field of critical pedagogy have criticized the notion of classroom deliberation for being a covert attempt at consolidating the hegemony of liberal ideology in classroom settings. Agonists draw on Chantal Mouffe's agonistic theory of democracy. According to Tryggvason (2018), who is a proponent of agonism, the agonistic ideal implies (1) that conflicts between different points of view cannot be reduced to rational deliberation but are inextricably linked to participants' identities and emotions, and (2) that collective will-formation should be understood as hegemony rather than as rational consensus. Tryggvason (2019) argues that the problem with deliberation is that it attempts to justify exclusion of certain viewpoints (and hence create hegemony) on grounds claimed to be rational and neutral, but which are in fact political and arbitrary. In so doing, it legitimizes arbitrary exclusion and hinders contestation of decisions about exclusion and inclusion. A comparable critique of deliberative democracy and its application to classroom settings can be found in Fraser-Burgess (2012), who argues that "*the dominant narrative of liberal democracy in general, and Gutmann's deliberative account in particular, suppresses dissent in principle and therefore can be self-refutingly hegemonic*" (Fraser-Burgess, 2012, p. 498). Lastly, it should be mentioned that proponents of critical pedagogy have criticized deliberation on similar grounds (Sibbet, 2016). Proponents of critical pedagogy view deliberation as part of a paradigm of critical thinking and argue that this paradigm makes a false claim to ideological neutrality. According to critical pedagogy, deliberation is never neutral because it arises from and, hence, favors a Western, patriarchal worldview (Sibbet, 2016).

From the perspective of deliberative theory, it should first be admitted that while the ideal procedure of deliberation does not promote specific collective outcomes or agreement upon a specific set of thick norms, it is not entirely neutral. Rather, it embodies a thin procedural normativity committed to the democratic values of universalism, freedom, and equality. That

said, the critique of deliberation as being a manifestation of liberal hegemony that suppresses dissent and identity-based conflict probably applies only to Gutmann and Thompson's liberal account of deliberative democracy (as Fraser-Burgess, 2012 also suggests) and not to procedural accounts of deliberative democracy. Gutmann and Thompson's (2004) Rawlsian account of deliberation indeed excludes positions and arguments that are not "reasonable" in the sense of being mutually acceptable and comprehensible (e.g., religious arguments or identity-based arguments), but such exclusion is not warranted by the ideal procedure of deliberation. By contrast, the ideal procedure explicitly states that participants should be allowed to contribute with anything that is on their mind (Habermas, 1996, p. 305-306). Similarly, Dryzek (2000)'s radical account of deliberative democracy explicitly allows all positions into the deliberative process (e.g., Dryzek, 2000, p. 74-80, 169) and both radical and procedural accounts of deliberative democracy point to the need of having trust in the inherent transformative capabilities of the deliberative process rather than on barring certain viewpoints from entering in the first place.

3.2.3 Deliberation does not capture the emotional aspects of student participation

Proponents of Chantal Mouffe's agonism also criticize deliberative educationalists for failing to attend to students' emotional lives and the engaged nature of student participation (e.g., Ambrosio, 2019; Ruitenberg, 2009). They argue that students invest part of their personality, identity, and emotions in processes of discussion, and that deliberative perspectives on discussion fail to take these aspects of discussion into account. On the one hand, it must be admitted (as mentioned in the introduction) that the ideal procedure does not capture aspects of discussion related to motivation, engagement, and emotion. On the other hand, however, it is important to emphasize that Habermas did not conceive of deliberation as an instance of what social psychologists call "cold cognition" but rather understood it as a (public) instance of what they call directed motivated reasoning (see Kunda, 1990 for an elaboration of motivated reasoning). In *Moral Consciousness and Communicative Action* Habermas (1983, p. 160) described the deliberative process of argumentation as an engaged process where action oriented toward reaching understanding is continued by other means, since proponents and opponents engage in a competition with arguments to convince each other, i.e., to reach a consensus. In argumentation attempts at reaching understanding are, hence, not pursued through cooperation

but through competition between the interlocutors; and it is precisely the dialectical role structure between them that ensures the epistemic power of argumentation (Habermas, 1983, p. 160).

3.2.4 Deliberation is incompatible with the instrumental purposes of education

Heslep (2001) has argued that pedagogical communication is fundamentally strategic, because it aims to make students do certain things, rather than to reach an understanding *with* them. If that is true, one might argue that deliberation is incompatible with teaching as such, because deliberation requires participants to strive for intersubjective understanding (and hence engage in communicative action) whilst deliberating. There are two strong counter-arguments against this claim, however. First, the ideal procedure only requires participants (i.e., students in a classroom context) to engage in communicative action with each other and is silent with respect to the role of the initiator or facilitator of deliberation (i.e., the teacher), who is, hence, not prohibited from acting strategically. Second, the ideal procedure was, unlike the concept of communicative action, originally developed as an integral part of the discourse theory of law and democracy, where it served the instrumental purpose of legitimizing and rationalizing public opinion and political decisions (see conceptual clarification section for an elaboration of this point). As Kim and Kim (2008) have pointed out, deliberation is, hence, both an end in itself as well as a means to other ends.

3.2.5 Deliberation is pure Utopia

Some scholars have criticized the notion of deliberation for being unattainable and demanded more attention to the real world of classrooms (e.g., Reich, 2007; see also Sanders, 1997; Shapiro, 1999). This project concurs both with notion of deliberation as an ideal and with the need for empirical research. Yet, it disputes the realists' readiness to discard the ideal in light of disappointing empirical findings. Rather than discarding the ideal, the project follows Esterling (2018) and rephrases the realists' absolute empirical question "does deliberation work?" to a conditional empirical question "In which conditions does deliberation work best?".

3.3 A conceptually conditional answer

This subsection sums up the discussion about the desirability of pursuing deliberation in social science education. It concludes that pursuing deliberation in the social science classroom can be

one way (among others) of pursuing quality in social science education but adds the proviso that the meanings of quality, social science education, and deliberation must be fixed according to existing definitions of the terms that match each other. The three arguments in favor of deliberation suggested that deliberation is a form of quality because teaching that approximates the ideal procedure of deliberation (1) is an instance of good teaching and hence valuable in itself, (2) is an instance of successful teaching because it likely promotes desirable civic learning outcomes, and (3) is an instance of aligned teaching because it fits the core content, form, and purposes of social science education. These three arguments were challenged by the five counter-arguments, which disputed the quality of deliberation. While some aspects of these counter-arguments were dismissed, others were used to modify the notion of deliberation as quality. Three modifications to the notion of deliberation as quality were made. First, the counter-arguments pointed to the fact that the ideal procedure of deliberation has certain blind spots, since it does not articulate dimensions of quality related to students' emotions and motivations. When framing deliberation as an instance of quality, it is, therefore, important to recognize that the ideal of deliberation only articulates one dimension of quality among others. Second, the counter-arguments suggested that deliberation is hegemonic, suppresses dissent and differences among students, and might privilege some students over others. This critique prompted an explicit acknowledgement of lifeworld-knowledge as an important aspect of deliberation. Furthermore, it led to the recognition that framing deliberation as quality in social science education is only possible when employing matching conceptions of quality, deliberation, and social science education. This can be illustrated through four hypothetical examples:

1. If deliberation is conceptualized as a practice that excludes certain views from the outset on grounds of unreasonableness (e.g., as in Gutman and Thompson, 2004), deliberation becomes less compatible with the notion of quality as good teaching, because it becomes more vulnerable to charges of hegemony and suppression of differences in the classroom.
2. If deliberation is conceptualized as Englund's (2006) deliberative communication, it becomes less compatible with social science education because Englund (2006) does not require discussion topics to be about topics framed as publicly relevant.

3. If social science education is conceptualized as being primarily about educating students to think like social scientists (e.g., Sandahl, 2015), it becomes less compatible with deliberation, because deliberation primarily ensures political and democratic education and only secondarily social scientific education.
4. If educational quality is defined in traditional terms, for example as exclusivity (see e.g., Harvey and Green, 1993), it becomes fundamentally incompatible with the ideal of deliberation, which requires teaching to be characterized by equality and inclusion.

Though the extent to which one can speak of deliberation as quality in social science education, hence, depends on the conceptions invoked, one might reasonably argue that the specific conceptions used in this project are widely recognized (yet all contested). This is also the case for the discursive conceptualization of social science education. For example, Tilman Grammes (1998, p. 241) employs a communicative understanding of social science education and argues that discussion and debate are important forms of teaching in social science education because they are able to accurately represent the controversial, conflictual, and contested content of politics and political thinking (Grammes, 1998, p. 241). To conclude: it is possible to view teaching that approximates the ideal procedure of deliberation as one aspect of quality (among others) in social science education. This is possible because there exists conceptions of deliberation, social science education, and quality that match each other. While this conclusion attempted to take the arguments against deliberation into account, there was one argument against deliberation, which could not be satisfactorily responded to through the kind of conceptual contemplation pursued above. This argument suggests that the ideal of deliberation is utopian and cannot even be approximated in real-world settings. To respond to the charge that deliberation is pure Utopia, the extended abstract now turns to the empirical investigations presented in the PhD project's three articles.

4 Empirical framework: analyzing the deliberativeness of classroom discussions

This section presents the PhD project's empirical framework, which formed the basis of the three empirical investigations pursued in the articles. The section opens with a brief introduction that highlights why it is necessary to study the conditions for classroom deliberation empirically and which conditions that are the most important to study. It then turns to the empirical framework of the project. This framework depicts the classroom as a deliberative venue and illustrates the empirical dynamics and contexts assumed to impact the deliberative quality of classroom discussions. It ends with a discussion of the methods and empirical material used in the project.

4.1 Why study the empirical conditions for deliberation?

While realist critics of deliberation reject the pursuit of classroom deliberation as pure Utopia, empirical evidence on the deliberativeness of classroom discussions is mixed. While some studies have found classroom discussion to approximate the ideals of deliberation (e.g., Samuelsson, 2016; Tammi & Rajala, 2018; Teglbjærg, in press), others have found classroom discussion to diverge sharply from deliberative ideals (e.g., Crocco et al., 2018; McMillan & Harriger, 2002). Empirical evidence, hence, suggests that discussion is not a sufficient condition for the emergence of deliberative classroom interaction. While discussion is not sufficient for the emergence of deliberative interaction, it remains, however a necessary condition for such interaction to occur. Consequently, research that aims to explore the empirical conditions for deliberative discussion needs to investigate both (1) the conditions for discussion, and (2) the conditions for discussion to turn deliberative. The present PhD project followed both of these tracks, since article I investigated the conditions for discussion, while articles II and III investigated in which conditions discussion tends to turn deliberative. On a more general note, the conditions for deliberative discussion are worth investigating because knowledge about the conditions that promote and obstruct deliberative discussion can help inform social science teachers' decisions regarding when and where to conduct classroom discussions and which formats to employ. With these considerations in mind, one might argue that the most important conditions to study are (1) conditions for discussion, because discussion itself constitutes a

necessary condition for deliberative discussion, (2) changeable conditions for deliberative discussion, because conditions that are either fixed or random are beyond the control of the teacher and, hence, cannot be intentionally manipulated to improve the deliberative quality of discussions, (3) conditions pertaining to discussion design rather than to discussion facilitation (see next section for an elaboration of this distinction), because discussion designs not only condition the acts of students in classroom discussions but also conditions the way in which the teacher can facilitate these discussions, (4) conditions that are widely thought to be effective vehicles of deliberative classroom discussion, and (5) conditions that are currently being used by many teachers. The different conditions being investigated in article I were chosen because they matched criterion 1 above, while the two conditions being investigated in articles II and III (absence of the teacher and controversial issues respectively) were chosen because they matched criteria 2-5.

4.2 The social science classroom as a deliberative venue

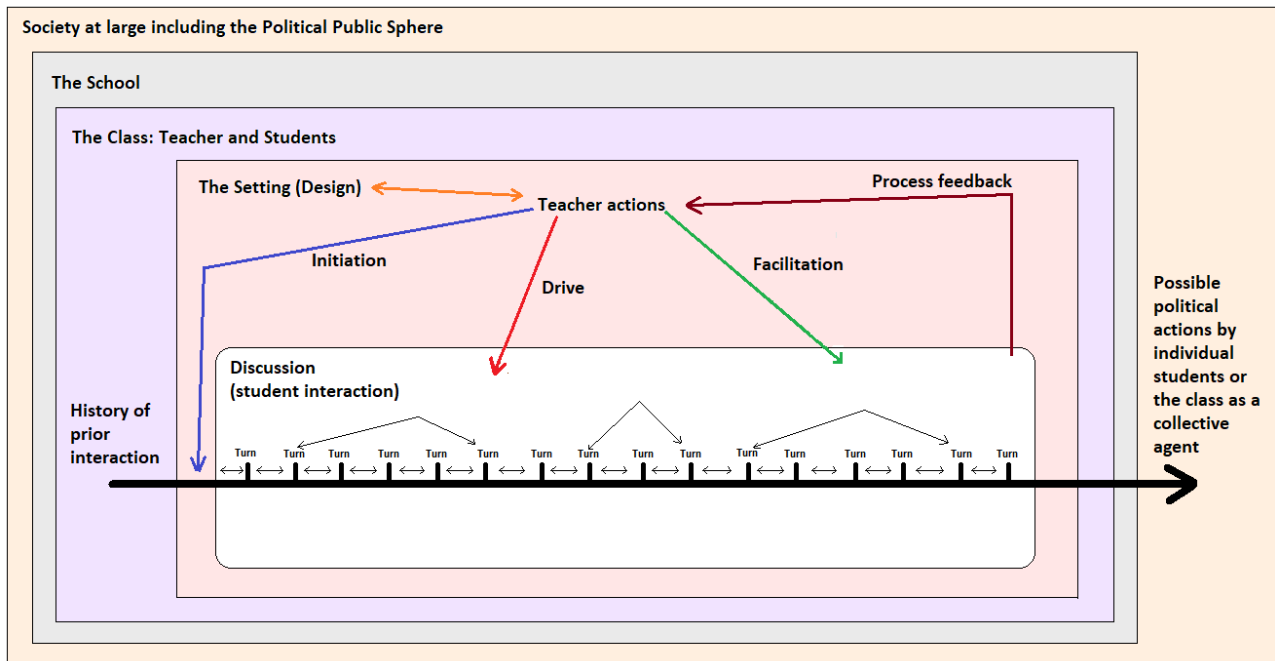
This section portrays the social science classroom as a deliberative venue in time and space (figure 1). The horizontal axis of figure 1 depicts the temporal dimension of classroom discussion, whereas the vertical axis depicts the spatial dimension. The section first describes the processes and dynamics of classroom discussion and then turns to the empirical conditions and contexts in which these processes are embedded. It illustrates which aspects of classroom discussion were investigated by each of the articles.

4.2.1 The processes and dynamics of classroom discussion

A classroom discussion usually starts when the teacher decides to initiate a discussion by *permitting* students to discuss a particular issue or topic (blue arrow in figure 1) (see e.g., McAvoy & Hess, 2013, p. 20). Since the teacher wants the students to engage in the discussion, she usually also has to exert an effort to maintain and *drive* the discussion forward by posing questions (Sætra, 2018) or in some cases even galvanize students by provoking them with her own political opinion (Reinhardt, 2015, p. 31) (red arrow). As Reinhardt (2015, p. 31) has pointed out, however, some classes are so engaged and motivated in advance that the teacher's motivating efforts become superfluous. What makes students respond to the teacher's questions and to each other is a mix of informal norms of communication, teacher authority, and a will to

convince others of one's point of view. The latter motivation has been emphasized by Habermas (1983, p. 160) and requires students to have clear, crystallized, and conflicting viewpoints from the outset.

Figure 1. The social science classroom as a deliberative venue and part of the public sphere.



Note. The horizontal axis displays the temporal dimension of classroom discussion. The vertical axis displays the spatial dimension of classroom discussion. The word “turn” refers to the discussion turns. Each student turn can include multiple utterances and constitutes a temporally bounded micro-event that conditions the content of the utterances voiced in the next (adjacent) turn in the discussion and/or subsequent turns. In defective classroom discussions, however, turns might not refer to and stimulate each other, and in tightly teacher-controlled discussions, each turn might refer back to the teacher rather than to prior student turns.

Importantly, moreover, students are at least partly motivated by what Habermas (1996, p. 20-21; 2018) refers to as the idealizing presuppositions of communication. In order for communication to work, participants have to make the counter-factual assumption that only the forceless force of the better argument will play a role in settling their disagreement (Habermas, 2018). If they did not make that assumption but instead assumed the interaction to be characterized by coercion, manipulation, and misunderstanding they would have no motivation to engage in sincere argumentation with each other (Habermas, 2018). As Habermas has stressed, the idealizing presuppositions of communication (which are also integrated into the ideal procedure of deliberation), are, hence, not meta-physical ideals in the sense of being completely divorced

from the practice of discussion. Though they are ideal in the sense of being not fully achievable from the observer's perspective, they have a regulating influence on the actual (real-world) behavior of participants in discussion (Habermas, 2018).³

When discussion designs and settings are said to “condition” deliberative classroom discussion, what is meant is, then, that these contexts somehow moderate the existing forces that drive deliberative discussion forward. Requiring discussion to take place in small groups, for example, discontinues the influence of teacher authority and makes discussion more reliant on other drives. Providing students with a theoretical scaffold or conceptual map helps crystallize their opinions and understand how they differ from the opinions of others (e.g., Petrik, 2010b). Requiring students to adhere to a prespecified set of rules of discussion (e.g., Reinhardt, 2015, p. 31) or ensuring a safe space for discussion (Sætra, 2018) might help strengthen students' beliefs in the presuppositions of communication. An important role of discussion designs is, therefore, to remove barriers to deliberative discussion in the form of coercion, manipulation, and inequality so that deliberative discussion is allowed to flow unhindered as it would do if these obstacles were not present. This again highlights the point that (from a Habermasian perspective and contrary to e.g., Parker, 2011) deliberative discussion is not a sophisticated skill that can only be practiced by the most gifted students but is rather an instance of communicative action concerning democracy and politics. As indicated above, this does not mean that deliberative discussion happens automatically, however. Learning to engage in communicative action (and hence discussion that approximates deliberative ideals) might very well require de-learning of certain sophisticated skills, such as rhetoric and other manipulative trickery.

4.2.2 The empirical conditions for classroom discussion

The conditions that shape the possibilities for deliberative classroom discussion are many and of various kinds. For the purposes of this project, the conditions were divided into the below categories: fixed conditions, changeable conditions (i.e., conditions subject to teacher's control and change), and fluctuating conditions. Below, each of these conditions are discussed in relation to figure 1, and it is clarified which of the conditions were investigated in which articles. While

³ This is what makes Habermas' theory a critical theory of democracy, since the ideals employed by critical theory are required to have a basis in actual human behavior and existing social conditions (Bohman, 1996, p. 11). The seeds of the ideal of deliberation must be already present in actual practices in order for them to be used recursively in a critique of these practices (Rostbøll, 2011, p. 29).

article I investigated conditions for discussion (i.e., the teacher's acts of initiation and maintenance depicted by the blue and red arrows in figure 1), articles II and III investigated conditions for discussion to turn deliberative (i.e., the deliberative quality of the student interactions constituting the process of discussion depicted by the white rectangle in figure 1).

(1) *Fixed conditions* include characteristics pertaining to the class, the school, and society at large. First, fixed conditions pertaining to the **class** belong in the purple rectangle of figure 1. They include teacher and student characteristics (their political and pedagogical views, their socio-economic and educational background, minority status, political interest and efficacy, personality traits etc.) as well as the history of past interaction between the student and the teacher, the grade level of the class, class size, and class composition (including the diversity of the student group, teacher-student constellation etc.) (Campbell, 2005; Howe & Abedin, 2013). Article I investigated how some of these fixed class-level factors (purple rectangle) conditioned teachers' likelihood of initiating and maintaining student discussion for a minimum of five minutes (the blue and red arrows). The fixed factors investigated included the teacher's educational background, the teacher's professional experience, class size, class gender diversity, and grade level. Second, fixed conditions pertaining to the **school** belong in the grey rectangle of figure 1. They include the school's socio-economic status (SES), urbanicity, mean achievement level, as well as school culture and school leadership practices (e.g., Almgren, 2006; Kahne & Middaugh, 2008). Article I investigated how school SES and school achievement mean (grey rectangle) conditioned teachers' likelihood of initiating and maintaining student discussion for a minimum of five minutes (the blue and red arrows). Third, fixed conditions pertaining to **society** at large include for example a country's social science curriculum, social science subject discourses, and general teaching culture (e.g., Audigier, 2002; Christensen, T. S. 2015). Article I investigated how different societal contexts (yellow rectangle) conditioned the teachers' likelihood of initiating and maintaining student discussion for a minimum of five minutes (the blue and red arrows). This investigation was carried out by comparing the likelihood of discussion in social science education across the five Nordic countries (Teglbjærg, in review).

(2) *Changeable* conditions are conditions that the teacher can manipulate to improve the quality of the discussion process (orange arrow). Whilst in place, however, these conditions make up a context that not only conditions students' interactions but also the way in which the

teacher can drive and facilitate the discussion (rosa rectangle). They include the settings and formats of classroom discussion. When the teacher manipulates settings and formats, she varies the contexts of discussion and thereby acts as a **designer** of classroom discussion (Nishiyama, Russell, & Chalaye, 2020; Reich, 2007). Changeable conditions include for example discussion group size, discussion group composition, the teacher's own presence, the content and framing of the assigned topic, preparation materials, preparatory exercises, student seating, presence of decision rules (i.e., whether discussion should end with a collective decision or not), kinds of decision rules (e.g., majority, qualified majority, unanimity) etc. Articles II and III investigated how the changeable factors of discussion (rosa rectangle) conditioned the deliberativeness of the discussion process, which consisted of student interactions (white rectangle). While article II investigated the effects of student led discussions in small groups and pairs, article III investigated the effects of controversial issue topics and theoretical scaffolding. These conditions were investigated because they are often assumed to promote the deliberativeness of classroom discussions (e.g., Englund, 2006; Hess, 2009), and because these discussion formats were found to be employed frequently by the teachers investigated in article I (Teglbjærg, in review). Article I, hence, investigated which discussion formats (whole-class, small group, or pair) and which discussion topics (controversial vs. less controversial) were employed most frequently by social science teachers.

(3) *Fluctuating conditions* concern the way in which momentary events, such as an immediately preceding discussion turn, condition the deliberativeness of the unfolding classroom discussion (black arrows between discussion turns). They include elements of Englund (2006)'s discursive situation, which was described briefly in the review section. The teacher can act upon these fluctuating conditions through facilitation techniques (Nishiyama, Russell, & Chalaye, 2020; Reich, 2007) or what Reich (2007) has termed intervention (green arrow). When the teacher employs such techniques to steer the unfolding discussion in a deliberative direction, she acts as a **facilitator** of discussion. Article I investigated something that resembled a fluctuating condition (but was not so): namely the effect of the disruptiveness of a preceding lesson event on the likelihood of discussion in the subsequent lesson event. These events were not proper fluctuating conditions because they did not occur immediately after each other (in fact they occurred up to 15 minutes apart) and did not occur as part of a classroom discussion but as part

of a lesson. The PhD project did, hence, not investigate the impact of facilitation techniques on the deliberative quality of unfolding classroom discussions.

To sum up, figure 1 illustrates the different conditions and contexts of classroom discussion as well as the different roles played by the teacher. The teacher acts not only as the facilitator but also as the designer, initiator, and maintainer of classroom discussions. This is contrary to other deliberative venues such as the Deliberative Poll ®, where discussion is typically initiated by an organization or parliamentary body, designed by researchers, and maintained and facilitated by a trained moderator. Contrary to Deliberative Polls ®, moreover, the participants in classroom discussions share a history of past interactions with each other as well as a common proximate future. Figure 1 depicts how classroom discussions might sometimes result in students taking political action individually or together as a class. When they act or express their opinions in the public sphere that surrounds the school, one might argue (from a deliberative point of view) that the deliberative quality of their preceding classroom discussion serves as a marker of the legitimacy of their ensuing political opinions and actions. An example of an approach to social science education that makes room for students' political actions is the so-called *action-based approach* to social science education (e.g., Reinhardt, 2015, p. 118). Even if students do not take political action following classroom discussion, however, the opinions and beliefs they express during the discussion still potentially impacts the beliefs of their classmates, the beliefs of the teacher, and (if conveyed further beyond the classroom walls) the beliefs of their classmates' parents and friends etc. It is in their capacity as informal political conversations (with the possibility of influencing others' views) that these classroom discussions constitute part of the wider public sphere (Bächtiger, Dryzek, Mansbridge & Warren, 2018). Ensuring that classroom discussions approximate the ideal procedure of deliberation is, hence, not only important because it can help students learn how to participate in legitimate discussions in the future – through modelling and practice (e.g., Gastil, 2004; Parker, 2010; Samuelsson & Bøyum, 2015) – but also because it helps legitimize their opinions and potential political actions in the present.

4.3 How to study the empirical conditions for deliberation?

This section reflects upon and provides reasons for the most important methodological choices made during the research process. It clarifies the project's philosophy of science, reflects upon research design choices, discusses choices regarding tools of measurement and analysis, and finally reflects upon the validity and reliability of the project's results. While this section reflects upon the general methodological approaches adopted, details regarding research designs, measurement tools, and analytical tools are provided in the articles.

4.3.1 A note on the project's philosophy of science

The project uses the conventional constructivist philosophy of science as its point of departure. Conventional constructivism involves a constructivist ontology but insists that social change occurs so slowly that researchers are able to capture it through scientific methods of inquiry (Wendt, 1999, p. 90). It is, moreover, in line with the idea of deliberation as a transformational force that is surrounded and, hence, bounded by systemic complexity.

4.3.2 The project's research designs

Article I used a natural research design, where the independent variable was not intentionally changed as part of the study (Andersen, Binderkrantz & Hansen, 2010). This was meaningful because article I investigated the conditions for discussion to be present or not, and consequently, cases with a lack of discussion remained informative and useful to the study.

Articles II and III, on the other hand, used an artificial research design (classroom intervention) to investigate the conditions for deliberative discussion to turn deliberative. The intervention design was used because the investigation required discussion to be present to even get started. Observing classrooms without employing an intervention design would have led to a large amount of unusable data because all observed lessons with a lack of discussion would have been irrelevant to the study. Alternatively, the study could also have worked backwards by first identifying instances of deliberative discussion and then look for the conditions in which these instances tended to occur. This would have been conceptually problematic, however, because deliberative discussion is a matter of degree (at least when deliberation is defined as an ideal) whereas identification is by definition a process of deciding whether or not something is present.

It is important to emphasize, moreover, that while interventions, which make use of experimental designs, usually rely on experimental control (Druckman & Kam, 2011), complete control was not achieved nor strived for in the single case experiments conducted as part of articles II and III. Complete control was not strived for because the experiment was carried out in the field and intervened in the everyday practices of self-directed agents with their own legitimate agendas, interests, and concerns. Relatedly, the teacher and students, who took part in the studies presented in articles II and III, were not required to stay on the assigned topic of discussion, since such a requirement would have violated the ideal procedure's definition of deliberation as unconstrained and free to revolve around any publicly relevant matter (Habermas, 1996, p. 306, 313). Giving up complete experimental control meant that the interventions were turned into quasi-experiments and this is generally accepted in experimental research on deliberation (Esterling, 2018).

4.3.3 Measuring deliberation and discussion

Article I investigated the conditions for classroom discussion. Discussion was captured by an element from the Protocol for Language Arts Teaching Observations (PLATO) (Grossman, 2021), which has also been used to structure observations of social science teaching (e.g., Christensen, A. S. & Mathé, 2023). This element, called "Opportunities for Student Talk", measured the extent to which observed teaching segments were characterized by conversation and dialogue (as opposed to monological teacher lectures) and was, hence, in line with the Cambridge Dictionary's definition of discussion as "*the act of talking about something with other people and telling them your ideas and opinions*" (Cambridge Dictionary's American Dictionary, 2023), which was employed in this project.

Articles II and III investigated the conditions for deliberative discussion to turn deliberative, and so, faced the challenging task of making the ideal of deliberation accessible for empirical research. The ideal procedure's criteria for discourse are essentially an explicit reconstruction of the idealized pragmatic presuppositions we implicitly make when we engage in argumentation about the validity of specific propositions (Habermas, 2018). To engage seriously in discourse, we must counterfactually assume that coercion or manipulation is not at work, that none of those involved are excluded, and that relevant information or opinions are not silenced. Though counterfactual, the presuppositions of discourse have an operative effect on actual

discourse, since they encourage participants to stay engaged in the deliberative process (Habermas, 2018). Although the ideal procedure of deliberation can be aptly characterized as a regulative ideal - and so, a normative concept - translating it into a measurable empirical construct is not a futile exercise (Bächtiger, 2018). While Habermas underlines that observers will not find deliberation in pure form (Habermas, 2018), he too seems to encourage empirical measurement of the extent to which real-world discussions approximate deliberative ideals (e.g., Habermas, 1996, p. 362). The view that it is impossible to translate normative concepts into measurable empirical constructs has, moreover, become unpopular within the research field of deliberative democracy, because empirical investigations are required to understand how normative concepts can function as recommendations for practice, and because empirical observations often inspire the formulation of deliberative concepts (Bächtiger, 2018). Since the ideal procedure of deliberation is appropriately characterized as a regulative ideal, the best researchers can do is to measure the extent to which real-world discussions approximate the regulative ideal and particularly the extent to which discussions situated in one context tend to be more or less deliberative than discussions situated in another context (Esterling, 2018). To measure the extent to which real-world discussions approximate the ideals of deliberation, it is necessary to specify empirical indicators for the criteria formulated in the ideal procedure. While some aspects of these criteria can be measured through observation or interviews, it is important to recognize that any particular attempt to measure aspects of the ideal procedure will be imperfect. This is partly because the ideal procedure includes notions that are themselves not delimited (e.g., the notions of “all potentially affected” or “internal coercion”), and any attempt at measuring these notions will, therefore, reflect only a subset of the countless possible empirical forms they can take in real-world discussions. A specific aspect of deliberation that is arguably hard to measure empirically is, the obligation for participants to engage in communicative action (Habermas, 2022, p. 76), since communicative action requires a sincere intention to reach understanding with other participants. This difficulty is elaborated in the subsection entitled “Limitations” (see Discussion section).

To measure the observable aspects of deliberative discussion, the project made use of the Stromer-Galley coding manual (Stromer-Galley, 2007) but adapted the manual to the specific aims of the study (see articles II and III for details about this adaptation and why it was

permissible). The Stromer-Galley manual was used because it is widely recognized as an observation tool that captures key empirical indicators of deliberation (Bächtiger, 2018; Esterling, 2018). Compared to Steenbergen, Bächtiger, Spörndli & Steiner (2003)'s Discourse Quality Index (DQI), which is another observation manual designed to capture aspects of deliberation, the Stromer-Galley manual is well-suited for measuring the deliberative quality of discussions among adolescents, because it was specifically designed to measure deliberation among ordinary people rather than deliberation among parliamentarians (Myers and Mendelberg, 2013). The Stromer-Galley manual is moreover better suited for measuring the deliberativeness of classroom discussion, because it codes all types of speech, whereas the DQI only codes so-called *demands* (i.e. explicit proposals on what decision should be made) and simply ignores other types of speech, including questions or remarks unrelated to the topic of the debate (Steenbergen, Bächtiger, Spörndli & Steiner). The DQI's scope was, therefore, judged to be too narrow to capture what transpires during classroom discussions, which are frequently not aimed at collective decision making.

4.3.4 Why quantitative content analysis?

All three articles made use of quantitative content analysis, but it is important to emphasize that the processes of quantifications built on in-depth interpretative assessments of the empirical material at hand.

Article I made use of quantitative content analysis to evaluate the frequency of discussions and the extent to which discussions (opportunities for deliberation) were unequally distributed across classes from different educational environments. Quantitative content analysis was deemed to be better suited for the purposes of the study than qualitative analysis because qualitative analyses of a single class (or comparative analyses of a couple of classes) would not have been able to capture the general level of inequality in opportunities for deliberation between classes from different environments.

Articles II and III made use of quantitative content analyses to capture aspects of the deliberative quality of classroom discussions. Quantitative content analysis was preferred for two reasons. First, the requirements stipulated by the ideal procedure of deliberation primarily concern *formal* aspects of discussion rather than aspects pertaining to content. What matters is (1) whether participants present arguments to each other rather than what these arguments are

about; (2) whether participants disagree with each other rather than what they disagree about; (3) whether the topic is framed as publicly relevant rather than what exactly the topic is about etc. Consequently, it made sense to condense the dense and complex meanings conveyed in the classroom discussions by use of codes. Importantly, however, while the ideal procedure's requirements pertain to the form of discussions, it is impossible to get to this form without first analyzing the content and meaning of what was said by use of in-depth context-sensitive approaches. Second, quantitative content analysis is a very sensitive analytical tool that is able to detect even very small traces of deliberative discussion (the seeds of deliberation). Being able to capture deliberation in its nascent state is especially important in an educational context, where participants are not yet proficient deliberators but work on making their interactions more deliberative. It is also important for studies that wish to compare the *degree* of deliberativeness across different contexts of discussion, and for studies that wish to improve the deliberative quality of discussions in contexts where it is currently a scarce good. If we want to work on improving the deliberativeness of discussions in contexts where it is usually scarce, we need an analytical tool that can capture *the lower end* of the deliberation scale.

4.3.5 Reflections on validity and reliability

In the context of the present study, *measurement validity* was understood as the extent to which the empirical indicators used by a study adequately measures the concepts being studied (see Andersen, 2010). When studying concepts that are not empirically delimited and constitute parts of a regulative ideal, issues with measurement validity are bound to arise, since no empirical indicators will be fully able to capture the concepts under scrutiny. Aspects of the ideal procedure that could not be measured by the empirical indicators employed by this study included but were not limited to: (1) participants' sincere intentions to reach intersubjective understanding (elaborated in the limitations section), (2) the effect of the forceless force of the better argument on participants' opinions, and (3) aspects of coercion having the effect of silencing participants (though this was partly captured by measuring inequality in speaking time). Though no empirical measures will ever be fully able to capture the concepts advanced by the ideal procedure, empirical researchers should not give up attempts to develop indicators that

approximate it as much as possible (Bächtiger, 2018).⁴ In line with this recommendation, much effort was put into developing observational indicators that reflected the content of the ideal procedure as much as possible. While there were a number of issues with measurement validity in articles II and III, the issues were less pronounced in article I, because the concept studied in article I (classroom discussion) was not indeterminate to the same degree as the concepts making up the ideal procedure of deliberation.

In the context of the present study, *reliability* was understood as the extent to which repeated measurements of the same phenomenon yield the same results (see Andersen, 2010). Indicators (e.g., codes used to classify empirical material) were, hence, understood as reliable if they yielded the same classifications when applied to the same material more than once (Andersen, 2010). To determine the reliability of the coding carried out as part of the articles, selected segments (in article I) and utterances (in articles II and III) were double-coded. Both double-coding procedures resulted in measures of reliability that ranged from satisfactory to perfect. In the context of articles II and III, double-coding was carried out by the same person (the author of this project) 16 days apart, and, hence yielded a measure of intra-coder reliability. In the context of article I, double-coding was carried out by different persons and, hence, yielded a measure of inter-coder reliability. Both types of reliability are accepted in quantitative content analyses (Hansen, 2010).

Internal validity concerns the extent to which observed changes in a dependent variable can be ascribed to changes in an associated independent variable (Andersen, 2010). The single case experimental designs (SCED's) employed in articles II and III ensured a high degree of internal validity because changes in the deliberative quality of the discussions were very likely to stem from changes in the experimental conditions (see e.g., Richards, 2018, p. 90). Observed changes in deliberative quality across experimental conditions could not stem from differences in participants, time or space, because these were all constant across the experimental conditions. While internal validity was generally high, it might occasionally have been compromised by serious deviations from the intervention plans described in the articles. Though utterances deviating from the intervention plans could often be excluded from the analyses post hoc, they

⁴Perhaps one might even argue that researchers should accept that the ideal of deliberation can have a regulating influence on their research practice even if it cannot fully be achieved; just as participants act according to the pragmatic presuppositions of communication, even if they know that these presuppositions are counterfactual.

might have had effects on the remainder of the intervention that could not be accounted for. While the non-experimental (natural) research design employed in article I did not ensure the same degree of internal validity as the single case experiments, post hoc attempts were made to control for as many potential confounding variables as possible, for example through the use of fixed-effects regression.

External validity concerns the extent to which results are generalizable to a wider population of cases. External validity was low in articles II and III, which only investigated a single case. The results obtained in these articles, hence, cannot be readily generalized to the wider population of Danish or Nordic social science students. External validity was also low in article I (albeit not as low as in articles II and III). This was because the 375 analyzed segments were gathered through non-probability sampling, which implied that the sample was not representative of the larger population of social science teaching segments.

Pragmatic validity (the extent to which the results can be used by the participants) (Andersen, 2010) is discussed in the subsection entitled “Implications for practice”.

5 Results within and across articles

This section briefly sums up the aims, methods, and findings of the three articles and compares them to each other.

5.1 Article I's results

Article I entitled “*Contexts and prevalence of classroom discussion in Nordic Social Science teaching. A large N observational study*” investigated the prevalence and contexts of classroom discussion in a Nordic sample of 375 teaching segments (each lasting 15 minutes). The sample was gathered through video observations, and discussion was measured by an element from the Protocol for Language Arts Teaching Observations (Grossman, 2021), which has also been used to structure observations of social science teaching (e.g., Christensen, A. S. & Mathé, 2023). While 147 (39.2%) of the investigated segments contained at least five minutes of discussion (deliberative opportunities), discussion segments were very unequally distributed across classes.

The article found classroom discussion to be most likely during small group work, in the middle of a 45-minute lesson, and in schools with high achieving students. It found half of the identified discussions to “include some students and be characterized by some open-ended questions” and the other half to “include the majority of students and be characterized by mostly open-ended questions”. The findings made by article I suggest that there may be pronounced inequalities in opportunities for deliberation across social science classes in the Nordic countries (though it should be kept in mind that the data were gathered through non-probability sampling), and that students in low-achieving schools might experience systematically fewer opportunities for deliberation than students in high-achieving schools. Since many of the investigated classes experienced no opportunities for discussion at all, the findings made by article I, moreover, suggest that many students are formally excluded from participating in processes of deliberative classroom discussion.

5.2 Article II’s results

Article II entitled “*Chasing deliberation in the Social Science classroom. A study of deliberative quality in whole-class, small group, and pair discussions*” examined classroom discussion in three conditions: a whole-class condition, a small group condition, and a pair condition (different discussion settings). The article made use of video observations from a classroom intervention to evaluate how each condition affected the deliberative quality of the discussion process. To this end, it coded 585 student utterances for aspects of deliberation using the Stromer-Galley (2007) observation manual. The article found both the small group and pair conditions to promote key aspects of deliberation compared to the whole-class condition. The small group condition generated the highest levels of contestation and engagement, whereas the pair condition generated the highest level of equality. Article II’s findings, hence, suggested that the deliberative quality of classroom discussion may sometimes benefit from the absence of the teacher. It argued, moreover, that this might be especially true when students disregard the teacher’s authority or when past interactions between the students and the teacher have been troublesome.

5.3 Article III's results

Article III entitled “*Chasing deliberation in the Social Science classroom. A study of deliberative quality in factual and controversial issue discussions*” investigated the deliberative quality of classroom discussion in three conditions: a factual issue condition, a controversial issue condition, and a scaffolded controversial issue condition. It used video observations from a classroom intervention to assess how each condition affected the deliberative quality of the discussion. To this end, article III identified 202 student utterances and coded them by use of the Stromer-Galley (2007) manual for measuring aspects of deliberation. Though the scaffolded controversial issue condition produced more argumentation, contestation, and engagement than the factual issue condition, the controversial issue conditions also opened the door to more inequality, exclusion, and chitchat. The results of article III, hence, suggest that reasoned classroom discussion might co-exist with problems related to inequality and exclusion, and that different conditions of discussion might promote different aspects of deliberation.

5.4 Comparing results across articles

Comparing levels of inequality across all the articles: measured by the Coefficient of Variance (CoV), which is a standardized measure of the spread of a distribution⁵, the level of inequality in speaking time observed in the whole-class conditions investigated in article II (CoV = 0.95)⁶ was roughly similar to the level of inequality in speaking time observed in the whole-class conditions investigated in article III (CoV = 1.12)⁷. These levels of inequality were, moreover, both roughly similar to the level of inequality in deliberative opportunities between classes observed in article I (CoV = 0.93). One possible interpretation of this is that the level of inequality in speaking time between participants (within a class) tended to be roughly similar to the level of inequality in access to discussion between classes. While the former might be seen as a consequence of differences in informal power playing out among students in discussion, the latter might be seen as a consequence of differences in the level and kind of formal power exercised by different teachers.

⁵ Calculated as the standard deviation divided by the mean and also referred to as the *normalized standard deviation*

⁶ Calculated as the mean of the CoV's observed in article II's two whole-class conditions (A1 and A2):
 $(0.78 + 1.12) / 2 = 0.95$

⁷ All conditions investigated in article III were whole-class conditions

Comparing level of deliberativeness across article II and III: when looking at the last columns of the tables entitled “Aspects of deliberative quality across conditions” in articles II and III, it becomes clear that deliberative quality varied widely between the discussions investigated in the two articles. While the aspects of argumentation, contestation, and public relevance were markedly more pronounced in the discussion investigated in article III than in the discussion investigated in article II, the opposite was the case with respect to the aspects of equality and absence of coercion.⁸ The observed differences in deliberative quality between the discussions investigated in the two articles shows again that the deliberative quality of classroom discussions varies widely across conditions and is, hence, neither guaranteed nor predestined to collapse from the outset. When comparing the results of articles II and III it also becomes clear that the teacher’s presence is sometimes but not always obstructive, since the teacher-led discussions analyzed in article III were in fact more deliberative on many parameters (e.g., with respect to argumentation, contestation, engagement, and public relevance) than the small group discussions analyzed in article II.

6 Discussing the results

The section discusses the contributions, limitations, and possible implications of the project’s results. The project’s contributions to the field consist of novel empirical insights and methods for analyzing classroom discussions. The new methods are seen as a contribution to methodological pluralism rather than as the “correct” way of analyzing discussions. Possible implications for teaching practice and for democracy at large are considered.

6.1 Contributions to the field

This section dives into the project’s theoretical, methodological, and empirical contributions to the field of Education for Deliberative Democracy. While the project engaged in a conceptual investigation aimed at assessing the degree of compatibility between the concepts of deliberation, social science education, and quality teaching, the insight gained from this

⁸ The picture was mixed for the aspect of engagement, and it was not meaningful to compare the two discussions with respect to inclusion, because the measure of inclusion is duration dependent.

investigation was not deemed to be sufficiently novel to be termed “a contribution to the field of Education for Deliberative Democracy”. A potential contribution, however, was the conceptual distinction made between conditions, discussions processes, high-quality discussion processes, and the ideal of deliberation. This potential contribution is discussed below and followed by a discussion of a number of other contributions.

6.1.1 Separating conditions, (high-quality) processes, and ideals from each other

A potentially important theoretical contribution to the field of Education for Deliberative Democracy was the project’s distinction between empirical conditions for discussion, processes of discussion (termed “discussion” or “the practice of discussion”), high-quality processes of discussion (termed “deliberative discussion”), and the ideal of deliberation. To recap, *conditions* were understood as shaping the possibilities for discussion and deliberative discussion.

Processes of discussion were understood as the actual interactions between participants - including the utterances voiced during discussion. *High-quality processes of discussion (deliberative discussion)* were understood as processes of discussion that approximate the ideal of deliberation more than average discussion processes; and finally, *deliberation* was understood as the regulative ideal towards which participants in discussions and designers of discussion can strive but never fully achieve in practice. Separating conditions (contexts) from processes is commonplace in political psychological research on deliberative discussion (Myers & Mendelberg, 2013), and separating processes of discussion from the ideal of deliberation is commonplace in political theory (Bächtiger, Dryzek, Mansbridge & Warren, 2018).

The fourfold distinction made by this project enabled empirical analyses of how conditions impact the extent to which processes of discussion approximate the ideal of deliberation; and the distinction might, hence, serve a similar function in future research aiming to explore the conditions for deliberative classroom discussion. Perhaps, distinction might also help solve issues with premature theoretical overdetermination in research on classroom discussion. While Englund (2006) for example has made very important and sophisticated theoretical contributions to research on deliberative classroom discussion (e.g., his notion of the *discursive situation*), his criteria for deliberative communication require that discussions sometimes take place in the absence of the teacher. Defining teacher absence as a criterion for deliberative communication from the outset, however, precludes the possibility that the teacher’s presence (empirical

condition) might push processes of discussion (process) closer to the ideal of deliberation (ideal). Contrary to Englund (2006), the argument made here is, then, that empirical investigation is needed to explore in which circumstances the teacher's presence promotes deliberative discussion and in which circumstances it obstructs it. When comparing the results of articles II and III it becomes even more evident that the teacher's presence is sometimes but not always obstructive (as shown in the section "Comparing results across articles"). While the conceptual clarity espoused above was followed as much as possible throughout the articles and in the extended abstract, the concepts might occasionally have been intermingled – especially in passages drawing on other approaches to research on deliberative classroom discussion.

6.1.2 Quantitative content analysis can capture the seeds of deliberative discussion

While quantitative content analysis has been used to study the process of deliberative discussion in political psychology (e.g., Myers & Mendelberg, 2013), quantitative methods are mostly used to study the outcomes of deliberation within the field of Education for Deliberative Democracy (Samuelsson & Bøyum, 2015). The project's use of quantitative content analysis might be seen as an important methodological contribution to the field because quantitative content analysis is well-suited to capture deliberative discussion in its "*nascent state*" (as shown in article II). Quantitative content analysis is a very sensitive analytical tool that is able to detect even very small traces of deliberative discussion because it measures the amount (or degree) of deliberativeness rather than determines whether a discussion is deliberative or not. As mentioned, being able to capture deliberation in its nascent state is arguably especially important in an educational context, where participants are not yet proficient deliberators but work on making their interactions more deliberative. If one wants to promote the deliberativeness of discussions in contexts where it is usually scarce or being development, an analytical tool that can capture *the lower end* of the deliberation scale is needed.

6.1.3 Changes in discussion design can change deliberative quality

An important empirical contribution to the field of Education for Deliberative Democracy is the finding that changes in discussion settings that are within the control of the teacher (i.e., changes in discussion designs) can indeed change the deliberative quality of classroom discussions in systematic ways. This finding is in line with a finding made by Samuelsson (2016), who showed

that topic framing can systematically alter the deliberative quality of classroom discussions. The finding might be said to be contribution to the field because it offers encouragement to teachers and researchers wishing to improve the deliberative quality of classroom discussions and points to a specific set of tools (discussion design) that seem to be worth exploring further.

6.1.4 The Janus face of controversial issues discussion and small group discussion

An important empirical contribution of the project was, moreover, to expose the Janus face of controversial issues discussion and small group discussion. Article II showed that compared to whole-class discussion, small group discussion can (at least in some circumstances) promote aspects of deliberative quality related to inclusion, contestation and engagement. While this finding supports assumptions made by proponents of small group discussion (e.g., Reich, 2007; Weasel, 2017), it also moderates these assumptions, since neither equality nor argumentation, public relevance, or lack of coercion were found to be higher in the small group discussion design. Article III found that when compared to factual issue discussion, scaffolded controversial issue discussion was able to promote aspects of deliberative quality related to original argumentation, shallow contestation in the form of statements of disagreement, engagement, and (to a marginal extent) absence of coercion. Yet, article III also found higher levels of inequality and exclusion in the scaffolded controversial issue condition. While this finding, hence, on the one hand, support proponents of controversial issue discussion (e.g., Avery, Levy and Simmons, 2013; Hess, 2009, p. 37-39; McAvoy & Hess, 2013), it also cautions that more attention is needed to issues regarding unequal participation and exclusion.

6.1.5 A Nordic civic opportunities gap?

Another potentially important empirical contribution was the discovery of a possible “civic opportunity gap” in the Nordic countries. Article I found opportunities for deliberation to be very unevenly distributed across the 36 social science classes it investigated and found that teaching segments from low-achieving schools were systematically less likely to contain opportunities for deliberation than teaching segments from high-achieving schools. While it should be kept in mind that the teaching segments analyzed in article I were gathered through non-probability sampling (and hence not representative of the Nordic population of social science teaching segments), the findings nonetheless suggest that there might exist a civic opportunity gap in the

Nordic countries akin to the one identified in the United States (Hess, 2008; Kahne & Middaugh, 2008) (see article I for details). While further research is needed to determine whether this is indeed the case, the finding is nonetheless interesting and might perhaps be said to constitute a preliminary contribution to the fields of Education for Deliberative Democracy and social science education.

6.1.6 Two factors of deliberative discussion? The issue of complex conditionality

A final contribution to the field of Education for Deliberative Democracy is the discovery that the different aspects of deliberative discussion might not covary empirically, and hence might not constitute a coherent empirical construct. While the different criteria of the ideal procedure of deliberation constitute inseparable parts of a coherent theoretical whole (they are a reconstruction of the pragmatic presuppositions we have to make when we engage in deliberative discussion) (Habermas, 2018), the criteria might not constitute parts of a coherent empirical whole. The analyses conducted in articles II and III suggest that deliberative discussion may comprise two empirical factors that covary internally but not with each other. First, the results suggest that argumentation, contestation, and engagement might covary across conditions and, hence might constitute one factor of deliberative discussion. When contestation is pronounced (e.g., in the scaffolded controversial issue condition, in the small group condition, and in 8th class investigated in article III) there seems to be a tendency for argumentation and engagement to be pronounced as well - and a tendency for equality, inclusion, and absence of coercion to be modest. Second, and relatedly, the results suggest that equality, inclusion, and absence of coercion might covary and, hence might constitute a second factor of deliberative discussion. When equality is pronounced (e.g., in the factual issue condition, pair condition and in the 9th grade class investigated in article II) there seems to be a tendency for inclusion, and absence of coercion to be pronounced as well – and a tendency for argumentation, contestation, and engagement to be modest. To be sure, the tendencies described above are not clear cut, and determining whether deliberative discussion is really comprised of two factors, therefore, requires further analyses, such as confirmatory factor-analyses, which can extract the main components of deliberative discussion as an empirical construct.

6.2 Limitations

6.2.1 Limitations related to scope

The scope of the analyses carried out as part of this PhD project were limited in several ways. *First*, the analyses did not systematically investigate why the observed changes in deliberative quality occurred. This could have been investigated by asking the students to elaborate on their discussion experiences in the different conditions. Though this was beyond the scope of the project, querying students' experiences with discussion in different settings is key to learn more about why and in which circumstances specific conditions can be expected to produce deliberative forms of discussion. *Second*, the study did not investigate how teacher facilitation and other forms of direct teacher intervention in the discussion process impacts the deliberative quality of that process. Understanding dynamics of teacher facilitation and drive (the red and blue arrows in figure 1) are, however, important to obtain a complete picture of how deliberative discussion comes about and should, hence, preferably be included in future research on deliberative classroom discussion. *Third*, the study did not capture aspects of the discussion process related to students' emotions and motivation. This is an important drawback of the deliberative approach employed here and future studies should aim at including these aspects of discussion in their analyses.

6.2.2 Limitations with respect to insincerity

The limitation discussed below has been mentioned in the subsection "Reflections on validity and reliability" but deserved to be elaborated here because it illustrates one of the key problems with using observational methods to capture deliberative discussion. More limitations were touched upon in the "Reflections on validity and reliability" section but these were not in focus here. The overall problem with observational methods is that they cannot capture invisible (mental) aspect of deliberation and coercion. One of the most important drawbacks in this regard is that observational methods are unable to capture the extent to which interlocutors sincerely strive for reaching intersubjective understanding with each other (and hence engage in communicative action) or rather participate in the classroom discussion for strategic reasons. While observational methods might not generally be well-suited to capture sincerity, it is worth mentioning first that this is not always the case. When analyzing the student discussions used in

article II, it was quite obvious that some of the utterances made by students in the pair condition were insincere. This could be observed by attending to the voice they used to express themselves, their postures, and their gesticulations. For example, one of the student utterances expressed during the pair 3's discussion seemed to be a response to something the other speaker in the pair said, but was expressed with an overtly sarcastic voice and addressed at the camera rather than at the other speaker. The insincerity of this comment was not difficult to detect through observation and implied that the comment was not registered as a response (since it lacked the sincerity required for a response to function as an indicator of engagement). The problem, however, is that insincerity is not always expressed as audible and visible sarcasm. One case in point is the occurrence of concealed strategic action (Habermas, 1984, p. 294-295), which is at once normatively undesirable and difficult to measure by use of observational tools. Concealed strategic action occurs when at least one speaker deceives the other participants regarding the fact that she is acting strategically (Habermas, 1984, p. 294-295). Though she appears to be arguing solely with the aim of reaching understanding with other participants in discussion, she in fact wants to produce effects on the other participants that are completely unrelated to the meaning of her speech acts, and so, she has a hidden agenda (Habermas, 1984, p. 294-295). One very relevant example of concealed strategic action in the context of education is the student who presents an extremely well-formulated rebuttal of a prior argument in a discussion but only does so to increase her own social standing among peers or to impress the teacher as part of an effort to obtain good grades.

While the problem of concealed strategic action might be said to be especially serious when investigating whole-class discussions – and might be one of the reasons why Englund (2006) recommended deliberation in the absence of the teacher without further ado – concealed strategic action is also likely to be dependent on specific classroom conditions and contexts, and should ideally be captured by use of in-depth interviews combined with stimulated recall of what happened during a particular discussion. Though interviews with stimulated recall were not used to detect concealed strategic action in the context of the present project, there are three reasons to assume that problems related to concealed strategic action were not as pronounced in the discussions analyzed in articles II and III as one might fear. First, the 8th grade class analyzed in article III was highly engaged in the discussion process, but their high-stakes exam was almost two years away, and one might, hence, argue that concealed strategic action was unlikely to have been pronounced. Second,

the 8th grade students often directed their comments to each other without teacher intervention and sometimes were so eager to respond to each other that they violated the teacher-implemented requirement not to interrupt other speakers. Third, the 9th grade class analyzed in article II were overall very unengaged in the two whole-class conditions, where the teacher was present, and it is, hence, hard to interpret their actions as concealed efforts to obtain good grades. All this said, there are of course many kinds of concealed strategic action, and the occurrence of concealed strategic action could, hence, by no means be completely ruled out.

6.3 Implications

Possible implications of the results are considered in the below subsection. The subsection first considers implications for teaching practice and then turns to potential implications for deliberative aspects of democracy at large.

6.3.1 On giving inspiration rather than recommendations for teaching practice

The results produced (and methods used) by this project were primarily meant as inspiration for the many social science teachers, who embrace the notion of deliberation as a central aspect of social science education (e.g., Christensen, A. S., 2005), some of whom might be interested in experimenting with different kinds of discussion settings in their own classrooms. They were in no way meant as ready-made packages to be implemented in classrooms in a cookbook fashion but were thought of as potential inputs to context-specific processes of didactical reflection - i.e., processes of didactization (Christensen, T. S., 2015). Ready-made packages of classroom discussion, such as Structured Academic Controversy (SAC) (Avery, Levy & Simmons, 2013), might perhaps be accused of constraining teachers' room for practical professional judgement, and their didactical freedom to judge the suitability of specific teaching techniques in specific contexts - see e.g., Gudem (2011, p. 92) for a note on the centrality of didactical freedom in the European didactical tradition. The discussions investigated as part of this project, by contrast, are probably less vulnerable to such charges because they constitute micro-techniques that can be more freely adjusted to suit the specific goals of a lesson or teaching methods employed by a specific teacher in a specific context (Reinhardt, 2015, p. 115). In this sense, the results produced by this project might be said to have *pragmatic validity* because they are relevant to the activities that practitioners already pursue (e.g., Andersen, 2010). This point is further supported by article

I, which suggested that the discussion designs investigated in articles II and III (controversial issues topic, whole-class format, and small group format) are designs that Nordic social science teachers frequently use when they conduct discussions in their own classrooms.

6.3.2 Tackling complex conditionality through a deliberative systems approach?

Deliberatively inclined social science teachers might be left wondering what to do about the issue of complex conditionality, which seems to present them with a trade-off between equal, inclusionary, and non-coercive discussion on the one hand and argumentative, critical, and engaged discussion on the other. If it indeed turns out that deliberative classroom discussion is composed of these two separate components, one way of handling it might be by using a deliberative systems approach to classroom discussion. The concept of deliberative systems has gained prominence within the field of Deliberative Democracy and involves the notion that deliberative ideals can be approximated *in distributed ways* (Bächtiger, Dryzek, Mansbridge & Warren, 2018). From a deliberative systems perspective, each and every classroom discussion does not have to approximate all the ideal procedure's criteria. What is important is, rather, that the classroom as an aggregate system approximates all the ideals. On this view, different conditions, formats, and settings of discussion can help approximate different aspects of deliberation, and one might, hence, say that there is a *division of deliberative labor* between different settings (Bächtiger, Dryzek, Mansbridge & Warren, 2018). Social science teachers wishing to approximate the ideal of deliberation in their teaching can, hence, alternate discussion designs that promote equality, inclusion, and absence of coercion with discussion designs that promote argumentation, contestation, and engagement. Bächtiger, Dryzek, Mansbridge, and Warren (2018), however, have argued that even when adopting a deliberative systems approach, it is important that each discussion becomes as deliberative as possible in itself. According to them, the deliberative systems approach should not be seen as contradictory to encouraging deliberative discussion in specific settings but should rather be seen as supplementary to such encouragements (Bächtiger, Dryzek, Mansbridge & Warren, 2018). As indicated in the previous subsection, however, it is ultimately up to social science teachers themselves to decide how to tackle the issue of complex conditionality in their classrooms.

6.3.3 Implications for (deliberative) democracy?

The findings made by this project indicate (1) that some students are formally excluded from participation in deliberative classroom discussions due their teacher's decisions (article I) and (2) that even when students get the opportunity to participate in classroom discussions, some of them are likely to be informally excluded (or at least sidelined) from making contributions and from being heard due to dynamics internal to the discussion process (articles II and III). This might be seen as a problem for democratic legitimacy for two reasons. First, it might be said to be problematic in the *present* to the extent that classrooms are viewed as constitutive parts of the public sphere (see figure 1). If this is the case, the inequality and exclusion that exists in classroom discussions contributes to making the opinion and will-formation taking place in the public sphere less democratically legitimate (if viewed through the lenses of deliberative democratic theory). Second, it might be said to be problematic in the *future* to the extent that participation in classroom discussions fosters civic skills and virtues. If this is the case, students, who are excluded from participating in such discussion will acquire fewer civic competencies than their participating counterparts and will hence be disadvantaged when participating in democratic discussions in the future – an outcome which might in turn make future processes of opinion- and will formation in the public sphere less democratically legitimate. Due to its potentially adverse impact on democratic legitimacy, one might perhaps argue that the results presented in this project (particularly those presented in article I) should not only inspire teachers but also function as a wakeup call to politicians and policy makers responsible for ensuring equality and inclusion in education and the health of democracy more generally.

On a more positive note, however, it deserves to be mentioned that the findings of the project also indicate that teachers who are willing to engage their students in classroom discussion, can (at least in some situations) influence the democratic quality of these discussions by manipulating the settings and contexts in which they take place.

7 Conclusions: answering the research questions

The conclusions answer the research questions posed in the introduction of the extended abstract in light of the findings made and insights gained by working on the project.

RQ 1: To what extent and in which senses is it desirable to pursue deliberative discussion in the social science classroom? Pursuing deliberation in the social science classroom can be one way (among others) of pursuing quality in social science education. This is because teaching that approximates the ideal procedure of deliberation can be seen as (1) an instance of good (fair and just) teaching and hence valuable in itself, (2) an instance of successful teaching because it likely promotes desirable civic learning outcomes, and (3) an instance of aligned teaching because it fits the core content, form, and purposes of social science education. One important precondition for viewing teaching that approximate deliberative ideals as quality teaching, however, is that the meanings attached to quality, social science education, and deliberation match each other. While matching definitions of the terms exist, there are also definitions which would render the concepts incompatible with each other (though the latter definitions might not be the ones most frequently used). Moreover, it is important to underline that there are certain aspects of quality in social science education that are not captured by the notion of deliberation – particularly aspects related to students’ emotions and motivations for participation. Even when conceptualized as a kind of quality in social science education, teachers should by no means strive for deliberative discussion in all of their lessons, since more traditional teaching can at times support and scaffold deliberative discussions and other valuable forms of engagements between students and the learning contents of social science education.

At least in a Danish context, many social science teachers embrace the notion of democratic deliberation (Christensen, A. S., 2005) and one might, hence, reasonably argue that problems with unequal opportunities for deliberative discussion among classes and schools are not primarily due to some teachers’ lack of enthusiasm for deliberative discussion. A more likely explanation is that teachers find it challenging to conduct deliberative discussions in certain places and at certain times. From a deliberative democratic point of view, it is especially important that these teachers get the support they need to facilitate and design deliberative discussion among students. Deliberative discussion is, in other words, especially desirable where it is most absent, since conducting deliberative discussions in places where it is currently absent helps reduce the level of inequality in opportunities for deliberative discussion detected by the project.

RQ 2: To what extent and in which conditions do social science teachers provide students with opportunities for deliberative discussion? The results of the large N-observational study conducted in article I suggested that 39.2% of social science teaching segments contain at least five minutes of discussion (deliberative opportunities) but also that segments containing discussion are very unequally distributed across classes. The results also suggested that deliberative opportunities are most frequently provided during small group work, in the middle of a 45-minute lesson, and in schools with high-achieving students. An important limitation of the large-N study, however, was that the results were not readily generalizable to the population of Nordic social science teaching segments because the investigated teaching segments were gathered through non-probability sampling.

RQ 3: In which conditions do opportunities for deliberative discussion come closest to realization? The results of the two single case experiments suggested that different conditions (classroom settings) might promote different aspects of deliberative discussion. Small group discussion seemed to promote contestation and engagement. Pair discussion seemed to promote equality, inclusion, and student questions. Non-scaffolded controversial issues discussion seemed to promote deep-rooted contestation (contestation of beliefs and values). Scaffolded controversial issues discussion seemed to promote original argumentation, shallow contestation, and engagement. Factual issues discussion seemed to promote public relevance and some aspects of equality. The results presented in article III moreover provided a clue about the extent to which deliberation can be realized in the social science classroom. Though deliberative ideals might probably be approximated even further in some circumstances, article III showed that classroom discussions are *possible* in which at least one third of all student utterances are characterized by original argumentation; where at least one fifth of student utterances are characterized by disagreement; where at least three thirds of student utterances touch upon a publicly relevant matters; and where at least around half of the utterances are direct responses to other students. Afterall, then, deliberative discussion might not be pure utopia. Still, the results of the single case experiments were each based on observations of a single class and could, hence, not readily be generalized to other contexts.

RQ 4: Do the conditions in which opportunities are given match the conditions in which they come closest to realization? When combining the results of the three articles, this question might to some extent be answered affirmatively. Article I found classroom discussion to be more likely during small group work than during whole-class discussion. It also found half of the identified discussions to “include some students and be characterized by some open-ended questions” and the other half to “include the majority of students and be characterized by mostly open-ended questions”. Since controversial questions are by definition open-ended, one might say that opportunities for classroom deliberation were frequently given in the context of controversial issues discussion and in the context of small group work (though these were not the only conditions found to be conducive to the presence of classroom discussion). Interestingly, articles II and III showed that the small group condition and the scaffolded controversial issue condition also seemed to be the conditions that allowed discussion to come closest to the ideals of deliberation (when disregarding their inability to ensure equality and inclusion). Consequently, one might indeed say that some of the conditions in which opportunities are given match some of the conditions in which these opportunities come closest to realization. While this is in a sense good news, it still leaves the issue of inequality unaddressed and in need of more attention from teachers, researchers, and educational policy makers.

In writing this project, I have had a double role. On the one hand as an observer of student discussions, and on the other as an engaged participant in academic discussion. As an engaged participant, I have advanced a particular position. I have done so by analyzing and drawing on evidence, by arguing, and by taking others’ views into account. But in the end, the position I have advanced remains partial and probably characterized by blind spots that I even cannot see. From the perspective of deliberative theory (at least), this partial position now needs to be challenged by other participants in the academic discussion about how to best support the democratic quality of student discussions in social science teaching.

8 References

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9 Appendix

9.1 Iteratively refined codebook

This codebook presents the final interpretive rules resulting from the process of iterative refinement described briefly in the articles. These final interpretive rules were used alongside the rules specified in the Stromer-Galley (2007) manual to generate the results presented in articles II and III. The analyses conducted as part of the articles used the Stromer-Galley framework as an analytical tool for segmenting and analyzing students' discourse, but only presented the elements of the Stromer-Galley manual that were relevant to the project. The Stromer-Galley elements that did not constitute meaningful measures of aspects of the ideal procedure of deliberation were, hence, coded as part of the analyses but not presented in the articles (e.g., the Stromer-Galley elements of elaboration, sourcing, and on-topic discussion). The analyses also included a number of elements (argumentation, rebuttals, critical questions, contestation of deep-rooted beliefs, equality in received responses, and interruption), which served to capture aspects of the ideal procedure of deliberation not captured by the Stromer-Galley (2007) manual. Using the Stromer-Galley manual in this flexible way and in the service of specific research purposes is in line with the manual itself, which explicitly allows for such flexibility (Stromer-Galley, 2007).

9.1.1 Rules for segmenting turns into utterances

Rule 1: If at all possible, the turn should be interpreted as one utterance. It is only in cases where it is completely impossible to interpret it otherwise that a second utterance is registered.

Rule 2: Following the overall principles for unitizing outlined by Stromer-Galley, two utterances were coded, in the case of:

Rule 2.A: Action change from responding to coming with own contribution. E.g., there was a response followed by a new *question* or a new *proposal*.

Rule 2.B: Topic change: there was an opinion/fact/question about one topic; and an opinion/fact/question about a different topic.

Rule 2.C: Address change: there was a pragmatic response/address to one person; and another pragmatic response/address to another person

Rule 3: Segmenting is done chronologically. That is, if a participant interrupts him or herself with another category of talk, for example problem talk that is interrupted by metatalk, and then returns to the problem talk, there would be three utterances: problem, meta-talk, problem.

9.1.2 Rules for coding argumentation

Coding argumentation

Rule 1: Following Fisher (2004), arguments are attempts to convince others of something through reasoning. Argument presence, hence, requires that such an attempt is present.

Rule 2: Following Fisher (2004), an argument consists of a conclusion backed up by a reason. For an utterances or parts of an utterance to be reason, it must therefore function as backing for the point that the speaker wants to get across.

Rule 3: Elaborations of a point of view are not necessarily reasons for that point of view. For an elaboration to be a reason (and hence for the utterance to be an argument), it must answer the question of **why** a specific point of view is justified and **not only** the question of **how** (through which process or in what sense) it should manifest itself, or **what** it precisely entails.

Rule 4: The rule of charity: If interpreting as reasoning a passage, which is not obviously reasoning, yields only bad arguments, assume it is not reasoning (Fisher, 2004, p. 17-18).

Rule 5: If argumentative language is used, but the argument is itself completely nonsensical (warrant offers no meaningful connection between reason and conclusion or the reason is itself obviously false or extremely implausible), it is not argumentation but hollow argumentative language – and might in some cases be an instance of rhetoric.

Rule 6: Distributed argumentation: Following Fisher (2004, 16-19), arguments can be distributed, which means that the conclusion of an argument can be implicit, voiced by the same participant in a previous turn, or voiced by another participant in a previous turn. What matters is the speaker's intention to support a conclusion with a reason in order to convince others.

Coding original argumentation

Rule 1: Original argumentation is coded when arguments are original rather than restatements of previously voiced arguments during the discussion.

Rule 2: The “restatement” code is used when arguments were voiced again in the same discussion section (the same group, the same pair, the same plenary session).

9.1.3 Rules for coding contestation

Coding statements of disagreement

Rule: Following Stromer-Galley (2007), disagreement was only coded in case of disagreement with persons – not in case of disagreement with the topic being discussed.

Coding critical questions

Rule 1: Critical questions must be genuine questions as specified by Stromer-Galley (2007). A genuine question is a question that is trying to seek information or an opinion from another speaker.

Rule 2: Critical questions must be instances of cross-examination (questioning to elicit information). They must constitute attempts at rebutting or challenging a view by exposing it as being based on insufficient or deficient reasons/evidence or as lacking a supportive reason/evidence altogether.

Coding contestation of deep-rooted beliefs

Rule 1: Claims made during the discussion are instances of deep-rooted beliefs if they are either normative claims (value claims) or claims about participants’ own inner worlds.

Rule 1.A: *Normative claims (value claims)* are about what ought to be in general. Claims about ought in general can be abstract but do not need to be so; and abstractness is **not** their defining feature. They include judgements about whether a thing, event, or action is good or bad in general (general value judgements). General value judgements might for example judge whether something is good for “us”, “them”, or “everyone” in general.

Rule 1.B: Inner worldly claims are about “is”, ”was”, or ”will be” in the inner world. These include expressions of want, hope, fear, anger, joy etc.

Rule 2: Contestations of deep-rooted claims occur when deep-rooted claims (as defined above) are contested by other participants in the discussion. Contestations of deep-rooted claims might be in the form of either statements of disagreement, rebuttals, or critical questions.

9.1.4 Rules for calculating equality and inclusion

(1) Equality in speaking time was calculated as the standard deviation of the distribution of speaking time shares among students. Speaking time was measured in seconds.

(2) Equality in received responses was calculated as the standard deviation of the distribution of shares of received responses among students.

(3) Inclusion with respect to speaking was calculated as the percentage of present students who spoke at least once during the discussion

(4) Inclusion with respect to being heard was calculated as the percentage of present students who received at least one response

9.1.5 Rules for coding engagement

Coding responses

Rule 1: Utterances are coded as responses if they respond to something a prior speaker said.

Responses are utterances that attempt to reach intersubjective understanding with other participants. They differ from utterances made merely to “perform” one’s own subjectivity or to display one’s own identity to others.

Rule 2: Responses occur when a speaker disagrees, agrees, or voices a neutral stance with respect to statements made by specific prior speakers. If this is the case, the speaker positions herself in relation to a prior speaker’s utterance.

Rule 3: Responses also occur when a speaker builds on previous speakers’ thought and thereby meaningfully extends what they were saying by using connecting words like “and”, “but”, “yes”,

and “also”. If this is the case, the speaker also positions herself in relation to a prior speaker’s utterance.

Rule 4: Responses can take the form of direct answers to questions made by a prior participant.

Rule 5: If a speaker implicitly answers a question from or positions herself in relation to another speaker, it must happen one or two turns after the turn to which the speaker refers

Rule 6: If a speaker explicitly (or in other ways make it unquestionable that the talk is a response to a specific turn) answers a question from or positions herself in relation to another speaker, this can happen at any time during the discussion

Coding genuine questions or metatalk

Rule 1: Genuine questions: utterances are coded as questions when the question involved is genuine. A genuine question is directed to another speaker and is trying to seek information or an opinion from that speaker. They differ from rhetorical questions, which are not meant to be answered and from directive questions (i.e., imperatives such as “stop doing that”, “show me”), which were coded as a kind of coercion in the context of this project. Coding directive questions as a kind of coercion constituted a departure from the Stromer-Galley (2007) manual, which codes them as genuine questions.

Rule 2: Metatalk: Following Stromer-Galley (2007), utterances were coded as metatalk if they constituted explicit talk about the talk. Metatalk utterances must attempt to step back and observe what the participant thinks has happened or is happening, what it means, and why it’s happening in the discussion.

Coding rebuttals and original rebuttals

Rule 1: Rebuttals are arguments that attack either the warrant (its validity, strength), the reason (its truth, plausibility, rightness), or the conclusion of a prior argument.

Rule 2: Rebuttals are not just contrary statements: A rebuttal occurs if a participant says x, therefore y, and another participant attacks the reason (x), by saying z, therefore not-x. This is a rebuttal of the first speaker’s argument, because it is an argument [or reason] against the reason of the first speaker. If the second speaker, by contrast, had just replied “not-x”; then this is not a

rebuttal because it is not an argument or part of an argument (such as a reason). It is just a contrary/opposing statement with different valence than the first.

Rule 3: The Rule of Charity also applies to rebuttals. If the “not-x” statement can only be interpreted as a very bad reason if at all, then it is not a reason and should not be counted as a rebuttal.

Rule 4: The originality of original rebuttals is understood in the same way as the originality of original arguments

9.1.6 Rules for coding public relevance

Coding publicly relevant talk

Rule 1: An utterance qualifies as publicly relevant talk when it is registered as either problem talk (talk about the publicly relevant substance of the discussion) or metatalk (talk about the talk of the publicly relevant substance). Conversely, an utterance is an instance of private talk if it is registered as social talk (talk which primarily serves to maintain or disrupt social ties), which includes the category of chitchat (see Stromer-Galley, 2007).

Rule 2: Talk that is *framed* as publicly relevant by the participants, *is* publicly relevant

Rule 3: Personal experiences, narratives, inner feelings, wants etc. are only coded as problem talk if they function as a reason for a problem talk claim or are otherwise framed as publicly relevant

Rule 4: The Stromer-Galley (2007) manual says that social talk (including joking) must be coded as problem talk when it happens in the context of problem talk. When utterances had no problem talk function (but only a social function) and contained no opinion, no fact, and no question, they could not be said to happen in the context of problem talk, and were, hence, coded as social talk.

Coding opinions

Rule 1: An opinion is registered when a participant engages in problem talk and expresses her individual belief about how the world is. Opinions are expressed judgments, which the speaker makes on a person, an event, a social problem, a state of affairs, a crisis, values, and the like (Stromer-Galley, 2007). Opinions differ from fact statements and questions, though all are instances of problem talk and hence publicly relevant talk.

Rule 2: Utterances stating that an empirical condition has, does, or will exist are opinion statements if (1) they are argued for or against, (2) they are the subject of disagreement, (3) they are framed as personal convictions through the use of the pronoun “I” (as in “I believe that”), (4) they are about an inherently controversial issue that cannot be settled definitively, or (5) they are about a person’s own conscious and freely chosen actions or opinions. *If none of these preconditions obtain, such utterances are fact statements*, and fact statements do not need to be correct to be coded as such.

Rule 3: An utterance often contains more than one type of validity claim; something, which is directly observable from the empirical classroom discussions analyzed (see also e.g., Rostbøll, 2011 on Habermas’ distinction between the different types of validity claims). This circumstance can make it tricky to determine whether an utterance should be coded as a fact statement or an opinion statement. Since validity claims to rightness (opinion statements) always build on an underlying claim to truthfulness, statements were only coded as claims to truthfulness (and hence factual statements about a person’s inner world), when they could not also be interpreted as validity claims to rightness directed towards the intersubjective world. For example, the statement “I hope that Denmark won’t lock down again” both raises validity claims to truthfulness (this is sincerely what I hope) and to rightness (this is the right solution – either for Denmark, for me, or for other people I know); but only the validity claim to rightness was coded here; and it was coded as an opinion statement rather than a factual statement about the participant’s inner world.

9.1.7 Rules for coding coercion

Coding interruption

Rule 1: An interrupting turn is a turn that cut others off in the middle of an utterance and effectively prevents them from getting their point across (or properly finish their point). Such interruptions were considered to be serious interruptions representing an aspect of coercion.

Rule 2: Not an interruption if a student voice emerges as the “strongest” from an episode of “speaking all at once”.

Rule 3: Speaking order interruption: Cases where a participant clearly, visibly, and explicitly (or implicitly when it was clear from the preceding turns that a speaking order was in place) violated the speaking order without interrupting the current speaker were also registered in the variable “Interruption” as “interruption of speaking order”.

Rule 4: Speaking order interruption: Speaking order interruption not relevant if no speaking order created.

Coding harmful social talk

Rule 1: Harmful social talk is social talk that primarily serves to damage social ties between participants – including both (1) disrespectful talk aimed at harming other participants’ social standing or sense of self-worth, and (2) coercive talk that attempts to force participants to do something or abstain from doing something through the use of social power.

Rule 2: Disrespectful talk includes blames and scolding as well as insults and overt attempts at mockery or bullying.

Rule 3: Coercive talk includes implicit threats (imperatives and commands) and explicit threats, where a speaker attempts to make another participant do something or refrain from doing something by (implicit or explicit) reference to her own social or physical ability to sanction non-compliant behavior.

9.2 Documentation for statistical analyses carried out in article I

STATA DO FILE EDITOR

*Reported tables. With OR and then with Coefficient.

*DESCRIBING SAMPLE.

*DESCRIBING SAMPLE.

*DESCRIBING SAMPLE.

*Characterizing the sample. Table 1.

bysort Index_Country_no: tabulate School_ID_G

bysort Index_Country_no: tabulate Class_ID_G

bysort Index_Country_no: tabulate Lesson_ID_G

bysort Index_Country_no: tabulate Segment_ID_G

tabulate Segment_ID_G

*Strangely, Segment_ID_G=163 occurs twice in the data and is hence not unique.

bysort Index_Country_no: tabulate Segment_ID_G

*Characterizing the sample. Text.

tabulate Index_Grade, missing

bysort Index_Country_no: tabulate Index_Grade, missing

tabulate Teacher_Credits, missing

bysort Index_Country_no: tabulate Teacher_Credits, missing

*PREVALENCE AND DISTRIBUTION.

*PREVALENCE AND DISTRIBUTION.

*PREVALENCE AND DISTRIBUTION.

*PREVALENCE AND DISTRIBUTION.

*PREVALENCE AND DISTRIBUTION.

*Frequency.

tabulate Segm_Opportunities_DichoA, missing

*Distribution.

*See SPSS syntax file called "Syntax4.sps" in the folder "Feedback fra vejledere og tilpasninger".

*CONTEXTS.

*CONTEXTS.

*CONTEXTS.

*CONTEXTS.

*CONTEXTS.

*CONTEXTS DESCRIPTIVE.

*CONTEXTS DESCRIPTIVE.

*CONTEXTS DESCRIPTIVE.

*Table 6.

tabulate Index_Country_no Segm_Opportunities_DichoA, row

tabulate Teacher_Credits Segm_Opportunities_DichoA, row

tabulate Segm_Most Segm_Opportunities_DichoA, row

tabulate Segm_SEGM Segm_Opportunities_DichoA, row

tabulate Disruptiveness_lag Segm_Opportunities_DichoA, row

tabulate Index_Grade Segm_Opportunities_DichoA, row

*Table 7.

logistic Segm_Opportunities_DichoA i.Segm_Most, allbaselevels coef cluster (Class_ID_G)

logistic Segm_Opportunities_DichoA Segm_SEGM, allbaselevels coef cluster (Class_ID_G)

logistic Segm_Opportunities_DichoA Disruptiveness_lag, allbaselevels coef cluster
(Class_ID_G)

logistic Segm_Opportunities_DichoA Teacher_Credits, allbaselevels coef cluster (Class_ID_G)

logistic Segm_Opportunities_DichoA Teacher_Year_teach, allbaselevels coef cluster
(Class_ID_G)

logistic Segm_Opportunities_DichoA Class_Size, allbaselevels coef cluster (Class_ID_G)

logistic Segm_Opportunities_DichoA Gender_diversity, allbaselevels coef cluster (Class_ID_G)

logistic Segm_Opportunities_DichoA Stand_School_SES_Scale, allbaselevels coef cluster
(Class_ID_G)

logistic Segm_Opportunities_DichoA Stand_School_Perf_Scale, allbaselevels coef cluster
(Class_ID_G)

logistic Segm_Opportunities_DichoA i.Index_Grade, allbaselevels coef cluster (Class_ID_G)

logistic Segm_Opportunities_DichoA i.Index_Country_no, allbaselevels coef cluster
(Class_ID_G)

logistic Segm_Opportunities_DichoA i.Norway_Baseline, allbaselevels coef cluster
(Class_ID_G)

logistic Segm_Opportunities_DichoA i.Sweden_Baseline, allbaselevels coef cluster
(Class_ID_G)

logistic Segm_Opportunities_DichoA i.Finland_Baseline, allbaselevels coef cluster
(Class_ID_G)

*CONTEXTS EXPLANATORY.

*CONTEXTS EXPLANATORY.

*CONTEXTS EXPLANATORY.

*Identification of potential confounders.

regress Stand_School_Perf_Scale i.Segm_Most, cluster (Class_ID_G)

```
regress Stand_School_Perf_Scale i.Index_Country_no, cluster (Class_ID_G)
tabulate Index_Country_no Segm_Most, chi2
```

*Table 8.

*Model 1 (Teaching format) FE model.

```
clogit Segm_Opportunities_DichoA i.Segm_Most, group(Lesson_ID_G) cluster (Class_ID_G)
listcoef, std help
clogit Segm_Opportunities_DichoA i.Segm_Most, group(Lesson_ID_G) or cluster
(Class_ID_G)
logistic Segm_Opportunities_DichoA i.Segm_Most i.Lesson_ID_G, allbaselevels or cluster
(Class_ID_G)
vif, uncentered
listcoef, std help
```

```
logit Segm_Opportunities_DichoA i.Segm_Most i.Lesson_ID_G, allbaselevels or cluster
(Class_ID_G)
listcoef, help
```

*Model 2 (Lesson progression) FE model. With SEGM SQUARED. Using the dataset "Merged_data_QUINT20_Descr1".

```
clogit Segm_Opportunities_DichoA c.Segm_SEGM c.Segm_SEGM#c.Segm_SEGM,
group(Lesson_ID_G) cluster (Class_ID_G)
vif, uncentered
clogit Segm_Opportunities_DichoA c.Segm_SEGM c.Segm_SEGM#c.Segm_SEGM,
group(Lesson_ID_G) or cluster (Class_ID_G)
vif, uncentered
logistic Segm_Opportunities_DichoA c.Segm_SEGM c.Segm_SEGM#c.Segm_SEGM,
allbaselevels or cluster (Class_ID_G)
```

vif, uncentered

*Model 3 (Ref. Denmark AND School performance - Schools with high performing students).

*Segm most was not controlled for here since:.

*1. Though segm most correlates with both country and discussion, it is a moderator variable of this relationship.

*2. Segm most does not correlate with school performance.

logistic Segm_Opportunities_DichoA Stand_School_Perf_Scale i.Index_Country_no,
allbaselevels coef cluster (Class_ID_G)

vif, uncentered

*Model 4 (Ref. Norway).

logistic Segm_Opportunities_DichoA Stand_School_Perf_Scale i.Norway_Baseline,
allbaselevels coef cluster (Class_ID_G)

vif, uncentered

*(Model 5). Disruptiveness of preceding lesson event (using the file "...LagFEIndeDown1").

clogit Segm_Opportunities_DichoA Disruptiveness_lag, group(Lesson_ID_G) or cluster
(Class_ID_G)

clogit Segm_Opportunities_DichoA Disruptiveness_lag, group(Lesson_ID_G) cluster
(Class_ID_G)

logistic Segm_Opportunities_DichoA Disruptiveness_lag i.Lesson_ID_G, cluster (Class_ID_G)

vif, uncentered

9.3 Documentation for statistical analyses carried out in article II

SPSS SYNTAX

* Encoding: UTF-8.

* Encoding: .

*Analysis. Article 2.
*Analysis. Article 2.
*Analysis. Article 2.
*Analysis. Article 2.
*Analysis. Article 2.

NAME OF DATASET USED.
NAME OF DATASET USED.
NAME OF DATASET USED.

Dataset used: "Intervention 1 version 87 Truncated Twice WITHOUT TAADMPEUI.

***REMEMBER TO ALWAYS SWITCH USER MISSING VALUES (66) OFF (IN THE VARIABLE VIEW) BEFORE CREATING AND RECODING VARIABLES.

***BUT BUT BUT BUT BUT BUT BUT.

***REMEMBER TO ALWAYS SWITCH USER MISSING VALUES (66) ON (IN THE VARIABLE VIEW) WHEN PERFORMING THE FINAL ANALYSIS TO BE REPORTED.

Preparations.

Preparations.

Preparations.

Preparations.

Preparations..

RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (66=66) (SYSMIS=SYSMIS) INTO
Public_relevance_Dicho.

VARIABLE LABELS Public_relevance_Dicho 'Public relevance Dichotomous'.

EXECUTE.

SORT CASES BY Round_Jure.

SPLIT FILE LAYERED BY Round_Jure.

SPLIT FILE OFF.

*Checking for missing values.

FREQUENCIES VARIABLES=Responding_to_specific_CHECK
/ORDER=ANALYSIS.

*After creation of each new variable - indicate 66 as user-missing value in the variable view window.

*After creation of each new variable - indicate 66 as user-missing value in the variable view window.

*After creation of each new variable - indicate 66 as user-missing value in the variable view window.

***Reasons for not reporting percentages within categories (e.g. within publicly relevant talk or within opinion statements):.

*1. Theoretical: The ideal procedure specifies that the entire discussion process should display the deliberative traits - not a subset of it.

*2. Theoretical: Stating opinions and speaking about publicly relevant topics are instances of weak communicative action which is a first step precondition for strong communicative action (deliberation). They are part of what makes e.g. argumentation possible - a necessary constitutive part of argumentation itself.

*3. Methodological: According to Kim Mannemar in the STATA guide, one should not control for mediating variables that are part of the causal chain from experimental towards the dependent variable (e.g. argumentation), since this distorts the true relationship between independent (conditions) and dependent (delib. aspects) vars.

*4. Methodological: Experiments generally do not require control variables (such reporting something within a category to avoid the effects of variation in the category).

*5. Practical: It is absurd that a single argument in one condition (having also only one opinion) can count as 100% argumentation, when others with more arguments

count as much less. It is absurd that social talk and process talk shouldn't detract from the argumentativeness of a discussion.

*6. Practical: Not only theoretically, but also practically/empirically, opinion statements and public talk is a precondition for e.g. argumentation. Hence, the point 3 applies.

*7. Communicative: Taking percentages of the same thing (all student messages) is much easier to communicate to a reader than taking percentages of different categories.

*THERE ARE TWO EXCEPTIONS:

*(1) Responding to others (and responses to other students) can coexist with non-public talk and takes on a different (non-deliberative)

meaning in those cases, because these responses do not strive for rational consensus on a public matter. BUT THIS IS A REASON FOR REPORTING.

*ONLY PUBLICLY RELEVANT RESPONSES RATHER THAN JUST REPORTING ALL RESPONSES.

*BUT IT IS NOT A REASON FOR REPORTING PUBLICLY RELEVANT RESPONSES WITHIN THE CATEGORY OF PUBLIC RELEVANCE.

*BUT BUT IS SHOULD STILL BE REPORTED AS PUBLICLY RELEVANT RESPONSES WITHIN THE CATEGORY OF PUBLIC RELEVANCE.

*THIS IS BECAUSE NOT DOING SO WILL CREATE A MEASURE WHERE "ABSENCE" CATEGORY REFERS BOTH TO CASES OF NON-PUBLIC TALK.

*(INCLUDING CASES OF NON-PUBLIC RESPONSES) AND CASES OF POSITIONING/PERFORMING WITHOUT RELATING TO OTHERS (AS INTENDED).

*IT BECOMES A MIX CATEGORY THAT IS HARD TO INTERPRET - AS OPPOSED TO E.G. ARGUMENTATION WHERE

*IT MAKES SENSE TO INTERPRET ALL CASES OF ABSENCE AS NON-ARGUMENT (ALSO THOSE THAT FALL WITHIN SOCIAL OR PROCESS TALK).

*THE PROBLEM AGAIN IS THAT RESPONSES TAKE PLACE AND ARE ALSO CODED IN CASE OF NON-PUBLIC TALK.

*(2) Interruptions of the current speaker are not distortions of discussion if the message that is interrupted (the previous message) is not on a publicly relevant topic.

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*TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1.

FRECUENCIAS VARIABLES=Round_Jure
/STATISTICS=MEAN MEDIAN MODE SUM
/ORDER=ANALYSIS.

*TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2.
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*ARGUMENTATION. *ARGUMENTATION. *ARGUMENTATION.
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*Recoding.

```
RECODE Argument_presence_CHECK_Int_Why_Char_Ind (1=Copy) (0=Copy) (SYSMIS=0)
(66=66) (77=0) (88=0) (99=0) INTO
```

```
  A_Argument_presence.
```

```
VARIABLE LABELS  A_Argument_presence 'Analysis of argument presence'.
```

```
EXECUTE.
```

```
RECODE Argument_independence_CHECK (SYSMIS=0) (1=1) (2=0) (66=66) INTO
```

```
Original_argument_dicho.
```

```
VARIABLE LABELS  Original_argument_dicho 'Original argument dichotomous'.
```

```
EXECUTE.
```

*ARGUMENT PRESENCE.

```
FREQUENCIES VARIABLES=A_Argument_presence
```

```
  /STATISTICS=MEAN MEDIAN MODE SUM
```

```
  /ORDER=ANALYSIS.
```

CROSSTABS

```
  /TABLES=Problem_Opinion BY A_Argument_presence
```

```
  /FORMAT=AVALUE TABLES
```

```
  /CELLS=COUNT ROW
```

```
  /COUNT ROUND CELL.
```

*ARGUMENT ORIGINALITY.

```
FREQUENCIES VARIABLES=Original_argument_dicho
```

```
  /STATISTICS=MEAN MEDIAN MODE SUM
```

```
  /ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Problem_Opinion BY Original_argument_dicho  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

```
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.
```

```
*DISPUTATION / DISAGREEMENT.
```

```
RECODE Problem_Disagreement (1=Copy) (0=Copy) (SYSMIS=0) (66=66) INTO  
Disagreement_dicho.
```

```
VARIABLE LABELS Disagreement_dicho 'Disagreement dichotomous'.
```

```
EXECUTE.
```

```
FREQUENCIES VARIABLES=Disagreement_dicho
```

```
/STATISTICS=MEAN MEDIAN MODE SUM
```

```
/ORDER=ANALYSIS.
```

```
FREQUENCIES VARIABLES=Disagreement_with_unspecific_others
```

```
/STATISTICS=MEAN MEDIAN MODE SUM
```

```
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Problem_Opinion BY Problem_Disagreement  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

*CROSS-EXAMINATION / CRITICAL QUESTIONING.

```
RECODE Conclusion_type_CHECK (12=1) (66=66) (SYSMIS=0) (ELSE=0) INTO  
Critical_questions_dicho.  
VARIABLE LABELS Critical_questions_dicho 'Critical questions dichotomous'.  
EXECUTE.
```

FREQUENCIES VARIABLES=Critical_questions_dicho

```
/STATISTICS=MEAN MEDIAN MODE SUM  
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Public_relevance_Dicho BY Conclusion_type_w_zeros  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

*CONTESTATION OF DEEP-ROOTED BELIEFS (WITHIN DISPUTATION, CROSS-EXAMINATION AND REBUTTALS).

Recoding Disputation Cross-examination and Rebuttals into one variable.

```
IF (Problem_Disagreement = 1 | Conclusion_type_CHECK = 10 | Conclusion_type_CHECK =  
12)  
Contestation=1.  
EXECUTE.
```

*The code ensures that created system missing values (which are really missing) are registered as user missing - so that the next code safely can recode.

*all the remaining system missing cases as zeros.

*The below code ensures that positively confirmed cases of contestation remain registered as contestation even when cases of inaudible system missing cases.

*are recoded as 66 (and later user missing).

*If any of the variables was a 1, the 1 is retained as it should be.

*Either because the recoding is NOT performed (because none of the two variables are 66 values).

*Or because the recoding IS performed (because one of the variables is a 66 value), and in that case the recoding ensures that 1 remains 1.

*If one of the variables was a 66 and the other an ELSE value, then it should be coded as 66 because the user missing value might mean that the turn was a contestation.

*If both variables are 66, it should be coded as 66.

*If both variables have an ELSE value, the recode command will NOT be performed due to the IF qualifier. That means that the produced system missing value.

*will remain system missing and then be transformed to a 0 in the next code as it should.

```
DO IF (Conclusion_type_CHECK = 66 | Problem_Disagreement = 66).
```

```
RECODE Contestation (1=1) (SYSMIS=66).
```

```
END IF.
```

```
EXECUTE.
```

```
RECODE Contestation (SYSMIS=0) (1=1) (66=66).
```

```
EXECUTE.
```

*Recoding Topic_Kind into Deep-rooted topic dicho - where deep-rooted topics are normative or inner worldly.

```
RECODE Topic_Kind (3=1) (6=1) (66=66) (SYSMIS=0) (ELSE=0) INTO
```

```
Deep_rooted_topic_dicho.
```



```
VARIABLE LABELS Deep_rooted_topic_dicho 'Deep rooted topic dicho'.  
EXECUTE.
```

CROSSTABS

```
/TABLES=Contestation BY Deep_rooted_topic_dicho  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

*Creating Deep_Contestation_Dicho for analysis and to check manually if the deep-rooted contestations detected by the crosstabulations were really deep-rooted.

```
IF (Deep_rooted_topic_dicho = 1 & Contestation = 1)  
    Deep_Contestation_Dicho=1.  
IF (Deep_rooted_topic_dicho = 1 & Contestation = 0)  
    Deep_Contestation_Dicho=0.  
IF (Deep_rooted_topic_dicho = 1 & Contestation = 66)  
    Deep_Contestation_Dicho=66.  
IF (Deep_rooted_topic_dicho = 0 & Contestation = 1)  
    Deep_Contestation_Dicho=0.  
IF (Deep_rooted_topic_dicho = 0 & Contestation = 0)  
    Deep_Contestation_Dicho=0.  
IF (Deep_rooted_topic_dicho = 0 & Contestation = 66)  
    Deep_Contestation_Dicho=0.  
IF (Deep_rooted_topic_dicho = 66 & Contestation = 1)  
    Deep_Contestation_Dicho=66.  
IF (Deep_rooted_topic_dicho = 66 & Contestation = 0)  
    Deep_Contestation_Dicho=0.  
IF (Deep_rooted_topic_dicho = 66 & Contestation = 66)  
    Deep_Contestation_Dicho=66.
```

EXECUTE.

FREQUENCIES VARIABLES=Deep_Contestation_Dicho
/STATISTICS=MEAN MEDIAN MODE SUM
/ORDER=ANALYSIS.

CROSSTABS

/TABLES=Public_relevance_Dicho BY Deep_Contestation_Dicho
/FORMAT=AVALUE TABLES
/CELLS=COUNT ROW
/COUNT ROUND CELL.

*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.
*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.
*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.
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*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.

Two options for making the standard deviations across conditions comparable (when only calculated on the basis of those who spoke and disregarding silent students).

*1. Use relative duration sum [duration relative to total student speaking time in that session] as unit instead of duration sum. Testing for significance by use of Morgan-Pitman.

***SPSS reports the total student speaking time as the "sum" in the first table appearing after the frequencies command.

*2. Calculate normalized standard deviations (Coefficient of Variance) after having calculated the mean and the standard deviation of duration sum.

*The coefficient of variance is simply the standard deviation divided by the mean. Yet, I don't know how to test for significant differences of this coefficient.

```
***INEQUALITY IN SPEAKING TIME***'.  
***INEQUALITY IN SPEAKING TIME***'.  
***INEQUALITY IN SPEAKING TIME***'.  
***INEQUALITY IN SPEAKING TIME***'.  
***INEQUALITY IN SPEAKING TIME***'.  
***INEQUALITY IN SPEAKING TIME***'.
```

```
***Computing duration of each turn***.  
COMPUTE Duration=End_time - Start_time.  
EXECUTE.
```

Procedure for entire session.

Procedure for entire session.

1. Aggregate duration across individuals.

2. Run frequencies on the variable Duration_sum with StD (and mean and histogram and SUM checked) and see what the sum is.

*3. Compute variable Relative duration sum by dividing Duration_sum with total student speaking time (the sum found in step 2 above).

*4. Change decimals in Relative duration sum variable from 2 to 4.

5. Run frequencies on the variable Relative_duration_sum with StD (and mean and histogram etc. checked)

*Creating aggregated data set for all conditions with Speaker variable as break and SUM as function***.

```
AGGREGATE
```

```
  /OUTFILE="C:\Users\User\Desktop\Skrivebordselementer\Artikel 2\Analysis\Intervention 1  
Inequality in Speaking Time.sav"
```

```
  /BREAK=Speaker
```

```
/Duration_sum=SUM(Duration).
```

```
FREQUENCIES VARIABLES=Duration_sum
```

```
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
```

```
/HISTOGRAM NORMAL
```

```
/ORDER=ANALYSIS.
```

*Creating Relative Duration sum in Aggregated dataset for all conditions****.

```
COMPUTE Relative_Duration_sum=(Duration_sum / 2636)*100.
```

```
VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total student speaking time'.
```

```
EXECUTE.
```

****Analyzing standard deviation in main aggregated file****.

```
FREQUENCIES VARIABLES=Relative_Duration_sum
```

```
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
```

```
/HISTOGRAM NORMAL
```

```
/ORDER=ANALYSIS.
```

Procedure for each condition.

***1. Create four files through select cases, one for each condition

2. Aggregate duration across individuals in each file

3. Run frequencies on the variable Duration_sum with StD (and mean and histogram and SUM checked)* and see what the sum is in each file.

*4. Compute variable Relative duration sum by dividing Duration_sum with total student speaking time (the sum found in step 2 above) in each file.

*5. Change decimals in Relative duration sum variable from 2 to 4.

*6. Run frequencies on the variable Relative_duration_sum with StD (and mean and histogram etc. checked) in each file.

*Condition A.

DATASET COPY A1.

DATASET ACTIVATE A1.

FILTER OFF.

USE ALL.

SELECT IF (Round_Jure = 1).

EXECUTE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skrivebordselementer\Artikel 2\Analysis\Analyzing
Inequality in Speaking Time\A1 AGG.sav"

/BREAK=Speaker

/Duration_sum=SUM(Duration).

FREQUENCIES VARIABLES=Duration_sum

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

*Creating Relative Duration sum in Aggregated dataset for condition A****.

COMPUTE Relative_Duration_sum=(Duration_sum / 76)*100.

VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total
student speaking time'.

EXECUTE.

FREQUENCIES VARIABLES=Relative_Duration_sum

```
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Condition B.

```
DATASET COPY B.
DATASET ACTIVATE B.
FILTER OFF.
USE ALL.
SELECT IF (Round_Jure = 2).
EXECUTE.
```

AGGREGATE

```
/OUTFILE="C:\Users\User\Desktop\Skrivebordselementer\Artikel 2\Analysis\Analyzing
Inequality in Speaking Time\B AGG.sav"
/BREAK=Speaker
/Duration_sum=SUM(Duration).
```

FREQUENCIES VARIABLES=Duration_sum

```
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Creating Relative Duration sum in Aggregated dataset for condition B****.

```
COMPUTE Relative_Duration_sum=(Duration_sum / 731)*100.
VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total
student speaking time'.
EXECUTE.
```

.

```
FREQUENCIES VARIABLES=Relative_Duration_sum
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Condition A2.

```
DATASET COPY A2.
DATASET ACTIVATE A2.
FILTER OFF.
USE ALL.
SELECT IF (Round_Jure = 3).
EXECUTE.
```

```
AGGREGATE
```

```
/OUTFILE="C:\Users\User\Desktop\Skrivebordselementer\Artikel 2\Analysis\Analyzing
Inequality in Speaking Time\A2 AGG.sav"
/BREAK=Speaker
/Duration_sum=SUM(Duration).
```

```
FREQUENCIES VARIABLES=Duration_sum
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Creating Relative Duration sum in Aggregated dataset for condition A2****.

```
COMPUTE Relative_Duration_sum=(Duration_sum / 109)*100.
VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total
student speaking time'.
EXECUTE.
```

```
FREQUENCIES VARIABLES=Relative_Duration_sum
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Condition C.

```
DATASET COPY C.
DATASET ACTIVATE C.
FILTER OFF.
USE ALL.
SELECT IF (Round_Jure = 4).
EXECUTE.
```

AGGREGATE

```
/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Artikel 2\Analysis\Analyzing
Inequality in Speaking Time\C AGG.sav"
/BREAK=Speaker
/Duration_sum=SUM(Duration).
```

```
FREQUENCIES VARIABLES=Duration_sum
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Creating Relative Duration sum in Aggregated dataset for condition C****.

```
COMPUTE Relative_Duration_sum=(Duration_sum / 1720)*100.
VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total
student speaking time'.
```


EXECUTE.

.

FREQUENCIES VARIABLES=Relative_Duration_sum

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

ALL CONDITIONS.

ALL CONDITIONS.

ALL CONDITIONS.

*REMEMBER FIRST.

*Computing publicly relevant responses.

RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (66=66) (SYSMIS=SYSMIS) INTO
Public_relevance_Dicho.

VARIABLE LABELS Public_relevance_Dicho 'Public relevance Dichotomous'.

EXECUTE.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1.

EXECUTE.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2.
EXECUTE.

FREQUENCIES VARIABLES=Publicly_relevant_response_to_p1
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.

FREQUENCIES VARIABLES=Publicly_relevant_response_to_p2
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT
SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Artikel 2\Analysis\Analyzing
Inequality in Received Responses\All conditions AGG.sav"
/BREAK=Publicly_relevant_response_to_p1
/Speaker_mean=MEAN(Speaker)
/N_BREAK=N.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT
SHOULD BE IGNORED IN THE AGGREGATED FILE*.

DATASET DECLARE Responding2.

AGGREGATE

/OUTFILE='Responding2'
/BREAK=Publicly_relevant_response_to_p2
/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Finding sum of uptake frequency for use in computation of Share of responses.

```
FREQUENCIES VARIABLES=N_BREAK  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/HISTOGRAM NORMAL  
/ORDER=ANALYSIS.
```

*Creating Share of responses in Aggregated dataset for entire session****.

```
COMPUTE Share_of_responses=(N_BREAK / 261)*100.  
VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.  
EXECUTE.
```

*Analyze by use of frequencies.

```
FREQUENCIES VARIABLES=Share_of_responses  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/HISTOGRAM NORMAL  
/ORDER=ANALYSIS.
```

CONDITION A1 UPTAKE.

CONDITION A1 UPTAKE.

CONDITION A1 UPTAKE.

*REMEMBER FIRST.

```
*Computing publicity relevant responses. USING THE DATASET WITH ONLY A1.  
RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (66=66) (SYSMIS=SYSMIS) INTO  
Public_relevance_Dicho.  
VARIABLE LABELS Public_relevance_Dicho 'Public relevance Dichotomous'.  
EXECUTE.
```

```
IF (Public_relevance_Dicho = 1)  
  Publicly_relevant_response_to_p1=Response_to_participant_no1.  
EXECUTE.
```

```
IF (Public_relevance_Dicho = 1)  
  Publicly_relevant_response_to_p2=Response_to_participant_no2.  
EXECUTE.
```

```
*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT  
SHOULD BE IGNORED IN THE AGGREGATED FILE.
```

```
AGGREGATE
```

```
  /OUTFILE="C:\Users\User\Desktop\Skribordselementer\Artikel 2\Analysis\Analyzing  
Inequality in Received Responses\A1 AGG.sav"  
  /BREAK=Publicly_relevant_response_to_p1  
  /Speaker_mean=MEAN(Speaker)  
  /N_BREAK=N.
```

```
*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT  
SHOULD BE IGNORED IN THE AGGREGATED FILE.
```

```
AGGREGATE
```

```
  /OUTFILE='Responding2'  
  /BREAK=Publicly_relevant_response_to_p2  
  /Speaker_mean=MEAN(Speaker)  
  /N_BREAK=N.
```

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Analyze by use of frequencies to get Sum of responses in the condition.

```
FREQUENCIES VARIABLES=N_BREAK  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/HISTOGRAM NORMAL  
/ORDER=ANALYSIS.
```

*Creating Share of responses in Aggregated dataset for condition A1****.

```
COMPUTE Share_of_responses=(N_BREAK / 18)*100.  
VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.  
EXECUTE.
```

*Analyze by use of frequencies.

```
FREQUENCIES VARIABLES=Share_of_responses  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/HISTOGRAM NORMAL  
/ORDER=ANALYSIS.
```

CONDITION B UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION B UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION B UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

*REMEMBER FIRST.

*Computing publicly relevant responses. USING THE DATASET WITH ONLY B.

RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (66=66) (SYSMIS=SYSMIS) INTO
Public_relevance_Dicho.

VARIABLE LABELS Public_relevance_Dicho 'Public relevance Dichotomous'.

EXECUTE.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1.

EXECUTE.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2.

EXECUTE.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT
SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skrivebordselementer\Artikel 2\Analysis\Analyzing
Inequality in Received Responses\B AGG.sav"

/BREAK=Publicly_relevant_response_to_p1

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT
SHOULD BE IGNORED IN THE AGGREGATED FILE.

DATASET DECLARE Responding2.

AGGREGATE

/OUTFILE='Responding2'

```
/BREAK=Publicly_relevant_response_to_p2
/Speaker_mean=MEAN(Speaker)
/N_BREAK=N.
```

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Analyze by use of frequencies to get Sum of responses in the condition.

```
FREQUENCIES VARIABLES=N_BREAK
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Creating Share of responses in Aggregated dataset for condition B****.

```
COMPUTE Share_of_responses=(N_BREAK / 82)*100.
VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.
EXECUTE.
```

*Analyze by use of frequencies.

```
FREQUENCIES VARIABLES=Share_of_responses
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

CONDITION A2 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION A2 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION A2 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

*REMEMBER FIRST.

*Computing publicly relevant responses. USING DATASET WITH ONLY A2.

RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (66=66) (SYSMIS=SYSMIS) INTO Public_relevance_Dicho.

VARIABLE LABELS Public_relevance_Dicho 'Public relevance Dichotomous'.

EXECUTE.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1.

EXECUTE.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2.

EXECUTE.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skrivebordselementer\Artikel 2\Analysis\Analyzing Inequality in Received Responses\A2 AGG.sav"

/BREAK=Publicly_relevant_response_to_p1

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

DATASET DECLARE Responding2.

AGGREGATE

/OUTFILE='Responding2'

/BREAK=Publicly_relevant_response_to_p2

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Analyze by use of frequencies to get Sum of responses in the condition.

FREQUENCIES VARIABLES=N_BREAK

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

*Creating Share of responses in Aggregated dataset for condition A2****.

COMPUTE Share_of_responses=(N_BREAK / 9)*100.

VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.

EXECUTE.

*Analyze by use of frequencies.

FREQUENCIES VARIABLES=Share_of_responses

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

CONDITION C UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION C UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION C UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

*REMEMBER FIRST.

*Computing publicly relevant responses. USING DATASET WITH ONLY C.

RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (66=66) (SYSMIS=SYSMIS) INTO Public_relevance_Dicho.

VARIABLE LABELS Public_relevance_Dicho 'Public relevance Dichotomous'.

EXECUTE.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1.

EXECUTE.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2.

EXECUTE.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skrivebordselementer\Artikel 2\Analysis\Analyzing Inequality in Received Responses\C AGG.sav"

/BREAK=Publicly_relevant_response_to_p1

```
/Speaker_mean=MEAN(Speaker)
/N_BREAK=N.
```

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

```
DATASET DECLARE Responding2.
```

```
AGGREGATE
```

```
/OUTFILE='Responding2'
/BREAK=Publicly_relevant_response_to_p2
/Speaker_mean=MEAN(Speaker)
/N_BREAK=N.
```

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Analyze by use of frequencies to get Sum of responses in the condition.

```
FREQUENCIES VARIABLES=N_BREAK
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Creating Share of responses in Aggregated dataset for condition C****.

```
COMPUTE Share_of_responses=(N_BREAK / 180)*100.
VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.
EXECUTE.
```

*Analyze by use of frequencies.

```
FREQUENCIES VARIABLES=Share_of_responses
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
```

```
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

```
SORT CASES BY Round_Jure.
SPLIT FILE LAYERED BY Round_Jure.
```

```
SPLIT FILE OFF.
```

```
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.
```

```
*RESPONDING.
```

```
*Checking if there are no system missing values in Responding to specific from the outset.
```

```
FREQUENCIES VARIABLES=Responding_to_specific
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/ORDER=ANALYSIS.
```

```
RECODE Responding_to_specific (1=1) (2=1) (3=1) (4=1) (66=66) (ELSE=0) INTO
Responding_Dicho.
VARIABLE LABELS Responding_Dicho 'Responding_to_previous_talk_Dichotomous'.
EXECUTE.
```

```
*Checking if there are no system missing values in these two variables from the outset.
```

```
FREQUENCIES VARIABLES=Responding_Dicho
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/ORDER=ANALYSIS.
```

```
FREQUENCIES VARIABLES=Public_relevance_Dicho
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/ORDER=ANALYSIS.
```

*Remember to turn user missing values off in variable view before making the cross tab to check for combinations of responding dichotomous and public relevance dichotomous.

CROSSTABS

```
/TABLES=Public_relevance_Dicho BY Responding_Dicho
/FORMAT=AVALUE TABLES
/CELLS=COUNT ROW
/COUNT ROUND CELL.
```

*Creating "Publicly relevant response dichotomous".

```
IF (Responding_Dicho = 1 & Public_relevance_Dicho = 1)
  Publicly_relevant_response=1.
IF (Responding_Dicho = 1 & Public_relevance_Dicho = 0)
  Publicly_relevant_response=0.
IF (Responding_Dicho = 1 & Public_relevance_Dicho = 66)
  Publicly_relevant_response=66.
IF (Responding_Dicho = 0 & Public_relevance_Dicho = 1)
  Publicly_relevant_response=0.
IF (Responding_Dicho = 0 & Public_relevance_Dicho = 0)
  Publicly_relevant_response=0.
IF (Responding_Dicho = 0 & Public_relevance_Dicho = 66)
  Publicly_relevant_response=0.
IF (Responding_Dicho = 66 & Public_relevance_Dicho = 1)
```

```
Publicly_relevant_response=66.  
IF (Responding_Dicho = 66 & Public_relevance_Dicho = 0)  
Publicly_relevant_response=0.  
IF (Responding_Dicho = 66 & Public_relevance_Dicho = 66)  
Publicly_relevant_response=66.  
EXECUTE.
```

```
FREQUENCIES VARIABLES=Publicly_relevant_response  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Public_relevance_Dicho BY Publicly_relevant_response  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

```
*RESPONDING TO STUDENT.
```

```
RECODE Response_to_participant_no1 (SYSMIS=7777777) (ELSE=copy) INTO  
Response_to_participant_no1_AUX.  
VARIABLE LABELS Response_to_participant_no1_AUX  
'Response_to_participant_no1_Auxiliary'.  
EXECUTE.
```

```
FREQUENCIES VARIABLES=Response_to_participant_no1_AUX  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/ORDER=ANALYSIS.
```

*Recoding Responding to specific into Responding to specific student dicho.

*Remember to turn off user missing values for all the variables used in the computation in the variable view - before running the computation.

```
IF (Response_to_participant_no1_AUX ~= 0)
```

```
    Publicly_relevant_response_to_stud_AUX=Publicly_relevant_response.
```

```
EXECUTE.
```

```
FREQUENCIES VARIABLES=Publicly_relevant_response_to_stud_AUX
```

```
  /STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
```

```
  /ORDER=ANALYSIS.
```

*Recoding the artificially created missing values to zeros.

```
RECODE Publicly_relevant_response_to_stud_AUX (SYSMIS=0) (1=1) (ELSE=copy) INTO
```

```
Publicly_relevant_response_to_student.
```

```
VARIABLE LABELS Publicly_relevant_response_to_student
```

```
'Publicly_relevant_response_to_student'.
```

```
EXECUTE.
```

```
FREQUENCIES VARIABLES=Publicly_relevant_response_to_student
```

```
  /STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
```

```
  /ORDER=ANALYSIS.
```

```
CROSSTABS
```

```
  /TABLES=Public_relevance_Dicho BY Publicly_relevant_response_to_student
```

```
  /FORMAT=AVALUE TABLES
```

```
  /CELLS=COUNT ROW
```

```
  /COUNT ROUND CELL.
```

*QUESTIONING OR META.

*Recoding Talk category = Meta and Problem_Question = Yes into Question_or_Meta dicho.

```
FREQUENCIES VARIABLES=Talk_category Problem_Question
  /STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
```

```
IF (Talk_category = 2 | Problem_Question = 1)
```

```
  Question_or_Meta=1.
```

```
EXECUTE.
```

```
DO IF (Talk_category = 66 | Problem_Question = 66).
```

```
RECODE Question_or_Meta (1=1) (SYSMIS=66).
```

```
END IF.
```

```
EXECUTE.
```

```
RECODE Question_or_Meta (SYSMIS=0) (1=1) (66=66).
```

```
EXECUTE.
```

```
FREQUENCIES VARIABLES=Question_or_Meta
```

```
  /STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
```

```
  /HISTOGRAM NORMAL
```

```
  /ORDER=ANALYSIS.
```

```
CROSSTABS
```

```
  /TABLES=Public_relevance_Dicho BY Question_or_Meta
```

```
  /FORMAT=AVALUE TABLES
```

```
  /CELLS=COUNT ROW
```

```
  /COUNT ROUND CELL.
```


*REBUTTALS.

RECODE Conclusion_type_CHECK (10=1) (66=66) (SYSMIS=0) (ELSE=0) INTO
Rebuttal_dicho.

VARIABLE LABELS Rebuttal_dicho 'Rebuttal dichotomous'.

EXECUTE.

FREQUENCIES VARIABLES=Rebuttal_dicho

/STATISTICS=MEAN MEDIAN MODE SUM

/ORDER=ANALYSIS.

CROSSTABS

/TABLES=Problem_Opinion BY Conclusion_type_w_zeros

/FORMAT=AVALUE TABLES

/CELLS=COUNT ROW

/COUNT ROUND CELL.

*ORIGINAL REBUTTALS.

CROSSTABS

/TABLES=Rebuttal_dicho BY Original_argument_dicho

/FORMAT=AVALUE TABLES

/CELLS=COUNT ROW

/COUNT ROUND CELL.

*Computing original rebuttals.

IF (Rebuttal_dicho = 1 & Original_argument_dicho = 1)

Original_Rebuttal_dicho=1.

IF (Rebuttal_dicho = 1 & Original_argument_dicho = 0)

```
Original_Rebuttal_dicho=0.
IF (Rebuttal_dicho = 1 & Original_argument_dicho = 66)
  Original_Rebuttal_dicho=66.
IF (Rebuttal_dicho = 0 & Original_argument_dicho = 1)
  Original_Rebuttal_dicho=0.
IF (Rebuttal_dicho = 0 & Original_argument_dicho = 0)
  Original_Rebuttal_dicho=0.
IF (Rebuttal_dicho = 0 & Original_argument_dicho = 66)
  Original_Rebuttal_dicho=0.
IF (Rebuttal_dicho = 66 & Original_argument_dicho = 1)
  Original_Rebuttal_dicho=66.
IF (Rebuttal_dicho = 66 & Original_argument_dicho = 0)
  Original_Rebuttal_dicho=0.
IF (Rebuttal_dicho = 66 & Original_argument_dicho = 66)
  Original_Rebuttal_dicho=66.
EXECUTE.
```

```
FREQUENCIES VARIABLES=Original_Rebuttal_dicho
  /STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
```

```
SORT CASES BY Round_Jure.
SPLIT FILE LAYERED BY Round_Jure.
```

```
SPLIT FILE OFF.
```

```
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.
```

*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.

FREQUENCIES VARIABLES=Public_relevance_Dicho
/ORDER=ANALYSIS.

*Computing Problem_Opinion_Dicho with missings coded as zeros.
RECODE Problem_Opinion (SYSMIS=0) (ELSE=Copy) INTO Problem_Opinion_Dicho.
VARIABLE LABELS Problem_Opinion_Dicho 'Statement of opinion Dichotomous'.
EXECUTE.

FREQUENCIES VARIABLES=Problem_Opinion_Dicho
/ORDER=ANALYSIS.

CROSSTABS

/TABLES=Public_relevance_Dicho BY Problem_Opinion_Dicho
/FORMAT=AVALUE TABLES
/CELLS=COUNT ROW
/COUNT ROUND CELL.

*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.

*ABSENCE OF COERCION.

*ABSENCE OF COERCION.

*ABSENCE OF COERCION.

*INTERRUPTION OF CURRENT SPEAKER.

*Use dataset where teachers, authors, and deviations are NOT deleted - so that the previous case in the dataset refers to the previous message in the discussion.

*Use dataset where teachers, authors, and deviations are NOT deleted - so that the previous case in the dataset refers to the previous message in the discussion.

*Recoding Interruption serious.

COMPUTE Interruption_serious_RC=Interruption_serious.

EXECUTE.

FREQUENCIES VARIABLES=Interruption_serious_RC
/ORDER=ANALYSIS.

FREQUENCIES VARIABLES=Speaker
/ORDER=ANALYSIS.

IF (Speaker = 77777)

Interruption_serious_RC=66.

FREQUENCIES VARIABLES=Interruption_serious_RC
/ORDER=ANALYSIS.

FREQUENCIES VARIABLES=Interruption_CHECK
/ORDER=ANALYSIS.

```
IF (Interruption_CHECK = 66)
  Interruption_serious_RC=66.
```

```
FREQUENCIES VARIABLES=Interruption_serious_RC
/ORDER=ANALYSIS.
```

```
RECODE Interruption_serious_RC (1=1) (0=0) (66=66) (SYSMIS=0) INTO
Serious_interruption_of_current_dicho.
VARIABLE LABELS Serious_interruption_of_current_dicho 'Serious interruption of current
speaker dicho'.
EXECUTE.
```

```
FREQUENCIES VARIABLES=Serious_interruption_of_current_dicho
/ORDER=ANALYSIS.
```

*Recoding Public relevance AND FINDING MISSING VALUES AND WHY THEY ARE MISSING..

```
FREQUENCIES VARIABLES=Main_message
/ORDER=ANALYSIS.
```

```
RECODE Main_message (1=1) (2=1) (3=1) (4=0) (66=66) (SYSMIS=77) INTO
Main_message_RC.
EXECUTE.
```

```
FREQUENCIES VARIABLES=Talk_category
/ORDER=ANALYSIS.
```

```
RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (66=66) (SYSMIS=77) INTO  
Talk_category_RC.  
EXECUTE.
```

```
COMPUTE Talk_category_RC1=Talk_category_RC.  
EXECUTE.
```

```
IF (Main_message_RC = 1 & Talk_category_RC = 77)  
    Talk_category_RC1=1.  
IF (Main_message_RC = 0 & Talk_category_RC = 77)  
    Talk_category_RC1=0.
```

CROSSTABS

```
/TABLES=Main_message_RC BY Talk_category_RC  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT  
/COUNT ROUND CELL.
```

CROSSTABS

```
/TABLES=Main_message_RC BY Talk_category_RC1  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT  
/COUNT ROUND CELL.
```

```
FREQUENCIES VARIABLES=Talk_category_RC1  
/ORDER=ANALYSIS.
```

```
RECODE Talk_category_RC1 (0=0) (1=1) (66=66) (77=66) INTO Talk_category_RC2.  
EXECUTE.
```

```
FREQUENCIES VARIABLES=Talk_category_RC2
/ORDER=ANALYSIS.
```

```
RECODE Utterance_inaudibility (SYSMIS=99999) (ELSE=copy) INTO
Utterance_inaudibility_aux.
EXECUTE.
```

CROSSTABS

```
/TABLES=Utterance_inaudibility_aux BY Talk_category_RC2
/FORMAT=AVALUE TABLES
/CELLS=COUNT
/COUNT ROUND CELL.
```

```
FREQUENCIES VARIABLES=Divided_attention Cross_group_talk Deviation
/ORDER=ANALYSIS.
```

```
RECODE Deviation (SYSMIS=99999) (ELSE=copy) INTO Deviation_aux.
EXECUTE.
```

CROSSTABS

```
/TABLES=Utterance_inaudibility_aux BY Deviation_aux
/FORMAT=AVALUE TABLES
/CELLS=COUNT
/COUNT ROUND CELL.
```

CROSSTABS

```
/TABLES=Utterance_inaudibility_aux BY Talk_category_RC2
/FORMAT=AVALUE TABLES
/CELLS=COUNT
/COUNT ROUND CELL.
```

IF (Utterance_inaudibility_aux = 0 & Talk_category_RC2 = 66)

Identifier=999999999.

FREQUENCIES VARIABLES=Identifier

/ORDER=ANALYSIS.

*Række 655.

*Række 158.

*Række 160.

*Række 162.

*Række 164..

*Conclusion: 76 missing values in talk category - 25 of them because they are deviations which were not coded and the remaining.

*51 because they had some degree of inaudibility and therefore were not coded.

COMPUTE Public_relevance_Dicho=Talk_category_RC2.

EXECUTE.

FREQUENCIES VARIABLES=Public_relevance_Dicho

/ORDER=ANALYSIS.

*COMPUTING THE VARIABLE Serious interruption of public talk dicho.

*COMPUTING THE VARIABLE Serious interruption of public talk dicho.

*Computing interruption of current publicly relevant talk dicho.

IF (LAG(Public_relevance_Dicho) = 1 & Serious_interruption_of_current_dicho = 1)

Serious_interruption_of_public_talk_dicho=1.

IF (LAG(Public_relevance_Dicho) = 1 & Serious_interruption_of_current_dicho = 0)

Serious_interruption_of_public_talk_dicho=0.


```

IF (LAG(Public_relevance_Dicho) = 1 & Serious_interruption_of_current_dicho = 66)
    Serious_interruption_of_public_talk_dicho=66.
IF (LAG(Public_relevance_Dicho) = 0 & Serious_interruption_of_current_dicho = 1)
    Serious_interruption_of_public_talk_dicho=0.
IF (LAG(Public_relevance_Dicho) = 0 & Serious_interruption_of_current_dicho = 0)
    Serious_interruption_of_public_talk_dicho=0.
IF (LAG(Public_relevance_Dicho) = 0 & Serious_interruption_of_current_dicho = 66)
    Serious_interruption_of_public_talk_dicho=0.
IF (LAG(Public_relevance_Dicho) = 66 & Serious_interruption_of_current_dicho = 1)
    Serious_interruption_of_public_talk_dicho=66.
IF (LAG(Public_relevance_Dicho) = 66 & Serious_interruption_of_current_dicho = 0)
    Serious_interruption_of_public_talk_dicho=0.
IF (LAG(Public_relevance_Dicho) = 66 & Serious_interruption_of_current_dicho = 66)
    Serious_interruption_of_public_talk_dicho=66.
EXECUTE.

```

```

FREQUENCIES VARIABLES=Serious_interruption_of_public_talk_dicho
/ORDER=ANALYSIS.

```

*NO doing this cross tabs here does not make sense, because what has been computed is the lag of Public relevance dicho - not public relevance dicho itself.

CROSSTABS

```

/TABLES=Serious_interruption_of_current_dicho BY Public_relevance_Dicho
/FORMAT=AVALUE TABLES
/CELLS=COUNT
/COUNT ROUND CELL.

```

*As a final step: delete teacher, author and deviation messages.

*Remember to first fill in the missing values in the speaker variable (due to secondary messages) with 77777.

FILTER OFF.

USE ALL.

SELECT IF (Deviation_aux ~= 1).

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 0).

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 999).

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 888).

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Utterance_inaudibility_aux ~= 2).

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Utterance_inaudibility_aux ~= 4).
EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Utterance_inaudibility_aux ~= 7).
EXECUTE.

*TRANSFORM SPEAKER NUMBERS 77777 (INDICATING SECOND UTTERANCES) TO
THE NUMBER OF THEIR SPEAKER MANUALLY.

*THEN APPLY THE FOLLOWING CODES.

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 4).
EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 5).
EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 18).
EXECUTE.

*Deleting problematic turns - direct Effects of Untimely Intervention by teachers, author or
assistant.

FILTER OFF.

USE ALL.
SELECT IF (Turn_number ~= 154).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 156).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 158).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 218).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 221).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 402).
EXECUTE.

FILTER OFF.

USE ALL.
SELECT IF (Turn_number ~= 404).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 510).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 567).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 582).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 586).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 587).
EXECUTE.

FILTER OFF.

USE ALL.
SELECT IF (Turn_number ~= 704).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 727).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 739).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 744).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 750).
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (Turn_number ~= 753).
EXECUTE.

*FINALLY CREATING DATASET WITH TURNS AS UNIT OF ANALYSIS (I.E. WITHOUT SECONDARY UTTERANCES).

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 77777).

EXECUTE.

*Then analyze through frequencies.

FREQUENCIES VARIABLES=Serious_interruption_of_public_talk_dicho
/ORDER=ANALYSIS.

SORT CASES BY Round_Jure.

SPLIT FILE LAYERED BY Round_Jure.

SPLIT FILE OFF.

9.4 Documentation for statistical analyses carried out in article III

SPSS SYNTAX

* Encoding: UTF-8.

*Analysis. Article 3.

*Analysis. Article 3.

*Analysis. Article 3.

*Analysis. Article 3.

*Analysis. Article 3.

NAME OF DATASET USED.

NAME OF DATASET USED.

NAME OF DATASET USED.

Dataset used: "Intervention 3 kodet24 TilpasetNY3 teacher turns not validated 12 Teachers and authors deviations deleted1".

Preparations.

Preparations.

Preparations.

Preparations.

Preparations..

RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (SYSMIS=SYSMIS) INTO
Public_relevance_Dicho.

VARIABLE LABELS Public_relevance_Dicho 'Public relevance Dichotomous'.

EXECUTE.

SORT CASES BY Round_Jure.

SPLIT FILE LAYERED BY Round_Jure.

SPLIT FILE OFF.

*Checking for missing values.

FREQUENCIES VARIABLES=Responding_to_specific_CHECK
/ORDER=ANALYSIS.

***Reasons for not reporting percentages within categories (e.g. within publicly relevant talk or within opinion statements):.

*1. Theoretical: The ideal procedure specifies that the entire discussion process should display the deliberative traits - not a subset of it.

*2. Theoretical: Stating opinions and speaking about publicly relevant topics are instances of weak communicative action which is a first step precondition for strong

communicative action (deliberation). They are part of what makes e.g. argumentation possible - a necessary constitutive part of argumentation itself.

*3. Methodological: According to Kim Mannemar in the STATA guide, one should not control for mediating variables that are part of the causal chain from experimental

towards the dependent variable (e.g. argumentation), since this distorts the true relationship between independent (conditions) and dependent (delib. aspects) vars.

*4. Methodological: Experiments generally do not require control variables (such reporting something within a category to avoid the effects of variation in the category).

*5. Practical: It is absurd that a single argument in one condition (having also only one opinion) can count as 100% argumentation, when others with more arguments

count as much less. It is absurd that social talk and process talk shouldn't detract from the argumentativeness of a discussion.

*6. Practical: Not only theoretically, but also practically/empirically, opinion statements and public talk is a precondition for e.g. argumentation. Hence, the point 3 applies.

*7. Communicative: Taking percentages of the same thing (all student messages) is much easier to communicate to a reader than taking percentages of different categories.

*THERE ARE TWO EXCEPTIONS:

*(1) Responding to others (and responses to other students) can coexist with non-public talk and takes on a different (non-deliberative)

meaning in those cases, because these responses do not strive for rational consensus on a public matter.

*(2) Interruptions of the current speaker are not distortions of discussion if the message that is interrupted (the previous message) is not on a publicly relevant topic.

*TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1.

*TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1.

*TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1.

*TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1.

*TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1.

*TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1.

*TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1. *TABLE 1.

FREQUENCIES VARIABLES=Round_Jure
/STATISTICS=MEAN MEDIAN MODE SUM
/ORDER=ANALYSIS.

*TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2.
*TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2.
*TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2.
*TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2.
*TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2.
*TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2. *TABLE 2.

*ARGUMENTATION. *ARGUMENTATION. *ARGUMENTATION.
*ARGUMENTATION. *ARGUMENTATION. *ARGUMENTATION.
*ARGUMENTATION. *ARGUMENTATION. *ARGUMENTATION.
*ARGUMENTATION. *ARGUMENTATION. *ARGUMENTATION.
*ARGUMENTATION. *ARGUMENTATION. *ARGUMENTATION.
*ARGUMENTATION. *ARGUMENTATION. *ARGUMENTATION.

*Recoding.

RECODE Argument_presence_CHECK_Int_Why_Char_Ind (1=Copy) (0=Copy) (SYSMIS=0)
(88=0) (99=0) INTO

A_Argument_presence.

VARIABLE LABELS A_Argument_presence 'Analysis of argument presence'.

EXECUTE.

```
DO IF (A_Argument_presence = 1).  
RECODE Argument_independence_CHECK (ELSE=Copy) INTO A_Argument_Independence.  
END IF.  
VARIABLE LABELS A_Argument_Independence 'Analysis of argument independence'.  
EXECUTE.
```

*Missing values computed to zeros manually.

```
RECODE A_Argument_Independence (0=0) (1=1) (2=0) INTO Original_argument_dicho.  
VARIABLE LABELS Original_argument_dicho 'Original argument dichotomous'.  
EXECUTE.
```

*ARGUMENT PRESENCE.

```
FREQUENCIES VARIABLES=A_Argument_presence  
/STATISTICS=MEAN MEDIAN MODE SUM  
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Problem_Opinion BY A_Argument_presence  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

*ARGUMENT ORIGINALITY.

```
FREQUENCIES VARIABLES=A_Argument_Independence  
/STATISTICS=MEAN MEDIAN MODE SUM  
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Problem_Opinion BY A_Argument_Independence  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

```
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.  
*CONTESTATION. *CONTESTATION. *CONTESTATION.
```

```
*DISPUTATION / DISAGREEMENT.
```

```
FREQUENCIES VARIABLES=Problem_Disagreement  
/STATISTICS=MEAN MEDIAN MODE SUM  
/ORDER=ANALYSIS.
```

```
RECODE Disagreement_dicho (SYSMIS=0).  
EXECUTE.
```

CROSSTABS

```
/TABLES=Problem_Opinion BY Problem_Disagreement  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

```
*CROSS-EXAMINATION / CRITICAL QUESTIONING.  
FREQUENCIES VARIABLES=Conclusion_type_w_zeros  
/STATISTICS=MEAN MEDIAN MODE SUM  
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Public_relevance_Dicho BY Conclusion_type_w_zeros  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

*CONTESTATION OF DEEP-ROOTED BELIEFS (WITHIN DISPUTATION, CROSS-EXAMINATION AND REBUTTALS).

Recoding Disputation Cross-examination and Rebuttals into one variable.

```
IF (Problem_Disagreement = 1 | Conclusion_type_CHECK = 10 | Conclusion_type_CHECK =  
12)  
    Contestation=1.  
EXECUTE.
```

```
RECODE Contestation (SYSMIS=0) (1=1).  
EXECUTE.
```

*Recoding Topic_Kind into Deep-rooted topic dichotomous - where deep-rooted topics are normative or inner worldly.

```
RECODE Topic_Kind (3=1) (6=1) (SYSMIS=SYSMIS) (ELSE=0) INTO  
Deep_rooted_topic_dicho.  
VARIABLE LABELS Deep_rooted_topic_dicho 'Deep rooted topic dichotomous'.  
EXECUTE.
```

*Recoding Topic_Kind2 into Deep-rooted topic dicho - where deep-rooted topics are normative or inner worldly.

```
RECODE Topic_Kind2 (3=1) (6=1) (SYSMIS=SYSMIS) (ELSE=0) INTO  
Deep_rooted_topic_dicho2.  
VARIABLE LABELS Deep_rooted_topic_dicho2 'Deep rooted topic dicho2'.  
EXECUTE.
```

CROSSTABS

```
/TABLES=Contestation BY Deep_rooted_topic_dicho  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

CROSSTABS

```
/TABLES=Contestation BY Deep_rooted_topic_dicho2  
/FORMAT=AVALUE TABLES  
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

*Creating auxiliary variables to check if the deep-rooted contestations detected by the crosstabulations were really deep-rooted. Turned out that they were.

```
IF (Deep_rooted_topic_dicho = 1 & Contestation = 1)  
    Aux1=1.  
EXECUTE.
```

```
IF (Deep_rooted_topic_dicho2 = 1 & Contestation = 1)  
    Aux2=1.  
EXECUTE.
```

*Since no deep-rooted contestations were found in Aux2, the Aux1 variable is equivalent to a "Deep-contestation" dummy variable.

```
RECODE Aux1 (1=1) (SYSMIS=0) INTO Deep_Contestation_Dicho.
```

```
VARIABLE LABELS Deep_Contestation_Dicho 'Deep Contestation Dichotomous'.
```

```
EXECUTE.
```

```
FREQUENCIES VARIABLES=Deep_Contestation_Dicho
```

```
  /STATISTICS=MEAN MEDIAN MODE SUM
```

```
  /ORDER=ANALYSIS.
```

```
CROSSTABS
```

```
  /TABLES=Public_relevance_Dicho BY Deep_Contestation_Dicho
```

```
  /FORMAT=AVALUE TABLES
```

```
  /CELLS=COUNT ROW
```

```
  /COUNT ROUND CELL.
```

*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.

*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.

*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.

*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.

*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.

*EQUALITY AND INCLUSION. *EQUALITY AND INCLUSION.

Two options for making the standard deviations across conditions comparable (when only calculated on the basis of those who spoke and disregarding silent students).

*1. Use relative duration sum [duration relative to total student speaking time in that session] as unit instead of duration sum. Testing for significance by use of Morgan-Pitman.

***SPSS reports the total student speaking time as the "sum" in the first table appearing after the frequencies command.

*2. Calculate normalized standard deviations (Coefficient of Variance) after having calculated the mean and the standard deviation of duration sum.

*The coefficient of variance is simply the standard deviation divided by the mean. Yet, I don't know how to test for significant differences of this coefficient.

INEQUALITY IN SPEAKING TIME'.

INEQUALITY IN SPEAKING TIME'.

INEQUALITY IN SPEAKING TIME'.

INEQUALITY IN SPEAKING TIME'.

INEQUALITY IN SPEAKING TIME'.

INEQUALITY IN SPEAKING TIME'.

Computing duration of each turn.

COMPUTE Duration=End_time - Start_time.

EXECUTE.

Procedure for entire session.

Procedure for entire session.

1. Aggregate duration across individuals.

2. Run frequencies on the variable Duration_sum with StD (and mean and histogram and SUM checked) and see what the sum is.

*3. Compute variable Relative duration sum by dividing Duration_sum with total student speaking time (the sum found in step 2 above).

*4. Change decimals in Relative duration sum variable from 2 to 4.

5. Run frequencies on the variable Relative_duration_sum with StD (and mean and histogram etc. checked)

*Creating aggregated data set for all conditions with Speaker variable as break and SUM as function***.

AGGREGATE


```
/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Intervention 3\Kodning af
intervention "+
"3\Intervention 3 kodet 24 Tilpasset NY3 Teachers and authors deviations deleted AGG.sav"
/BREAK=Speaker
/Duration_sum=SUM(Duration).
```

*Creating Relative Duration sum in Aggregated dataset for all conditions****.

```
COMPUTE Relative_Duration_sum=(Duration_sum / 2612)*100.
```

```
VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total
student speaking time'.
```

```
EXECUTE.
```

****Analyzing standard deviation in main aggregated file****.

```
FREQUENCIES VARIABLES=Relative_Duration_sum
```

```
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
```

```
/HISTOGRAM NORMAL
```

```
/ORDER=ANALYSIS.
```

Procedure for each condition.

***1. Create four files through select cases, one for each condition □

2. Aggregate duration across individuals in each file □

3. Run frequencies on the variable Duration_sum with StD (and mean and histogram and SUM checked)* and see what the sum is in each file.

*4. Compute variable Relative duration sum by dividing Duration_sum with total student speaking time (the sum found in step 2 above) in each file.

*5. Change decimals in Relative duration sum variable from 2 to 4.

*6. Run frequencies on the variable Relative_duration_sum with StD (and mean and histogram etc. checked) in each file.

*Condition A.

DATASET COPY A1.

DATASET ACTIVATE A1.

FILTER OFF.

USE ALL.

SELECT IF (Round_Jure = 1).

EXECUTE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Intervention 3\Kodning af
intervention "+

"3\Speaking time Entire conditions AGG A1.sav"

/BREAK=Speaker

/Duration_sum=SUM(Duration).

FREQUENCIES VARIABLES=Duration_sum

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

*Creating Relative Duration sum in Aggregated dataset for condition A****.

COMPUTE Relative_Duration_sum=(Duration_sum / 635)*100.

VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total
student speaking time'.

EXECUTE.

FREQUENCIES VARIABLES=Relative_Duration_sum

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

```
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Condition B.

```
DATASET COPY B.
DATASET ACTIVATE B.
FILTER OFF.
USE ALL.
SELECT IF (Round_Jure = 2).
EXECUTE.
```

```
AGGREGATE
```

```
/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Intervention 3\Kodning af
intervention "+
"3\Speaking time Entire conditions AGG B.sav"
/BREAK=Speaker
/Duration_sum=SUM(Duration).
```

```
FREQUENCIES VARIABLES=Duration_sum
```

```
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Creating Relative Duration sum in Aggregated dataset for condition B****.

```
COMPUTE Relative_Duration_sum=(Duration_sum / 1280)*100.
VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total
student speaking time'.
EXECUTE.
```

.

```
FREQUENCIES VARIABLES=Relative_Duration_sum
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Condition A2.

```
DATASET COPY A2.
DATASET ACTIVATE A2.
FILTER OFF.
USE ALL.
SELECT IF (Round_Jure = 3).
EXECUTE.
```

```
AGGREGATE
```

```
/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Intervention 3\Kodning af
intervention "+
"3\Speaking time Entire conditions AGG A2.sav"
/BREAK=Speaker
/Duration_sum=SUM(Duration).
```

```
FREQUENCIES VARIABLES=Duration_sum
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Creating Relative Duration sum in Aggregated dataset for condition A2****.

```
COMPUTE Relative_Duration_sum=(Duration_sum / 197)*100.
VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total
student speaking time'.
EXECUTE.
```

```
FREQUENCIES VARIABLES=Relative_Duration_sum
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Condition C.

```
DATASET COPY C.
```

```
DATASET ACTIVATE C.
```

```
FILTER OFF.
```

```
USE ALL.
```

```
SELECT IF (Round_Jure = 4).
```

```
EXECUTE.
```

```
AGGREGATE
```

```
/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Intervention 3\Kodning af  
intervention "+
```

```
"3\Speaking time Entire conditions AGG C.sav"
```

```
/BREAK=Speaker
```

```
/Duration_sum=SUM(Duration).
```

```
FREQUENCIES VARIABLES=Duration_sum
```

```
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
```

```
/HISTOGRAM NORMAL
```

```
/ORDER=ANALYSIS.
```

*Creating Relative Duration sum in Aggregated dataset for condition C****.

```
COMPUTE Relative_Duration_sum=(Duration_sum / 500)*100.
```

VARIABLE LABELS Relative_Duration_sum 'Individual speaking time as percent of total student speaking time'.

EXECUTE.

.

FREQUENCIES VARIABLES=Relative_Duration_sum

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

INEQUALITY IN RECEIVED RESPONSES.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

***INEQUALITY IN RECEIVED RESPONSES ***.

*REMEMBER FIRST.

*Computing publicly relevant responses.

DATASET ACTIVATE DataSet49.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1_CHECK.

EXECUTE.

DATASET ACTIVATE DataSet49.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2_CHECK.

EXECUTE.

*** ALL CONDITIONS ***.

ALL CONDITIONS.

ALL CONDITIONS.

```
FREQUENCIES VARIABLES=Publicly_relevant_response_to_p1
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

```
FREQUENCIES VARIABLES=Publicly_relevant_response_to_p2
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

```
/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Intervention 3\Kodning af
intervention "+
"3\Endelig analyse\Prøve.sav"
/BREAK=Publicly_relevant_response_to_p1
/Speaker_mean=MEAN(Speaker)
/N_BREAK=N.
```

SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

DATASET DECLARE Responding2.

AGGREGATE

```
/OUTFILE='Responding2'
/BREAK=Publicly_relevant_response_to_p2
/Speaker_mean=MEAN(Speaker)
/N_BREAK=N.
```

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Finding sum of uptake frequency for use in computation of Share of responses.

```
FREQUENCIES VARIABLES=N_BREAK  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/HISTOGRAM NORMAL  
/ORDER=ANALYSIS.
```

*Creating Share of responses in Aggregated dataset for entire session****.

```
COMPUTE Share_of_responses=(N_BREAK / 96)*100.  
VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.  
EXECUTE.
```

*Analyze by use of frequencies.

```
FREQUENCIES VARIABLES=Share_of_responses  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/HISTOGRAM NORMAL  
/ORDER=ANALYSIS.
```

CONDITION A1 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION A1 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION A1 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

*REMEMBER FIRST.

*Computing publicly relevant responses. USING THE DATASET WITH ONLY A1.

DATASET ACTIVATE DataSet54.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1_CHECK.

EXECUTE.

DATASET ACTIVATE DataSet54.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2_CHECK.

EXECUTE.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skrivebordselementer\Intervention 3\Kodning af intervention "+

"3\Endelig analyse\Prøve.sav"

/BREAK=Publicly_relevant_response_to_p1

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

DATASET DECLARE Responding2.

AGGREGATE

/OUTFILE='Responding2'

/BREAK=Publicly_relevant_response_to_p2

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Analyze by use of frequencies to get Sum of responses in the condition.

FREQUENCIES VARIABLES=N_BREAK

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

*Creating Share of responses in Aggregated dataset for condition A1****.

COMPUTE Share_of_responses=(N_BREAK / 18)*100.

VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.

EXECUTE.

*Analyze by use of frequencies.

FREQUENCIES VARIABLES=Share_of_responses

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

CONDITION B UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION B UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION B UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

*REMEMBER FIRST.

*Computing publicly relevant responses. USING THE DATASET WITH ONLY B.

DATASET ACTIVATE DataSet57.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1_CHECK.

EXECUTE.

DATASET ACTIVATE DataSet57.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2_CHECK.

EXECUTE.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Intervention 3\Kodning af intervention "+

"3\Endelig analyse\Prøve.sav"

/BREAK=Publicly_relevant_response_to_p1

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

DATASET DECLARE Responding2.

AGGREGATE

/OUTFILE='Responding2'

```
/BREAK=Publicly_relevant_response_to_p2
/Speaker_mean=MEAN(Speaker)
/N_BREAK=N.
```

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Analyze by use of frequencies to get Sum of responses in the condition.

```
FREQUENCIES VARIABLES=N_BREAK
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

*Creating Share of responses in Aggregated dataset for condition B****.

```
COMPUTE Share_of_responses=(N_BREAK / 47)*100.
VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.
EXECUTE.
```

*Analyze by use of frequencies.

```
FREQUENCIES VARIABLES=Share_of_responses
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

CONDITION A2 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION A2 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION A2 UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

*REMEMBER FIRST.

*Computing publicly relevant responses. USING DATASET WITH ONLY A2.

DATASET ACTIVATE DataSet59.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1_CHECK.

EXECUTE.

DATASET ACTIVATE DataSet59.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2_CHECK.

EXECUTE.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skribordselementer\Intervention 3\Kodning af intervention "+

"3\Endelig analyse\Prøve.sav"

/BREAK=Publicly_relevant_response_to_p1

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

DATASET DECLARE Responding2.

AGGREGATE

/OUTFILE='Responding2'

/BREAK=Publicly_relevant_response_to_p2

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Analyze by use of frequencies to get Sum of responses in the condition.

FREQUENCIES VARIABLES=N_BREAK

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

*Creating Share of responses in Aggregated dataset for condition A2****.

COMPUTE Share_of_responses=(N_BREAK / 9)*100.

VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.

EXECUTE.

*Analyze by use of frequencies.

FREQUENCIES VARIABLES=Share_of_responses

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

CONDITION C UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION C UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

CONDITION C UPTAKE.*USE DATASET WITH THE FIRST 4:20 MINUTES OF EACH CONDITION USED FOR THE COMPUTATION OF SPEAKING TIME.

*REMEMBER FIRST.

*Computing publicly relevant responses. USING DATASET WITH ONLY C.

DATASET ACTIVATE DataSet61.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p1=Response_to_participant_no1_CHECK.

EXECUTE.

DATASET ACTIVATE DataSet61.

IF (Public_relevance_Dicho = 1)

Publicly_relevant_response_to_p2=Response_to_participant_no2_CHECK.

EXECUTE.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

AGGREGATE

/OUTFILE="C:\Users\User\Desktop\Skivebordselementer\Intervention 3\Kodning af intervention "+

"3\Endelig analyse\Prøve.sav"

/BREAK=Publicly_relevant_response_to_p1

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*SPEAKER_MEAN VARIABLE ONLY INCLUDED FOR TECHNICAL REASONS - IT SHOULD BE IGNORED IN THE AGGREGATED FILE.

DATASET DECLARE Responding2.

AGGREGATE

/OUTFILE='Responding2'

/BREAK=Publicly_relevant_response_to_p2

/Speaker_mean=MEAN(Speaker)

/N_BREAK=N.

*Manually add Responding1 and Responding2 variables.

*Manually cut out Teacher cases, Missing cases, and Everyone.

*Analyze by use of frequencies to get Sum of responses in the condition.

FREQUENCIES VARIABLES=N_BREAK

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

*Creating Share of responses in Aggregated dataset for condition C****.

COMPUTE Share_of_responses=(N_BREAK / 22)*100.

VARIABLE LABELS Share_of_responses 'Received responses as percent of total responses'.

EXECUTE.

*Analyze by use of frequencies.

FREQUENCIES VARIABLES=Share_of_responses

/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.


```
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.  
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.  
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.  
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.  
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.  
*ENGAGEMENT. *ENGAGEMENT. *ENGAGEMENT.
```

Recoding Responding to specific Responding to specific2 is ignored because an additional response does not impact whether there was a response or not.

```
RECODE Responding_to_specific_CHECK (1=1) (2=1) (3=1) (4=1) (ELSE=0) INTO  
Responding_Dicho.
```

```
VARIABLE LABELS Responding_Dicho 'Responding_to_previous_talk_Dichotomous'.  
EXECUTE.
```

Recoding Responding to specific into Responding to specific student dicho.

```
IF (Response_to_participant_no1_CHECK ~= 0)  
Responding_to_Student_Dicho=Responding_Dicho.  
EXECUTE.
```

The created missing values were recoded to zeros manually. MANGLER MANGLER*
MANGLER*

```
RECODE Responding_to_Student_Dicho (SYSMIS=0) (1=1).  
EXECUTE.
```

*Recoding Talk category = Meta and Problem_Question = Yes into Question_or_Meta dicho..

```
IF (Talk_category = 2 | Problem_Question = 1)  
Question_or_Meta=1.
```

EXECUTE.

*The created missing values were recoded to zeros manually.

*Recoding Conclusion_type into Conclusion_type_w_zeros.

RECODE Conclusion_type_CHECK (SYSMIS=0) (ELSE=Copy) INTO
Conclusion_type_w_zeros.

VARIABLE LABELS Conclusion_type_w_zeros 'Conclusion type with zeros instead of
missings'.

EXECUTE.

*RESPONDING.

CROSSTABS

/TABLES=Public_relevance_Dicho BY Responding_Dicho

/FORMAT=AVALUE TABLES

/CELLS=COUNT ROW

/COUNT ROUND CELL.

*Creating "Publicly relevant Response dichotomous" for analysis of effect size with NAP
calculator.

DO IF (Public_relevance_Dicho = 1).

RECODE Responding_Dicho (1=1) (0=0) INTO Responding_public_relevance.

END IF.

VARIABLE LABELS Responding_public_relevance 'Responding with public relevance
Dichotomous'.

EXECUTE.

*RESPONDING TO STUDENT.

CROSSTABS

```
/TABLES=Public_relevance_Dicho BY Responding_to_Student_Dicho
/FORMAT=AVALUE TABLES
/CELLS=COUNT ROW
/COUNT ROUND CELL.
```

*QUESTIONING OR META.

```
FREQUENCIES VARIABLES=Question_or_Meta
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Public_relevance_Dicho BY Question_or_Meta
/FORMAT=AVALUE TABLES
/CELLS=COUNT ROW
/COUNT ROUND CELL.
```

*REBUTTALS.

```
FREQUENCIES VARIABLES=Conclusion_type_w_zeros
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Problem_Opinion BY Conclusion_type_w_zeros
/FORMAT=AVALUE TABLES
```

```
/CELLS=COUNT ROW  
/COUNT ROUND CELL.
```

*ORIGINAL REBUTTALS.

*Computing original rebuttals.

```
IF (A_Argument_Independence = 1)  
    Original_Rebuttal = Conclusion_type_w_zeros.  
EXECUTE.
```

*Missing values turned into zeros manually.

```
FREQUENCIES VARIABLES=Original_Rebuttal  
/STATISTICS=STDDEV VARIANCE MEAN MEDIAN MODE SUM  
/HISTOGRAM NORMAL  
/ORDER=ANALYSIS.
```

*Creating original rebuttal dichotomous for analysis with NAP calculator.

```
RECODE Original_Rebuttal (10=1) (ELSE=0) INTO Original_Rebuttal_Dicho.  
VARIABLE LABELS Original_Rebuttal_Dicho 'Original_Rebuttal_Dicho'.  
EXECUTE.
```

```
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.  
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.  
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.  
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.  
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.  
*PUBLIC RELEVANCE. *PUBLIC RELEVANCE. *PUBLIC RELEVANCE.
```

```
FREQUENCIES VARIABLES=Public_relevance_Dicho
/ORDER=ANALYSIS.
```

```
*Computing Problem_Opinion_Dicho with missings coded as zeros.
```

```
RECODE Problem_Opinion (SYSMIS=0) (ELSE=Copy) INTO Problem_Opinion_Dicho.
VARIABLE LABELS Problem_Opinion_Dicho 'Statement of opinion Dichotomous'.
EXECUTE.
```

```
FREQUENCIES VARIABLES=Problem_Opinion_Dicho
/ORDER=ANALYSIS.
```

CROSSTABS

```
/TABLES=Public_relevance_Dicho BY Problem_Opinion
/FORMAT=AVALUE TABLES
/CELLS=COUNT ROW
/COUNT ROUND CELL.
```

```
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
```

```
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
```

*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3. *TABLE 3.
*ABSENCE OF COERCION.
*ABSENCE OF COERCION.
*ABSENCE OF COERCION.

*INTERRUPTION OF CURRENT SPEAKER.

*Use dataset where teachers, authors, and deviations are NOT deleted - so that the previous case in the dataset refers to the previous message in the discussion.

*Use dataset where teachers, authors, and deviations are NOT deleted - so that the previous case in the dataset refers to the previous message in the discussion.

```
RECODE Talk_category (1=1) (2=1) (3=0) (4=0) (SYSMIS=SYSMIS) INTO  
Public_relevance_Dicho.  
VARIABLE LABELS Public_relevance_Dicho 'Public relevance Dichotomous'.  
EXECUTE.
```

*Computing interruption of current speaker dicho.

```
RECODE Interruption_CHECK (1=1) (SYSMIS=SYSMIS) (ELSE=0) INTO  
Interruption_of_current_dicho.  
VARIABLE LABELS Interruption_of_current_dicho 'Interruption of current speaker dicho'.  
EXECUTE.
```

*Computing interruption of current publicly relevant talk dicho.

```
IF (LAG(Public_relevance_Dicho) = 1) Interruption_of_public_talk_dicho=  
Interruption_of_current_dicho.
```

EXECUTE.

*As a final step: delete teacher, author and deviation messages.

*Remember to first fill in the missing values in the speaker variable (due to secondary messages) with 77777.

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 0).

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Speaker ~= 999).

EXECUTE.

FILTER OFF.

USE ALL.

SELECT IF (Round_Facto ~= 5).

EXECUTE.

*Then analyze through frequencies.

FREQUENCIES VARIABLES=Interruption_of_public_talk_dicho
/ORDER=ANALYSIS.

***INTERRUPTION OF SPEAKING ORDER.

*Use normal dataset without teacher, author and deviations again.

```
FREQUENCIES VARIABLES=Interruption_CHECK  
/ORDER=ANALYSIS.
```

```
***SOCIAL HARM.
```

```
*Recoding all social harm variables into one variable*.
```

```
IF (Social_Harm_Blame = 1 | Social_Harm_Insults = 1 | Social_Harm_Imperative = 1 |  
Social_Harm_Threat = 1)  
    Social_Harm=1.
```

```
EXECUTE.
```

```
*Missings replaced with zeros manually.
```

```
FREQUENCIES VARIABLES=Social_Harm  
/ORDER=ANALYSIS.
```

```
FREQUENCIES VARIABLES=Social_Harm_Blame Social_Harm_Insults  
Social_Harm_Imperative Social_Harm_Threat  
/ORDER=ANALYSIS.
```