Article

Oral Argumentation Skills between Process and Product

Martin Luginbühl * and **Daniel Müller-Feldmeth**

German Department, University of Basel, 4051 Basel, Switzerland; daniel.mueller-feldmeth@unibas.ch
* Correspondence: martin.luginbuehl@unibas.ch

Abstract: Oral argumentation skills have become a 'hot topic' within pragmatic language acquisition research as well as didactical research. In this study, we first discuss characteristics specific to oral argumentation which, compared to written argumentation, has its own mediality and therefore specific requirements. To reconstruct different levels of oral argumentation skills of school children in grades 2, 4 and 6, we collected a corpus of 180 peer discussions without adult supervision and analyzed them based on conversation analysis. In our case study we compare two conversations in terms of different modalizations and epistemic stances in positionings and justifications and briefly show how the use of modalizations can shape both the character as well as the argumentative structure of a conversation. We argue that process-related and stylistic conversational aspects beyond structural aspects in a narrow sense shape oral argumentation to a high degree and therefore belong to the core aspects of oral argumentation skills.

Keywords: conversation analysis (CA); oral argumentation; conversational competence; pragmatic language acquisition; modalization

1. Introduction

There is a broad consensus that oral argumentation skills are a core competence in informal and formal, in public as well as private, contexts (Iordanou and Rapanta 2021; Quasthoff et al. 2019; Rapanta et al. 2013; Arendt et al. 2015; Baines and Howe 2010). Therefore, the topic has also gained increasing attention in educational standards over the last two decades—e.g., in the American National Science Education standards, the European Parliaments recommendations, the KMK-standards (Germany), or in the HarmoS-Konkordat (Switzerland) (Rapanta et al. 2013, p. 484; Hauser and Luginbühl 2017, p. 89) and in research on argumentation and education (Schwarz and Baker 2017; Muller Mirza and Buty 2015; Jadallah et al. 2011; Muller Mirza and Perret-Clermont 2009; Felton et al. 2009). It has been pointed out in this strand of research that oral argumentation is not only a learning objective ('learning to argue'), but also a way of acquiring knowledge ('arguing to learn', see Asterhan and Schwarz 2016; Garcia-Mila et al. 2013; Walker and Sampson 2013; Baker 2009)—this finding further underscores the relevance of oral argumentation skills. In order to develop didactic concepts to train and evaluate oral argumentation skills, an adequate conceptualization and a description that differentiates different age levels is necessary. As a first step towards this goal, it is necessary to identify and describe aspects of argumentation skills that are specific for oral argumentation. In this paper, we show how handling process-related and stylistic aspects constitute a crucial facet of oral argumentation skills.

Research on oral argumentation skills is at the intersection of argumentation studies and conversation analysis. As with all conversation, oral argumentation in face-to-face communication is sequentially organized, interactively processed, and the status of each turn within an (argumentative) interaction has to be negotiated by the participants who are directly responding to each other (Sidnell and Stivers 2013; Clift 2016). This negotiation relates not only to its literal content, but also to the conversational and argumentative status of the turn (as rhetorical means and argumentative discourse elements, see (Heller 2012;

Schwarze 2010), its facework and relationship work value, etc. (Arundale 2010; Becker-Mrotzek 2009; Spiegel 2006), including questions of epistemic stance, positioning and affiliation (Morek 2020; Stivers et al. 2011; Stivers 2008; Du Bois 2007). This entails that every turn has to be fitted into and adapted to the current situation, including its participants. The analysis of oral argumentation skills thus needs not only to focus on argumentation in aspects of logical forms, argument schemes, topics, and single argumentative moves, but also on the interactive processing of arguing and the co-construction of arguments in the mediality of oral face-to-face conversation.

Key questions from a linguistic perspective are: what differentiates oral argumentation from written argumentation?; how can oral argumentation skills be analytically described and empirically assessed? In the following, we will shortly discuss the first question, we will then present main characteristics of oral argumentation skill conceptualizations (with a focus on English and German literature), and finally present our own approach based on an empirical analysis of oral argumentations of elementary school children.

2. Oral Argumentation Skills

2.1. Oral Argumentation and Oral Argumentation Skills

Oral argumentation differs in important ways from written forms of argumentation (see Morek 2020; Hannken-Illjes 2018, pp. 164–72; Heller 2012; Grundler 2011; Nussbaum 2011; Spiegel 2011; Deppermann and Hartung 2006). Oral argumentation is not only about converting a disputable position into a non-disputable one by weighing up reasons (and supporting them by warrants, backings, etc.), as it is often defined (e.g., Kienpointner 2008, p. 702 or Pullman 2013, p. xx). Neither can it be reduced to the instantiation of Toulmin's structural argumentation parts (which often occurs in analyses of oral argumentation in didactic contexts, as, for example, Rapanta et al. 2013; Nussbaum 2011; Hannken-Illjes 2004, pp. 159–61 point out). Oral argumentation in face-to-face-conversation has (as with written argumentation) its own mediality and therefore its own characteristics and challenges; oral argumentation not only uses different material signs than written argumentation (spoken instead of written language), but there are also fundamental differences in the way these signs are and have to be processed (Jäger 2015).

First, oral argumentation is interactively processed. Participants are under constant influence of one another and have to coordinate their actions in an incremental way. Therefore, single turns are always interactive products; planning, reception, and production take place simultaneously and the sequencing, i.e., the organization of the turns and the entire conversation, has to be dealt with (Sidnell 2013; Becker-Mrotzek 2009; Fiehler 2009; Auer 2007; Deppermann 2006). Therefore, all turns must be fitted continuously to the local context and argumentations tend to become more dynamic, including frequent quaestio shifts. Second, oral communication is multimodal, including gaze, head and body movements, gestures, aspects of voice and prosody, etc. (Bose and Hannken-Illjes 2020; Heller 2021; Mondada 2016; Jacquin 2015). It is another peculiarity of oral argumentation, in comparison with its written instantiation, that the adequate use of these resources has to be mastered.

Compared to written argumentation which results in a final product prototypically by one person, oral argumentation emerges in situ in a joint action, given its interactivity and processuality. Therefore, taking part in oral argumentation does not only require only knowledge and abilities regarding argumentation in a more structural sense that includes finding good arguments, taking positions, giving justifications, claiming validity, reconstructing implied premises, detecting weaknesses in arguments given, etc. It also requires knowledge and abilities regarding the processing of oral conversations in general and knowledge of specific practices related to argumentation: When is which action relevant and how do I give an appropriate account of it? How do I apply an argumentative strategy, such as cornering someone or co-construct an argument with someone else? How do I prevent an escalation in case of dissent? Thereby, single turns must always be contextualized, situated, and designed for a very specific audience and the current

conversational situation, i.e., the design of turns must be sensitive to context. Unlike in written argumentation, arguments can be developed, elaborated, and contested in an incremental manner in the course of conversations. Given these characteristics—high degree of situatedness, co-constructedness, and often seemingly disorderly development of arguments—single turns in oral argumentations often remain deficient if assessed by argument-structure related competence criteria alone, as they often do not constitute a complex argumentation, nor even a clearly recognizable argumentative move.

In view of these features of oral argumentation, the question of oral argumentation skills becomes crucial, especially within an educational context. The questions of how these skills can best be described, and which criteria can serve for assessments are discussed in many studies (to name just a few: Kuhn 1992; Felton and Kuhn 2001; Kuhn and Udell 2003; Kuhn et al. 2013; Andrews 2005; Quasthoff et al. 2019; Arendt 2019; Grundler 2011; Heller 2012; Krelle 2014; Spiegel 2006). In their review of almost 100 studies, Rapanta et al. (2013) propose three general modes in which argumentation (be it oral or written) is assessed:

- A metacognitive mode (*know what*; knowing (complex) argumentative structures, establishment of some sort of validity and of argumentative coherence);
- A metastrategic mode (*know how*; understanding the task, manifested in the presence of specific argumentative discourse elements, such as warrants, backings, counterarguments, rebuttals, examples, etc., implementation of argumentative strategies, such as two-sidedness, theory-evidence coordination);
- An epistemological mode (*know be*; knowing of qualities of arguments related to relevance, sufficiency, and acceptability and to the achievement of pragmatic goals).

Regarding the ability to argue, all three aspects are relevant—and are intertwined. However, argumentation skills usually—as Rapanta et al. (2013, p. 510) conclude—are viewed as metastrategic skills.[1] This focus on metastrategic skills often comes together with a focus on arguments as products, i.e., a focus on the form of arguments—and here again analyses applying Toulmin's categories prevail (ibid., pp. 500, 509). As mentioned above, assessing *oral* argumentation skills must also include a process-related perspective, which is missing in the three modes above; in conversations, arguments as products can only be analyzed in retrospect, and we can critically ask what the contribution of single speakers to an argument is (which corresponds to the definition of oral competence by Quasthoff 2009, p. 86). Here, specific skills are required, such as fitting conversational turns into the global structure (in the course of a complex conversational activity, such as arguing) and into the local structure (e.g., recognizing conditionally relevant second actions after a first action), interactively producing complex arguments in terms of co-constructions, taking into account face work, etc. In the following, we will shortly comment on three models of oral argumentation skills.

One of the models describing oral skills in this way is the GLOBE model[2] (Hausendorf and Quasthoff [1996] 2005) that has been adapted for oral argumentation by Heller (2012) and that focuses on global and local relations of single turns. Based on conversation analysis, conversational 'jobs' to which participants are oriented are reconstructed. These jobs, such as 'establish dissent', 'establish an obligation to justification', 'justify', and so on (Heller 2012, pp. 67–102) are interactively produced and serve as tertium comparationis in the comparison of argumentative practices. Not only the repertoire of rhetoric means to complete these jobs is related to argumentative competence, but also the linguistic forms that are used in the context of the rhetoric means. Developing oral argumentation skills is manifested in recognizing and being able to contribute to the single jobs, acquiring different rhetoric means and linguistic forms and to use them according to context. Therefore, "contextualization competence" (ability to embed and shape a global unit, such as arguing or explaining, in a particular context), "textualization competence" (ability to produce utterances according to genre specific patterns, such as making something controversial or giving reasons) and "marking competence" (ability to mark an utterance with suitable linguistic forms according to structures and purposes of the global unit) are part of oral skills (Erath et al. 2018, p. 165).

Grundler ([2011](#)) analytically divides oral argumentative competence in four dimensions: personal dimension (awareness of own perspectivity), social dimension (relationship work), cognitive dimension (knowledge on argumentative structures and on integration of factual knowledge), and conversational competence (initiative and responsivity, completion of communicative jobs). Spiegel's 'management' tasks ([Spiegel 2006](#); see also [Krelle 2014](#)) that have to be coped with in a conversation are similar: topic management, conversation management, linguistic management, identity and relationship management, and management of non- and paraverbal aspects. Developing oral argumentation skills is manifested in these models in conversational actions that can be related to a growing awareness or growing knowledge respectively with regard to these dimensions.

In our case study, 'modalization' ([Morek 2020](#); [Grundler 2011](#), pp. 293–309) will be an important concept. By 'modalization' we capture all linguistic, para- and nonlinguistic means that index the degree of negotiability for the positionings taken or the justifications and examples given, whereas utterances can index a high degree of negotiability or non-negotiability (strong/multiple modalization, reinforcing (non-)negotiability), or a low degree (weak modalization). Thereby, modalization can refer to different aspects. On the one hand, it can be related as epistemic modalization to the question "whether a statement conveyed to them is taken to be factually true, possibly valid or simply hypothetical" ([Morek 2020](#), p. 118). Epistemic modalizations attenuate or reinforce the speaker's commitment to a positioning, a justification, an example, etc. Grundler ([2011](#), pp. 293–309) differentiates mono-perspective contexts from multi-perspective contexts of modalizations. In mono-perspective contexts, speakers underscore the facticity of their statement, they refrain from restrictions and do not index any consciousness for other perspectives. In multi-perspective contexts, speakers tend to modalize their statements, be it by modalizing the propositional content, the specification whether a proposition is presumed to exist or to be imagined, or the instruction to a recipient on how to understand the proposition ([Morek 2020](#); [Redder 2009](#)). Depending on the modalization, the claim to factuality can be reinforced, or the positioning can be perspectivized, taking other perspectives into account ([Grundler 2011](#), pp. 293–309; [Schwitalla 2012](#), pp. 168–72). Grundler (ibid.), on the other hand, also observes next to epistemic modalization something that probably could be called 'dissent modalization': dissenting statements can be modalized in order to reinforce dissent (and index non-negotiability), but they also can be modalized by mitigating the dissent and thereby indexing negotiability.

Some ways of marking negotiability that we referred to as 'modalization' can be related to the concept of 'mitigation' ([Fraser 1980](#); [Schneider 2010](#)). While we use modalization to describe to what extent (non-)negotiability is indexed, mitigation means a reduction of responsibilities and risks that come with an utterance and have the potential to threaten the faces of interactants, making "an utterance as acceptable as possible to the interlocutor without the speaker having to give up his or her standpoint" ([Schneider 2010](#), p. 255). A mitigated positioning is therefore an utterance with a modalization that marks (more or less high) negotiability, e.g., by using subjunctive, modal verbs, mitigating modal particles, etc. Instead, our concept of modalization also includes cases where non-negotiability is reinforced.

A more empirically based approach can be found in the works of Kuhn and collaborators ([Felton and Kuhn 2001](#); [Kuhn and Udell 2003](#)): single turns are coded based on a scheme that categorizes each turn in relation to the preceding turn (e.g., requesting evidence for a preceding claim, agreeing or disagreeing, continuing own argumentation by ignoring preceding utterance of partner, see [Felton and Kuhn 2001](#), p. 141). Differences in the frequency of single codes are then related to changing argumentation skills, which are discussed by addressing two forms of development. First, an enhancement in understanding the goals of argumentative discourse (getting the partner to accept certain premises, support one's own claims and undermine the partner's position) and second, a progress in strategic performance, whereas these forms of development are interdependent.

In sum, there are many works suggesting elaborated criteria to assess argumentative competence. Some of them are theoretically based, some of them empirically. The ones based in conversation analysis especially point out that next to aspects of argumentative structures, conversational aspects have to be taken into account too when assessing oral argumentation skills. It is not only the argumentative product (i.e., justifications, warrants, examples given, the complexity, the plausibility of the argumentations etc.), but also the argumentative process within conversations that has to be mastered.

In our analysis, we focus on the following interdependent aspects of oral argumentation skills:

- The ability to initiate and end global conversational units (e.g., justify and weighing up a position), both locally fitting and situated.
- The ability to produce semantically coherent argumentative turns with adequate rhetorical means and linguistic forms (e.g., giving a justification or problematize a position), again locally situated, with regard to the face of the other discussants, including the ability to modalize a position (e.g., by subjunctive, modal verbs, mitigating modal particles).
- The ability to produce or contribute to complex argumentations, also by co-constructions, including the ability to create a mutual relation between turns (e.g., by doubting, agreeing, conceding, insisting etc.) and strategic maneuvers.

A special challenge lies in the fact that skills are individual, and they describe the potential of an individual, while conversations are a joint achievement and always unique performances. Speaking of argumentation skills, we mean the "factual competence" (Deppermann 2004, p. 20, our translation), i.e., the observable behavior of a person. In order to develop a grip of oral skills, we have to analyze the same person in different situations or lots of comparable persons in similar situations, focusing on the individual contributions to the oral argumentations. In our project, we have opted for the second option and collected peer discussions of 720 elementary school children in total, 240 children each in grades 2, 4 and 6.

2.2. Empirical Findings

While there are many empirical studies on preschoolers, junior high and high school students, there are only a few studies on oral argumentation skills of elementary school children. Rapanta et al. (2013, p. 499) also point out in their meta study that not many studies analyze argumentation of children aged 7–11, and they find even less studies analyzing *oral* argumentation in that age (4 out of 97, see ibid., supplemental material, figure 2). This is confirmed by looking at other studies focusing on oral argumentation: most studies conducted in this area are concerned with preschoolers on the one hand, and middle and high school students on the other (preschoolers: Arendt 2019; Bose and Hannken-Illjes 2018; Zadunaisky Ehrlich and Blum-Kulka 2014; Baines and Howe 2010; Komor 2010; middle and high school students: Morek 2020; Quasthoff and Kluger 2020; Kuhn et al. 2013; Krelle 2014; Heller 2012; Grundler 2011; Andrews 2009; Spiegel 2006; Vogt 2002; Felton and Kuhn 2001; Goetz and Shatz 1999).

From these studies we know that children already produce reasons and counterarguments at the age of three (Arendt 2019; Stein and Albro 2001; Stein and Miller 1993), but do not maintain topics through collaborative discussions (Baines and Howe 2010), while some studies showed that preschoolers used justifications and counterarguments for persuasion in contexts of disputes (Arendt 2019; Howe and McWilliam 2006; Stein and Albro 2001). Preschoolers thus do argue in conversations, but they do not yet verbalize arguments in an elaborate way and do not use them strategically.

Preschoolers and elementary school children start to give justifications initiatively, i.e., without someone requesting a justification (Baines and Howe 2010; Komor 2010), they use counter-arguments (Clark et al. 2003), they ask for justifications and thereby establish dissent (Rauch 2014; quoted in Kreuz 2021, p. 54), but they also start using justifications in more diverse contexts, such as non-persuasive, consensual ones (Komor 2010, p. 168;

Hannken-Illjes and Bose 2019; see also Kyratzis et al. 2010, p. 138). This happens more often in the case of elementary school children (Goetz and Shatz 1999, p. 744). In addition, they recognize conditional relevancies for justifications and how elaborate they must be (ibid., p. 746), and they use forms of imitating and repeating in a strategic manner (Kreuz 2021). In the data of Anderson et al. (1997), fourth graders usually did not produce very complex arguments, i.e., with long focused chains; instead, they used vague expressions, implicit conclusions and therefore usually did not use explicit warrants. These were however easily inferable from the previous discussion, making most arguments formally sound, coherent, and meaningful. Vogt (2002) looks at five lessons of elementary school students (grades 4) and five lessons of grades 5–7. He observes—on the topic level—a tendency towards arguments on a low level of abstraction and a preference for what he calls standard argumentative formats (claim + justification; ibid., p. 258). In our research, we could show in a quantitative analysis that there is a significant increase in the use of modalizing means (use of subjunctive forms combined with mitigating modal particles) between grades 2 and 4 (ages of about 8 and 10), that over time more justifications are given, and that children with increasing age discuss the same topic in longer and longer sequences (Luginbühl et al. 2021).

At levels *after* elementary school, more elaborated counterarguments and rebuttals have been observed, as can be seen in the works of Kuhn et al. (Felton and Kuhn 2001; Kuhn and Udell 2003; Kuhn et al. 1997). In their data of eighth graders, they mostly observed expositions, but only a small proportion of challenges or two-sided arguments, while adult college students used 'stronger' argumentation strategies aimed at weakening the partner's argument (asking for clarifications of an argument in order to elicit a weak argument, paraphrasing an argument or disagreeing and at the same time criticizing an argument). These strategies have often been observed within longer strategic sequences extending across several turns. Such a higher complexity of young adults' argumentation has also been observed by Grundler (2011), Spiegel (2006), Kelly et al. (1998), or Means and Voss (1996).

On a methodological level, research settings used in most of the German studies on oral argumentation skills have been within a school context and including an adult usually structuring the conversations to a high degree (e.g., Spiegel 2006; Krelle 2014), e.g., with role plays (e.g., Grundler 2011; Krelle 2014). Often teachers or other adults take part in the conversation themselves. We therefore know rather little about oral argumentation skills of elementary school children in peer groups without direct adult supervision (but see for informal settings (Arendt 2019; Morek 2014, 2015)). As several studies indicate, peer groups are an important context not only for learning oral skills, but also as a "double opportunity space" (Blum-Kulka et al. 2004, p. 308) for the emergence and elaboration of peer culture (see Arendt et al. 2015; Cekaite et al. 2014; Farnsworth 2012; Mercer 2009). Only in the context of peer groups can we observe how children argue independently, without an adult's guidance (Jadallah et al. 2011, p. 195).

2.3. Research Interest

Our approach aims at a better understanding of elementary school children's (i.e., age about 7–12) oral argumentation skills in peer discussions within a school context, given the limited knowledge about skill levels for teaching, exercising, and assessing oral argumentations in conversations at school. In order to see how the school children act independently from an intervening adult or direct prior instruction, we are interested in peer interaction without adults, where argumentative moves are not prepared in advance, but emerge during conversation. Analyzing school children's peer talk, we combine in our approach a look at argumentative products (argumentation) and argumentative procedures in conversation (arguing orally). In order to gain a better understanding of skill levels, we analyze a bigger corpus and combine qualitative with quantitative analysis (see Luginbühl et al. 2021).

Argumentation is often defined as an interaction between persons trying to persuade one another by giving justifications if there is a difference of opinion (e.g., Kienpointner 2008,

p. 702; van Eemeren and Grootendorst 2004, p. 59). However, in our data (see Section 3), the children in our tasks not only justify positions in argumentative episodes with an enduring, overt dissent, but also in consensual sequences, while only supporting one another, or in more explorative sequences where they weigh up different pro- and con-justifications without fixed positions and a stable consent or dissent (for similar observations see, e.g., Greco Morasso et al. 2015; Iannaccone et al. 2019). In the latter case, dissent may occur in the form of different positions, but it remains mostly covert and is only temporal. Here, we follow the distinction between persuasive or competitive argumentation (which has been the main concern of studies in argumentation for a long time) and consensual or "explorative" (Ehlich 2014) argumentation (see for this distinction Hannken-Illjes and Bose 2019). Referring to the second type, Mercer (2009, p. 184) speaks of "exploratory talk", "in which partners engage critically but constructively with each other's ideas. [. . .] Proposals may be challenged *and* counter-challenged, but if so [sic!] reasons are given and alternatives are offered." (Emphasis in original). We therefore do not see an overt dissent as a necessary condition for an argumentative way to treat a topic, but we understand oral argumentations as interactions, in which open questions, facts, and positions with different validity claims are marked as disputable (be it dissenting or explorative) and in which reasoning is crucial in order to make claims or positions plausible.

Our analysis of oral argumentation has its main focus on the procedural side of argumentation, we are interested in arguing as a "social discourse activity" (Felton 2004, p. 35), in which argumentative moves as proposals, establishing dissent, initiating, oppositional or validating justifications, requests, etc., but also related moves, such as clarifications, explanations, questions, conclusions, revisions, etc., are interactively produced, negotiated, sometimes co-constructed (Baker 2009; Kreuz 2021), and sequentially processed (Rapanta et al. 2013; Heller 2012). At the same time, we are interested in structural aspects of argumentation of another kind, namely the argumentation schemes (see, e.g., Kienpointner 1992; Rigotti and Morasso 2010) children produce in their conversations. Here, a focus lies on the question of how broad and deep an argumentation is, i.e., to what extent multiple/compound and subordinative argumentations are provided. In multiple or compound argumentations, many different arguments are produced to support a position and the argumentation is developed 'horizontally'; in a subordinative argumentation, single arguments are differentiated in regard to their support (by naming rules, examples and so on) and developed 'vertically' (Grundler 2011, p. 177). In the following case study (Section 3) we will however focus on procedural aspects and just provide some hints to aspects of argumentative products.

3. Materials and Methods

Looking at oral argumentation skills, it is crucial to look at the product *and* the process of argumentation; these two perspectives are interdependent (see Section 1). While research on argument schemes usually neglects the sequentiality of turns, adds implicit moves, and deletes some turns (e.g., repetitions in the context of insisting), it can be crucial for oral argumentations in which order, with which rhetoric means and linguistic forms, and with which multimodal resources a turn is produced. The turn's status as an argumentative move depends on its sequential context and its concrete form.

As oral argumentation skills are potentially influenced by and correlate with many factors (general language skills, sociodemographic and socioeconomic family status, etc., see (Wild et al. 2012) that can hardly be controlled in all their details, we decided to compose a rather large corpus for each grade in order to minimize the influence of the mentioned factors in the overall analysis. In addition, oral skills cannot be reconstructed within the paradigm of conversation analysis as competencies in the sense of an individuum based, cross-situational and normative (competent vs. incompetent) capability (Deppermann 2004).[3] What can be reconstructed is the aforementioned "factual competence" (Deppermann 2004, p. 20, our translation): conversation analysis is interested in systematic patterns of interaction in conversations as always already sensible solutions (ibid.).

The corpus we collected, as well as the methods we use, both aim at an empirically broadly supported study of the factual competence of elementary school children's oral argumentation skills (see for a detailed discussion Luginbühl et al. 2021). To reach that aim we collected data that are as natural as possible, but at the same time rich and comparable (cf. Quasthoff 2021). In order to keep the conversations as natural as possible, we developed exercises that were similar to existing exercises in schoolbooks, did not give argument specific preparations (such as preparatory exercises, lists of possible argument, etc.), and let the children discuss with only two cameras present, but no adults in the room taking part in the conversation. In order to collect rich data, we developed two tasks that made oral arguing highly expectable and therefore delivered data in sufficient breadth, and, as we kept the task stable over all groups, the data is methodologically comparable.

The basis of our data are two different tasks that the students had to discuss in groups of four (formed by lot). In the first task (called "Robinson task"), the children were asked to imagine that they were stranded on a deserted island and had to select three objects out of a list of twelve to ensure their survival on the island. In the second task (called "donation task"), the children had to rank four (real existing) donation options according to their preference on a four-step 'winners' podium. This task has been varied: half of the groups were asked to imagine that they had 50 Swiss francs, the other half actually received 50 Swiss francs as a class, which were subsequently donated for real for the projects chosen. For both tasks, the children were told that the aim was for the group to reach an agreement, but we did not mention the concept of argumentation. We however mentioned related terms during instruction, such as 'discuss', 'talk to each other', etc., in order to make sure that not only an agreement was to be reached, but to ensure that they understood it as discussion task.

Overall, we collected 180 conversations, 20 conversations for every task (20 Robinson, 20 donation with imagined money, 20 with real money) for grades 2, 4 and 6 each, which corresponds to ages of about 7–12 in the Swiss elementary school. Collecting the data, we visited schools from different German speaking Swiss cantons, some in more rural, some in urban locations. The conversations have a duration of 873 min in total; the conversations last from 25 s to 22 min, 3.5 min on average in grade 2, and 5.5 min in grades 4 and 6.

The conversations have then been transcribed with EXMARaLDA[4], following the GAT 2 conventions (Selting et al. 2009). These transcripts have then been coded on several levels, first with a focus on justifications as argumentative moves but in consideration of their local conversational context. On a first level, we coded activities that have the potential to trigger justifications ('thematizing an object/donation possibility', 'positioning for', 'positioning against', 'multiple relations'); on a second level justifications and their interactive embedding ('initiating' an argumentation, 'oppositional' or 'validating' a prior positing, 'multiple relations' to prior positionings); on a third level lexical markers of justifications and the logical relations they rely on ('causal', 'conditional', 'final', 'others').

4. Results (Case Study)

As Walton et al. (2010) point out, an argument needs to be "analyzed and evaluated not only by identifying the logical form of an argument in abstraction from its context of use, but also by paying attention to the purpose for which an argument was supposedly used in a conversational setting" (Walton et al. 2010, p. 210). In our data, the conversational setting can be characterized as a "deliberation dialogue" (ibid.): the interactants share a common problem—reach a consensus upon the selection of objects or donation projects. Thus, the general framing of the discussion is a cooperative one, rather than a persuasive, agonal, or competitive one. However, the dimension of cooperative or competitive framing does not only depend on the general setting or a particular quaestio, but is interactively performed by the participants (Hannken-Illjes and Bose 2019, p. 475). Having this in mind, we will next describe and analyze sequences from two conversations of 2nd grade children, both discussing the Robinson task. We selected two conversations (internal designations: Ro_K2_SA_G1a, Ro_K2_WB_G2a, see Supplementary Materials) that differ notably with

regard to the extent that agonal behavior can be observed. We will focus on the question of how the sequential processing of conversational jobs is performed, what rhetoric means, and which linguistic forms are used. We will show how modalization is a crucial aspect for the argumentative dynamic of the conversations (next to the completion of argumentative jobs, such as giving relevant, plausible, and valid justifications) and demonstrate how these processes crucially shape the argumentative structure and the character of the conversation. In addition, we will relate our observations to aspects of argumentation skills and show that in our two examples the children do not call up all skills to the same degree. We will start with the analysis of Ro_K2_SA_G1a, and then proceed by comparing particular sequences of the two conversations.

4.1. Marking (Non-)Negotiability in Positioning and Dissent

The first conversation (Ro_K2_SA_G1a) is the only one of the 180 conversations where the children do not reach a consensus. The group consists of three girls, Valerie (VAL), Marianne (MAR), Nora (NOR), and one boy, Ricardo (RIC). At the very beginning of the conversation, Ricardo excludes himself from the group ("I'll discuss it with myself"), sets gender as a relevant parameter ("I'm the only boy?"), and leaves the table. Thus, the cooperative framing of the setting is challenged from the very start. After a while, the girls move closer together, and start the discussion among each other (segment numbering is according to the transcripts provided in the Supplemental Materials):

37	NOR:	Ich glaub ich WEISS was man brAuchen kann;		
		ein TElefon	[(zum) Anrufen?	]
		I think I know what one can need;		
		a phone.	**[(to) (make a) call**	**]**
39[5]	VAL:		[WAS für?	]
			[what for?	**]**
		NÄI: de wäi, °h döt hEts jo uf dene äInsame Insle hets jo käi STROM.		
		No: because, there is on such deserted islands there is no power.		

In 37, Nora positions herself, proposing the (mobile) phone. Using an operator-scopus-structure ([Barden et al. 2001](#))—a structure typical for oral communication ([Grundler 2011](#), p. 295)—"ich glaub ich weiss" (*I think/believe I know*), she characterizes the mental state of the proposition in the scopus, both expressing confidence (*I know*), while simultaneously modifying it as a negotiable opinion (*I think*). The scopus entails the verb "brauchen" (*need*), implying an understanding of the task as determining 'what is needed'. Using "man" (*one*) as an unspecified subject presents the proposal as being based on common knowledge. The modal verb "kann" (*can*) again signifies some degree of uncertainty. Only after this introduction, the phone is proposed, complemented with a reference to its purpose (*to make a call*). Although specifying the purpose is not a full-fledged finality-based justification, it at least adds some support compared to a bare positioning. Adding the reasons for the choice already indicates sensitivity to the requirements of the discursive context: it supports the position and simultaneously provides the basis to respond to it in an informed way. Note, however, that the link between the '*needs*' and '*making a call*' is left implicit (why is making a call helpful on a deserted island?) but can be reasonably reconstructed as 'call for help to get off the island'.

Valerie interrupts Nora by asking a question (39), thereby establishing an obligation to justify the proposal. Her question '*what for*' seems to ask for a specification of the purpose (it is not entirely clear if Nora's addition of the purpose is already a response to Valerie's question). However, Valerie then proceeds by establishing dissent with an explicit statement of disagreement "Näi" (*no*). Immediately after expressing disagreement, the

causal marker "de wäi" (*because*) is added, thus signaling that the obligation of giving reasons which comes with disagreement is taken up. After a pause, this obligation is met by providing the counterargument: there is no power, so the phone will be useless. Thus, Valerie does not deny that making a call would be helpful but highlights that under the given circumstances the phone will not fulfil its purpose. The factual framing of the premise without any modalization presents the proposition as being based on (assumed) common knowledge about deserted islands and is marked explicitly as a justification with the causal marker. The move is complemented by connecting the premise of 'no power on desert islands' to Nora's proposal:

43	VAL:	<<whispering>	aso wIe chömmer denn mit eme HENdi aa(lüte),>
			so how can we then (make a) call with a mobile
44	MAR:	JÄ.	
		Yes.	

With the conjunction "aso" (*so/therefore*), the turn is marked as a conclusion, but is formulated as a question, thus marking the conclusion as obvious, while at the same time adding some openness.

Within this short sequence, all crucial jobs described in the GLOBE model (see Section 2.1) are completed: Nora *positions* herself, including an (although partial) justification by referring to the purpose of the phone, thus *establishing an obligation to justification* by instantiation (Arendt 2019, p. 239). Valerie *establishes dissent* by direct disagreement, responds to the obligation of justification by *giving a reason* for her divergent position, and completes her objection by explicating the link between the premise and Nora's position by formulating a conclusion. Although the episode is not explicitly concluded, at least Marianne signals approval in 44, and Nora does not further justify her position, which can be interpreted as implicit acceptance, thus rendering the episode as *completed*.

Thus, participants display the skill to complete the crucial jobs of an argumentative sequence, and also master different means to mark negotiability. On the one hand, Nora presents her position as a negotiable proposal by modalization and explicitly marking the epistemic stance. Valerie, in contrast, does not modalize but signals only little space for negotiability by providing a justification for her disagreement, and by linking her argument explicitly to Nora's proposal, thus providing a transparent argumentative chain that could be subject to further discussion. By formulating the conclusion as a question, she also manages to signal negotiability and mitigates her positioning.

During this episode, Ricardo is still away from the table. After an intervention of the experimenter, he nevertheless returns to the table. The following sequence starts directly after Ricardo has just returned:

60	VAL:	und Aso,		
		and alright,		
63		ICH würde sAgen (.)	[wir brauchen.	] ein ZELT zum schlAfen,
		I would say (.)	**[we need.**	**] a tent for sleeping**
64	NOR:	<<quietly>	[ein FEUer-	]>
			[a fire-	**]**
69	RIC:	nä..-		
		No		
70	NOR:	<<quietly> und ein FEUerwerk>		
		and (a) firework(s)[6]		

After Valerie has argued against the phone, she proposes the tent instead (63). Similar to Nora, Valerie marks her utterance as a proposal by using an operator-scopus-structure (*I would say*), marking it as her alternative by stressing "ICH" (*I*). As with Nora, she also uses the verb "brauchen" (*need*), thus staying with Nora's instantiation of the task as 'what is needed', and, at the same time, contrasting her own proposal by referring to the same underlying line of justification. As with Nora before, Valerie adds the purpose of the object (*for sleeping*) as a minimal justification. However, by supplying a different purpose,

she also introduces a different criterion that should guide the decision process: while the mobile phone refers to 'getting help to get off the island', '*for sleeping*' rather refers to the topic of 'surviving on the island'. While Nora uses the unspecified subject "man" (*one*), Valerie uses first person plural in '*we need*', thus construing the need as one of the whole group. Valerie also uses an operator-scopus-structure with the operator "ich würd sagen" (*I would say*), but, in contrast to Nora's turn, the scopus is produced as a factual sentence with no obvious modalization.

In 69, Ricardo signals dissent, although it is not clear at this point if he is in opposition to Valerie's proposal of the tent (63) or to Nora's proposal of fireworks (64), or both. Now, Marianne also puts a proposal on stage:

72	MAR:	und ich würd	[sÄge dass me (-)]	dass mir au e DEcki brUUche,
		and I would	**[say that one]**	**that we also need a blanket**
73	VAL:		[NÄi,]	
			[no,]	
75	RIC:	NÄI (-) decki BRUUche mir nIt; °hh		
		NO (-) we don't need a blanket		
76	MAR:	DOCH	[gäll vAlerii.]	
		Yes we do,	**[don't we, Valerie]**	
		((looks at VAL))		
78	RIC:		[ähm (-) nÄI.]	döt uf de insle (.) hets doch Palme.
			[uhm no.]	**there on this island (.) there are palm trees**

Marianne proposes the blanket (72), repeating Valerie's formula '*I would say*' as well as her reference to '*need*', and even repairs her utterance from using "me (man)" (unspecified subject *one)* to "mir" *(we)*, thus establishing a strong link to Valerie's turn (for repetitions see Goodwin and Goodwin 1987; Arendt 2019). The proposal is marked as a supplement of Valerie's proposal with "au" (*also*). Thereby, she implicitly agrees with Valerie and, by recycling Valerie's format, instantiates a cooperative act of 'putting things on the list one by one'. However, Ricardo does not take part in this game, but disagrees with Marianne's proposal of the blanket (75). He also refers to "brauchen" (*need*), thus lexically linking his utterance to the previous turn, and implicitly agreeing upon 'what we need' as a valid criterion, but explicitly denying the truth of Marianne's statement by negating the proposition. Ricardo, in contrast to Valerie in 39, does not express disagreement by a question, nor does he mark the statement as his opinion, (e.g., by signaling a mental state with '*I think*' or similar) but represents it as unnegotiable fact (*we don't need*). Marianne insists on her position but instead of responding to Ricardo's disagreement by justifying her proposal, she seeks support from Valerie, using a tag question directly addressing Valerie in 76. In the next turn, Ricardo provides a justification for his rejection—however, it comes too late: his direct und unmitigated negation of Marianne's proposal, which basically signals: 'You are wrong!' rather than 'I have a different opinion' is a face-threat Marianne feels obliged to react to immediately. His factual statement of disagreement also lacks any markers that could signal that a justification is about to follow (as, for example, in Valerie's equally direct negation in 39, which is however, directly followed by '*because*' and a justification and where the conclusion only follows after the justification).

What have we observed thus far: Nora, Marianne and Valerie mark their statements as negotiable, using operator-scopus-structures that specify the epistemic stance of their statements. By exploiting similar linguistic structures, the conversation is framed as a cooperative and explorative rather than a persuasive setting (Ehlich 2014). Ricardo, however, states his disagreement in 75 as an unnegotiable fact and thus does not comply to the locally established norm of signaling negotiability. As a reaction, Marianne does not act within the rules of the argumentative game when confronted with Ricardo's counterargument: neither does she defend her position, nor does she accept the counterargument, thus ignoring the conditional relevance of justifying one's position in face of disagreement. Instead, she attempts to build a coalition with Valerie. This also demonstrates the aspect of timing as a crucial skill in oral conversation: Ricardo's attempt to justify his rejection comes

(maybe only milliseconds) too late, and thus fails to render his rejection as acceptable on the personal level. Thus, already in this early phase of the conversation, the cooperative framing is considerably distorted.

Later in the conversation, Ricardo proposes the pocket knife—again without modalization:

180	RIC:	s WICHtigscht °h äh wo s (.) brUUcht (.) isch (.) s !SACK!mässer.
		The most important uhm that (.) is needed (.) is (.) the pocket knife.
		((tips on pocket knife))
183		°h s SACKmässer brUUcht me zum (-) °h d bÄum absÄÄge,
		The pocket knife one needs to cut down trees.
186		°h und denn kA me e FLOSS bAue;
		((tips on pocket knife two times))
		And then one can build a raft
187	MAR:	°h Aber [me bruucht (.) schlO-]
		But [one needs (.) sleeping (bag)]
		((points at sleeping bag))
188	VAL:	[jä SACKmässer brUUcht me ganz] sIcher.
		[Yes pocket knife one needs for] sure
		((points at pocket knife))

Marianne neither responds to Ricardo's proposal, nor to the implicit change of criteria (getting away from the island) but again proposes the sleeping bag, while Valerie agrees with Ricardo. On the one hand, crucial argumentative jobs are completed—positioning plus justification, establishing dissent, stating agreement. However, none of the turns entail any markers of negotiability, and the repeated use of '*need*' + unspecified subject construes all propositions as non-debatable facts. In contrast to the earlier episodes, where the repetition of operator-scopus structures (37, 63, 72) construes a cooperative framing, here the repetition of the syntactic pattern contributes to hardening frontiers by copying the factual and non-negotiable style. A further detail is important within this section: Marianne initiates her proposal of the sleeping bag (187) with '*but*', which, on first view, indicates disagreement. However, her turn misses any link to the content of the previous turns: the sleeping bag is not a functional alternative to the pocket knife. To promote the sleeping bag as the better choice would require a rather complex argumentative chain. The '*but*', however, could also signal not dissent, but rather initiate an additional proposal, thus implicitly agreeing on the pocket knife as in: 'YES, but we ALSO need a sleeping bag'. Thus, it would not function as a marker of dissent, but rather state that the sleeping bag is equally important. However, Marianne does not link her proposal to Ricardo's previous turns, nor does she provide independent arguments that would qualify it as an additional proposal. Thus, the content does not reflect the argumentative expectation the linguistic form (*but*) elicits. Marianne's turn can either be interpreted as indicating her inability to link her proposal adequately to previous turns, i.e., a lack of textualization and marking competence (Quasthoff 2009). However, given the rather agonal character of the conversation in this phase, ignoring Ricardo's argumentative approach is more likely signaling that Marianne is not willing—rather than not being able to—to react within the "argumentative game", bringing dissent without justifications to the fore and thereby reinforcing it further.

Instead of providing reasons, Marianne looks at Ricardo and suggests the sleeping bag, implying that this would be of his best interest (*I would take a sleeping bag if (.) I were you.*). Again, Ricardo states his disagreement in a factual form (*sleeping bag not necessary*), thus not responding to the 'perspective' move, but denying the implied importance of the sleeping bag. Shortly after, Valerie attempts to summarize the (assumed) intermediate state of the decision process: '*So we have a tent* [her proposal] *and a pocket knife* [Ricardo's proposal] *so far*'. Marianne complements Valerie's summary by adding her own proposal, the sleeping bag, thus implicitly ignoring Ricardo's objections. Ricardo disagrees loudly, and reinforces his disagreement by beating on the table:

202   RIC: <<loudly and annoyed> nÄ:i zÄlt isch (.) !UN:NÖ::TIG!->
No tent is (.) unnecessary!
((beats the table))

Again, his statement is framed as a fact and this time also without an attempt to justify the disagreement. Interestingly, he does not signal disagreement with Marianne's proposal (sleeping bag) but with the tent proposed by Valerie. However, it is nevertheless Marianne who opposes:

207   MAR: NÄ::I:;
no
209   RIC: UNnötig;
unnecessary
210   NOR: nä:ä:i;
no;
211   MAR: nÄ:i [(.) e   ] zÄlt isch Super;
no   [(.) a   ] tent is super;
212   RIC: [UNnötig;   ]
[unnecessary]
214   MAR: zum SCHLOOfe [denn het mes wEnigschtens (-)] e bitz bequE::m.
for sleeping   [then one is at least   ] a little bit comfortable
215   RIC: [!UN!nötig-   ]
[unnecessary-   ]

In this sequence, there is only one justification given (214, comfort of the sleeping bag), in all other turns only rudimentary positionings (*no—unnecessary*) are exchanged in a form of what Knoblauch has called a 'change of service' (Knoblauch 1995, p. 122, see also Morek 2015) that makes dissent harden. Now, also Nora and Valerie enter the stage, arguing for the tent and against Ricardo.

This conversation is revealing in a variety of aspects, including processes of inclusion and exclusion, building coalitions, and the use of multimodal resources. Here, however, we focus on the way positions are stated and justified and to what extent the statements are mitigated by modalization. While at the beginning, the girls tend to modalize their positions, marking them as negotiable, Ricardo produces both his standpoints and arguments as factual statements and even reinforces their non-negotiability (he only once in the whole conversation uses a modal verb to mark a proposal), thus making them hard to be treated as negotiable proposals. This kind of dissent modalization is then also partially reproduced by the other interactants. During the first part of the conversation, Ricardo mainly attacks Marianne's proposals. Marianne, rather than responding to his arguments, seeks to gain support from the other girls. When he also attacks Valerie in the same fashion, Ricardo finally 'looses' Valerie as well and his arguments—rather independently of their complexity or soundness—are not considered anymore.

What does that tell us about argumentative competence? It is evident that, in several dimensions, Ricardo shows a high level of argumentative skill: he is able to develop rather complex argumentative relations, he is also quite good at immediately addressing counterarguments, and backing up his own standpoints where needed. Although a detailed structural assessment of his argumentative products is beyond the scope of this paper, it is evident from the data that he masters argumentation on a metacognitive dimension (Rapanta et al. 2013) which is reflected in rather complex argumentative chains of consistently connected statements. Regarding the epistemological dimension, his arguments in general fulfil criteria of relevance and acceptability. Moreover, on a metastrategic dimension, he is able to articulate and place counterarguments and manages backing and defending his statements. However, he presents his proposals and arguments in a way that render them virtually impossible to be discussed in a cooperative way, or to accept them without losing face—an aspect that proves to be highly important for the way the discussion is conducted but which is not captured by, for example, the modes of Rapanta et al. (2013). This can be better described in Grundler's (2011) terms (see Section 2.1). On the personal dimension, he does not express the perspectivity of his statements, reflected in a consistent

lack of markers of epistemic stance. We have also seen that timing plays a crucial role: in oral communication, and probably in peer group conversations in particular, participants have to constantly track their standing within the group, and will not only defend their opinion, but also their face. If this is not taken into account at any time, particularly in stating disagreement, the game can change. In the analyzed conversation, this is evident in Marianne's strategy change as a reaction to Ricardo's delayed justification. Instead of defending her position by argumentative means, she immediately seeks support and aims to build a coalition—which can fundamentally change the character of the conversation: the individual goal of 'winning' (persuasive argumentation) starts to interfere with the goal to arrive at the best possible solution (explorative argumentation). The dynamic that we describe here can be also be related to the GLOBE categories mentioned before (contextualization, textualization, marking). While the children all show an adequate contextualization (i.e., they all relate to the global unit 'argumentation'), the individual goal of winning starts to produce problems on the level of textualization (e.g., objection without giving a reason, contradicting without clear reference) and marking (e.g., unclear use of *'but'*).

On the social dimension, Ricardo's repeated reference to "brauchen" (*need*) as a stated fact implies that the opponents lack the competence to judge what is needed and what is important. At the end of the conversation, he explicitly denies the competence of the others (*'you don't understand deserted island'*), complemented with a direct insult (*'you are so mean/stupid'*). However, this epistemic hierarchy has already implicitly been established earlier and prevented a fruitful cooperation, especially by the lack of any kinds of modalizations in Ricardo's turns from the very beginning. This can be related to Grundler's social dimension of oral skills (see Section 2.1), as Ricardo seems not to anticipate the face threat inherent to his utterances, intensifies dissent and finally insults the three girls.

The reproach of not understanding the deserted island highlights a further crucial aspect of oral argumentations skills—or rather, the lack of it within this discussion. The reproach can be reconstructed partly as the view that the others do not use the right criteria for their decision—what is really important if you are stranded, what are our goals? This is also mirrored in Ricardo's frequent references to necessity. However, these criteria—what is necessary, and why—are never discussed, explicated, or questioned during the conversation by any of the participants. Thus, apart from the missing epistemic marking that we observe (for Ricardo, but to an increasing degree during the entire conversation also for the other participants), the skill to overcome dissent by stepping back and trying to identify differences in implicit premises, or to clarify the commonly shared basis for the decision process seems to be missing for all participants (see Greco et al. 2018, for an analysis of implicit premises in adult–child interaction as a potential source of misunderstandings). The confrontative character and, finally, the inability to arrive at a commonly shared decision can be at least partly attributed to the fact that these skills are not fully developed. All participants manage to develop positions, justify these positions, and attack other positions by argumentative means. Linking and evaluating arguments by considering their underlying assumptions, however, can be observed only at a very rudimentary level. We should note, however, that both aspects are intertwined—the increasing agonality we observe in the course of the conversation may itself make it more difficult to 'step back', and, on the other hand, the differences in underlying assumptions may make it more likely that positions are perceived as disparate.

This conversation is very suited to point out that argumentative competence in oral conversations cannot be analyzed and described by focusing on the 'content' and the structure of arguments brought forward alone. Even if a 'rational' analysis of the arguments would lead to favor a position, argumentative complexity and soundness is not of much worth if a position is brought forward in a way that prevents interactants from considering it without losing their face. The interdependency of the different dimensions of oral argumentative competence thus also implies the importance of considering them when analyzing oral argumentation and argumentative competence. We have also seen that

aspects that are specific to oral communication are relevant, such as exact timing, typically oral structures (such as operator-scopus), or interruptions, to name just a few.

4.2. Comparison of Positionings and Statements of Disagreement

We will now examine another conversation (Ro_K2_WB_G2a), again with second graders but with a rather different way of discussing. In this conversation, two boys, Sven (SVE) and Björn (BJÖ) and two girls, Cecilie (CEC) and Lara (LAR) also discuss the Robinson task. We will focus on the production of selected positionings and statements of disagreement in comparison to conversation 1 and relate the differences to the general character and course of the conversation.

Already at the very beginning of conversation 2, the cooperative framing of the conversation is marked in CEC saying:

1	CEC:	was SÄge mEr?
		what do we say?
		((looking at LAR and BJö.))

The first object is proposed by Sven:

2	SVE:	aso ich glaub ich WÄISS wa mer drIngend müend usenÄÄ;
		so I think I know what we need to take out urgently;
5		s FÜÜRwerch.
		the fireworks
		((points at the flares))

While the reference to knowledge "ich WÄISS" (*I know*) as well as the modalizing (reinforcing) adverb "dringend" (*urgently*) underline Sven's commitment, the use of "ich glaub" (*I believe*) at the same time marks this proposal as negotiable. In contrast, see Ricardo's proposal of the pocket knife:

| 180 | RIC: | s WICHtigscht °h äh wo s (.) brUUcht (.) isch (.) s !SACK!mässer. |
| | | **The most important uhm that (.) is needed (.) is (.) the pocket knife.** |

While both of them stress the importance of the proposed object, Sven's proposal is marked as his opinion by using an operator-scopus structure where the operator refers to the mental state, while Ricardo is just stating a fact. In addition, Sven links his statement to the group by using first person plural '*we need*', while Ricardo even enforces the factualness of his proposal by adding the passive structure '*that is needed*'. Thus, although both proposals are comparable with regard to the supposed importance of an object, the interactional framing and, in consequence, the conditional relevance for possible continuations differ remarkably. This difference can not only be observed in the way proposals are produced, but also in the way dissent is expressed: in general, proposals, but also acts of disagreement within the second conversation are almost always modalized in some way. For example, when Cecilie disagrees with Lara's proposal of the mosquito net:

29	LAR:	ja DAS dAs <<quietly> und das (-) oder dAs>.
		Yes that that and that (-) or that.
		((points to flares, first-aid kit, mosquito net and tent))
31	CEC:	NÄI.
		no.
32		mosKItonetz bruuche mer ja nÖd umbedingt.
		we don't necessarily need the mosquito net
33		°h wIll das (chönnt) ja AU (1.7) schÜtze;
		°h because that could as well (1.7) protect;
		((points to tent and looks at LAR))

Cecile starts with a negation (31), however, the disagreement is immediately mitigated by "nicht unbedingt" (*not necessarily*) in 32, and the complementing justification (33) is construed as a possibility rather than a fact by using the subjunctive form "könnt" (*could*). The

objection itself (that the tent is sufficient for protecting against mosquitos, and, hence, the mosquito net is not necessary) is rather similar to the one observed in the first conversation:

```
129   NOR:   °h [Oder dAs damit me  ] nit chrAnk wird wä::g (-) de mUcke:?
             °h [or this so one does   ] not get sick because of (-) the mosquitos
             ((points to mosquito net on the worksheet)
130   MAR:      [J:Ä::;                ]
                [yeah::;               ]
134   RIC:   nÄ::i das BRUUCHT me nit;
             No, one does not need that
136   VAL:   mh?mh;
             mh?mh;
138          zÄlt cha me jo zUemache denn SINN käini mUcke dÖte,
             one can close the tent then there are no mosquitos there
141   NOR:   jo-
             yeah-
```

However, both the statement of disagreement (conversation 2: lines 31/32 vs. conversation 1: 134) as well as the complementing justification (conversation 2: 33 vs. conversation 1: 138) are stated as facts in conversation 1 and are even both presented as common knowledge by using the unspecified subject "man" (*one*) and the "jo" in 138 marks it as obvious. In conversation 2, in contrast, the statement of disagreement is using first person plural '*we don't need*', signaling reference to the group and is mitigated by "nicht unbedingt" (*not necessarily*), both establishing a cooperative framing. The justification includes a modal verb in subjunctive form "chönnt" (*could*), and the stressed "AU" (*also*) can even be interpreted as signaling a concession such that the original proposal is based on a reasonable basis (purpose of protection) but that this purpose may be met by an alternative device. Thus, while the second instance implies shared premises (protection is a viable criterion for choice), the first instance rather denies competence of the opponents.

To sum up, in conversation 2, interactants exploit various means to mark both their proposals as well as statements of disagreement as negotiable options, thus establishing a cooperative framing that allows interactants to react to proposals and arguments in an explorative rather than competitive way. In contrast, in conversation 1, proposals and statements of disagreement are frequently produced factually which tends to lead to a hardening discussion, characterized by acts focusing on support of others and instantiates a competitive aspect that often also prevents careful weighing of the arguments brought forward. This difference in character is also mirrored in the observation that, while longer argumentative chains do exist in both conversations, they are rather monological in conversation 1, while in conversation 2 we can observe several co-constructed episodes where multiple interactants cooperatively explore the pros and cons of particular objects and discuss alternative solutions for a given problem which is one of the crucial features of exploratory talk (Mercer 2009, p. 184). In conversation 1, Ricardo also presents functional alternatives several times (e.g., using palm tree leaves instead of a blanket), thus displaying rather elaborated cognitive skills—however, he presents his arguments merely as facts, and although the other discussants react to his thoughts, these reactions do merely consist of counterarguments (which often mirror the factual character), but are rarely taken up as proposals that are worth being further elaborated on.

Our case study comparing two conversations of the same age group both demonstrate the importance of adequately framing positionings to constitute a cooperative discursive context (see also Grundler 2011, p. 293ff) as a crucial aspect of oral argumentative skills. The analyses reveal considerable individual differences with regard to different aspects of oral argumentative skills. In both conversations, participants manage to produce crucial structural elements of argumentative practice, develop elaborated arguments and in general are able to grasp the conditional relevances of argumentative practice. Under Grundler's (2011) view, they show similar cognitive and conversational skills. However, at the level of personal and social skills, individual participants display considerable differences in their ability to produce their contributions in a way that renders them acceptable on the

personal level. In other words, participants are merely skilled to fit their contribution in the global and local conversational context. However, taking into account the personal and social level by coping with the subtle issues of face-work (e.g., by mitigating and modalizing positions and disagreement) is a crucial skill, where we observed considerable individual differences in our qualitative analyses. The structure and size of our data, however, also allow us to back up these qualitative observations with quantitative analyses. As we have seen, modalizing turns out to be a crucial element within the factors that constitute oral argumentation skills. The analysis over the entire corpus (for details, see Luginbühl et al. 2021, p. 201ff) reveals that, for example, frequency of use of subjunctives in both positionings and justifications increases with grade. Similarly, the proportion of positionings and justifications that entail both a subjunctive form and a mitigating modal particle, increases significantly with grade. These results signify that between grades 2, 4, and 6, an important building block of oral argumentative competence is acquired.

5. Discussion and Conclusions

Many textbook exercises on oral argumentation skills are designed to have the individual student express, more or less monologically, complex, relevant, plausible, and valid arguments, to be produced in the context of persuasive discussions (mostly pros and cons) (cf. Mundwiler et al. 2017). In recent years, however, several studies emphasize the importance of further skills that play a crucial role in argumentation, e.g., the linguistic means for epistemic modalization (e.g., Morek 2020; Grundler 2011), dissent modalization (Grundler 2011), and more generally the personal and social dimension of oral argumentation (ibid.), that includes rhetoric means and linguistic forms related to this dimension and according textualization and marking competences (Erath et al. 2018; Heller 2012). In line with these studies, our case study with conversations from a corpus of non-prestructured peer conversations shows that other aspects of argumentation skills are equally relevant, such as the personal and social dimensions (Grundler 2011), which are absent in the modes reconstructed in the literature review from Rapanta et al. (2013) and which come with specific oral skills of textualization and marking. These aspects are not directly related to propositional content or the complexity of argumentations but are closely related to the mediality of oral conversations. Of course, these dimensions play a role in written argumentation as well, but the concrete forms as well as the common organization of argumentation and thus the situatedness and negotiation of meaning of individual turns, etc., are specific to the mediality of oral conversations (including prosody and multimodal resources).

A special challenge in oral argumentation lies within the fact that conversations have to be organized collectively in real time and that interactants have to immediately respond in an appropriate way to the always changing local conversational context. This also results in the fact that timing is a crucial factor, since for example, as we showed in our analysis, a perceived face-threat can lead to an immediate reaction, and can change the character of an interaction considerably. Thus, taking into account this aspect at any moment is a crucial skill in oral conversation, and, in particular, in oral argumentation as a communicative practice where potentially confrontative acts as rejecting proposals and articulating disagreement are constitutive elements.

These skills can best be observed and analyzed within peer interaction, where interactants have to organize the entire conversation all by themselves and offer each other learning opportunities (see Arendt 2019). For example, the ability to 'step back' and reflect on implicit premises as potential sources of hardening conflict, but also coordinative tasks as intermediate summaries (which are present in both conversations analyzed here but with different success) are tasks that in adult–child interactions are typically taken on by adults (Spiegel 2006). While adult–child interaction is crucial for the acquisition of oral argumentation skills, children (or adolescents) have acquired oral argumentation skills in full only when they are able to use them without adult support.

The children in our data show that they have contextualization competence, i.e., they are able to embed the global unit of argumentation. However, our case study also shows a big challenge for elementary school children: the ability to put one's own position into perspective and the ability to modalize statements. These are crucial skills when it comes to argue in a face-saving way, especially within a deliberate discussion. Here, the local context of the conversation plays a central role, because framing seems to be relevant especially for statements in which a previous positioning is rejected. The corresponding skills that are part of textualization and marking competences, are—as our quantitative analyses across the entire corpus indicate—still significantly less present in children at the age of eight than at the age of 10 or 12. At the same time—as our case study also shows—there are of course large individual differences. The reconstruction of skill levels thus remains a future task, but a combined methodology of qualitative analysis, as in our case study with quantitative analysis, which is based on argumentative and conversation-analytic codes (Luginbühl et al. 2021), seems a promising way.

In our paper, we mainly focused on pragmatic aspects of argumentation. Of course, for a comprehensive description of skill levels, it is equally crucial to analyze the argumentative products: identify age-typical moves and argument schemes, evaluate individual arguments with regard to soundness, relevance, and complexity, or identify implicit premises (Greco et al. 2018)—in other words, applying concepts and tools from argumentation theory, which allows for the grasping of hierarchical and logical relations between argumentative elements. As we have argued in this paper, however, we miss crucial aspects of 'argumentation' as an essential conversational practice if we leave aside the process of production. In particular for oral argumentation, the linear and sequential relations in time, the joint production and negotiation as well as the social relations that are established during this process, are an integral part that has been taken into account when trying to gain a better picture of what 'argumentation' amounts to, and which skills are prerequisite to be able to master this practice. In our analysis, we have shown that these aspects are tightly interwoven, and that the products can differ considerably depending on the interactional process. A thorough integration of the various aspects that jointly constitute what we consider as 'argumentation' remains an important and challenging scientific endeavor where we hope to have contributed to with our paper.[7]

Notes

1   In educational contexts, metacognitive criteria of quality (complexity of structures, conceptual depth) also become important.

2   GLOBE literally translates «Globalität und Lokalität in der Organisation beidseitig-konstruierter Einheiten», globality and locality in the organization of mutual constructed units. Units of discourse are conceptualized on a local and global level, as the local moves are oriented at a global aim.

3   It is possible though to analyze norms of the participants themselves, e.g., what kinds of premises, inferences and claims are accepted or not. This can help in the reconstruction of peer cultures (Hauser and Luginbühl 2015).

4   EXMARaLDA is a free software tool for managing and analyzing spoken language data, see https://exmaralda.org/de/ (accessed on 16 May 2022).

5   For reasons of space and readability, in some examples not all segments are displayed or referred, which sometimes results in gaps in the numbering. See the transcripts provided in the Supplementary Materials for the full transcripts.

6   Nora refers to the flare on the object list as "fireworks".

7   In addition, our data provide a rich data source for this endeavor, and we are happy to share them with anyone who attempts to use them.

References

Anderson, Richard C., Clark Chinn, Janice Chang, Martha Waggoner, and Hwajin Yi. 1997. On the logical integrity of children's arguments. *Cognition and Instruction* 15: 135–67. [CrossRef]

Andrews, Richard. 2005. Models of argumentation in educational discourse. *Text* 25: 107–27. [CrossRef]

Andrews, Richard. 2009. A Case Study of Argumentation at Undergraduate Level in History. *Argumentation* 23: 547–58. [CrossRef]

Arendt, Birte. 2019. *Argumentieren mit Peers. Erwerbsverläufe und-Muster bei Kindergartenkindern*. vol. 110, Stauffenburg Linguistik. Tübingen: Stauffenburg.

Arendt, Birte, Vivien Heller, and Antje Krah. 2015. Zur Einführung [Themenheft "Kinder argumentieren: Interaktive Erwerbskontexte und -mechanismen"]. *Mitteilungen des Deutschen Germanistenverbandes* 62: 1–4. [CrossRef]

Arundale, Robert B. 2010. Constituting face in conversation: Face, facework, and interactional achievement. *Journal of Pragmatics* 42: 2078–105. [CrossRef]

Asterhan, Christa S. C., and Baruch B. Schwarz. 2016. Argumentation for Learning: Well-Trodden Paths and Unexplored Territories. *Educational Psychologist* 51: 164–87. [CrossRef]

Auer, Peter. 2007. Syntax als Prozess. In *Gespräch als Prozess. Linguistische Aspekte der Zeitlichkeit Verbaler Interaktion*. Edited by Heiko Hausendorf. Tübingen: Narr, pp. 95–142. Available online: http://kops.uni-konstanz.de/handle/123456789/3681 (accessed on 16 May 2022). [CrossRef]

Baines, Ed, and Christine Howe. 2010. Discourse topic management and discussion skills in middle childhood: The effects of age and task. *First Language* 30: 508–34. [CrossRef]

Baker, Michael. 2009. Argumentative Interactions and the Social Construction of Knowledge. In *Argumentation and Education. Theoretical Foundations and Practices*. Edited by Nathalie Muller Mirza and Anne-Nelly Perret-Clermont. Dordrecht: Springer, pp. 127–44. [CrossRef]

Barden, Birgit, Mechthild Elstermann, and Reinhard Fiehler. 2001. Operator-Skopus-Strukturen in gesprochener Sprache. In *Pragmatische Syntax*. Edited by Frank Liedtke and Franz Hundsnurscher. Tübingen: Niemeyer, pp. 197–234. [CrossRef]

Becker-Mrotzek, Michael. 2009. Mündliche Kommunikationskompetenz. In *Mündliche Kommunikation und Gesprächsdidaktik*. Edited by Michael Becker-Mrotzek. Baltmannsweiler: Schneider Verlag Hohengehren, pp. 66–83.

Blum-Kulka, Shoshana, Deborah Huck-Taglicht, and Hanna Avni. 2004. The Social and Discursive Spectrum of Peer Talk. *Discourse Studies* 6: 307–28. [CrossRef]

Bose, Ines, and Kati Hannken-Illjes. 2018. Die Entwicklung von argumentativen Fähigkeiten bei Vorschulkindern: Zwischen Agonalität und Kooperativität. In *Kinder im Gespräch*. Edited by Ines Bose, Kati Hannken-Illjes and Stephanie Kurtenbach. Berlin: Frank & Timme, pp. 11–32.

Bose, Ines, and Kati Hannken-Illjes. 2020. On the Role of Voice and Prosody in Argumentation among Pre-School Children. *Research on Children and Social Interaction* 4: 51–72. [CrossRef]

Cekaite, Asta, Shoshana Blum-Kulka, Vibeke Grøver, and Eva Teubal, eds. 2014. *Children's Peer Talk. Learning from Each Other*. Cambridge: Cambridge University Press. [CrossRef]

Clark, Ann-Marie, Richard C. Anderson, Li-jen Kuo, Il-Hee Kim, Anthi Archodidou, and Kim Nguyen-Jahiel. 2003. Collaborative Reasoning: Expanding Ways for Children to Talk and Think in School. *Educational Psychology Review* 15: 181–98. [CrossRef]

Clift, Rebecca. 2016. *Conversation Analysis*. Cambridge Textbooks in Linguistics. Cambridge: Cambridge University Press.

Deppermann, Arnulf. 2004. 'Gesprächskompetenz'—Probleme und Herausforderungen eines möglichen Begriffs. In *Analyse und Vermittlung von Gesprächskompetenz*. Edited by Michael Becker-Mrotzek and Gisela Brünner. Radolfszell: Verlag für Gesprächsforschung, pp. 15–28.

Deppermann, Arnulf. 2006. Desiderata einer gesprächsanalytischen Argumentationsforschung. In *Argumentieren in Gesprächen. Gesprächsanalytische Studien. 2. Aufl*. Edited by Arnulf Deppermann and Martin Hartung. Tübingen: Stauffenburg, pp. 10–26.

Deppermann, Arnulf, and Martin Hartung, eds. 2006. *Argumentieren in Gesprächen. 2. Aufl*. Tübingen: Stauffenburg.

Du Bois, John W. 2007. The stance triangle. In *Stancetaking in Discourse. Subjectivity, Evaluation, Interaction*. Edited by Robert Englebretson. Amsterdam and Philadelphia: John Benjamins, pp. 139–82. [CrossRef]

Ehlich, Konrad. 2014. *Argumentieren* als sprachliche Ressource des diskursiven Lernens. In *Diskursive und textuelle Strukturen in der Hochschuldidaktik. Deutsch und Italienisch im Vergleich*. Edited by Antonie Hornung, Gabriella Carobbio and Daniela Sorrentino. Münster: Waxmann, pp. 41–54.

Erath, Kirstin, Susanne Prediger, Uta Quasthoff, and Vivien Heller. 2018. Discourse competence as important part of academic language proficiency in mathematics classrooms: The case of explaining to learn and learning to explain. *Educational Studies in Mathematics* 99: 161–79. [CrossRef]

Farnsworth, Megan. 2012. Who's Coming to My Party? Peer Talk as a Bridge to Oral Language Proficiency. *Anthropology & Education Quarterly* 43: 253–70. [CrossRef]

Felton, Mark K. 2004. The development of discourse strategies in adolescent argumentation. *Cognitive Development* 19: 35–52. [CrossRef]

Felton, Mark, and Deanna Kuhn. 2001. The Development of Argumentive Discourse Skill. *Discourse Processes* 32: 135–53.

Felton, Mark, Merce Garcia-Mila, and Sandra Gilabert. 2009. Deliberation versus Dispute: The Impact of Argumentative Discourse Goals on Learning and Reasoning in the Science Classroom. *Informal Logic* 29: 417–46. [CrossRef]

Fiehler, Reinhard. 2009. Mündliche Kommunikation. In *Mündliche Kommunikation und Gesprächsdidaktik*. Edited by Michael Becker-Mrotzek. Baltmannsweiler: Schneider Verlag Hohengehren, pp. 27–55.

Fraser, Bruce. 1980. Conversational mitigation. *Journal of Pragmatics* 4: 341–50. [CrossRef]

Garcia-Mila, Merce, Sandra Gilabert, Sibel Enduran, and Mark Felton. 2013. The Effect of Argumentative Task Goal on the Quality of Argumentative Discourse. *Science Education* 97: 497–523. [CrossRef]

Goetz, Peggy J., and Marilyn Shatz. 1999. When and how peers give reasons. Justifications in the talk of middle school children. *Journal Child Lang* 26: 721–48. [CrossRef]

Goodwin, Marjorie Harness, and Charles Goodwin. 1987. Children's arguing. In *Language, Gender, and Sex in Comparative Perspective*. Edited by Susan U. Philips, Susan Steele and Christine Tanz. Cambridge: Cambridge University Press, pp. 200–48. [CrossRef]

Greco, Sara, Anne-Nelly Perret-Clermont, Antonio Iannaccone, Andrea Rocci, Josephine Convertini, and Rebecca Gabriela Schär. 2018. The Analysis of Implicit Premises within Children's Argumentative Inferences. *Informal Logic* 38: 438–70. [CrossRef]

Greco Morasso, Sara, Céline Miserez-Caperos, and Anne-Nelly Perret-Clermont. 2015. L'argumentation à visée cognitive chez les enfants. Une étude exploratoire sur les dynamiques argumentatives et psychosociales. In *L'argumentation dans les contextes de l'éducation: Enjeux et questions vives*. Edited by Nathalie Muller Mirza and Christian Buty. Bern: Lang, pp. 39–82.

Grundler, Elke. 2011. *Kompetent Argumentieren. Ein Gesprächsanalytisch Fundiertes Modell*. Tübingen: Stauffenburg.

Hannken-Illjes, Kati. 2004. *Gute Gründe Geben. Ein Sprechwissenschaftliches Modell Argumentativer Kompetenz und Seine Didaktischen und Methodischen Implikationen*. Frankfurt am Main: Lang.

Hannken-Illjes, Kati. 2018. *Argumentation. Einführung in die Theorie und Analyse der Argumentation*. Narr Studienbücher. Tübingen: Narr Francke Attempto. [CrossRef]

Hannken-Illjes, Kati, and Ines Bose. 2019. Frozen: Children in Argumentation Between the Agonistic and Cooperation. *Informal Logic* 39: 465–95. [CrossRef]

Hausendorf, Heiko, and Uta M. Quasthoff. 2005. *Sprachentwicklung und Interaktion. Eine linguistische Studie zum Erwerb von Diskursfähigkeiten*. Radolfzell: Verlag für Gesprächsforschung. First published 1996. [CrossRef]

Hauser, Stefan, and Martin Luginbühl. 2015. Aushandlung von Angemessenheit in Entscheidungsdiskussionen von Schulkindern. *Aptum* 2: 180–89. [CrossRef]

Hauser, Stefan, and Martin Luginbühl. 2017. Wenn Kinder argumentieren—Grundlagen und erste Befunde einer Studie zur mündlichen Argumentationskompetenz von Schulkindern. In *Begründen—Erklären—Argumentieren. Konzepte und Modellierung in der Angewandten Linguistik*. Edited by Iris Meißner and Eva Lia Wyss. Tübingen: Stauffenburg, pp. 89–105.

Heller, Vivien. 2012. *Kommunikative Erfahrungen von Kindern in Familie und Unterricht. Passungen und Divergenzen*. vol. 67, Stauffenburg Linguistik. Tübingen: Stauffenburg.

Heller, Vivien. 2021. Embodied Displays of "Doing Thinking." Epistemic and Interactive Functions of Thinking Displays in Children's Argumentative Activities. *Frontiers in Psychology* 12: 1–21. [CrossRef] [PubMed]

Howe, Christine J., and Donna McWilliam. 2006. Opposition in Social Interaction amongst Children: Why Intellectual Benefits Do Not Mean Social Costs. *Social Development* 15: 205–31. [CrossRef]

Iannaccone, Antonio, Anne-Nelly Perret-Clermont, and Josephine Convertini. 2019. Children as Investigators of Brunerian "Possible Worlds". The Role of Narrative Scenarios in children's Argumentative Thinking. *Integrative Psychological and Behavioral Science* 53: 679–93. [CrossRef] [PubMed]

Iordanou, Kalypso, and Chrysi Rapanta. 2021. "Argue with Me": A Method for Developing Argument Skills. *Frontiers in Psychology* 12: 1–14. [CrossRef] [PubMed]

Jacquin, Jérôme. 2015. Multimodal counter-argumentation in the workplace. The contribution of gesture and gaze to the expression of disagreement. *Colloque Gesture and Speech in Interaction (GESPIN)* 4: 155–60.

Jadallah, May, Richard C. Anderson, Kim Nguyen-Jahiel, Brian W. Miller, Kim Il-Hee, Li-Jen Kuo, Ting Dong, and Xiaoying Wu. 2011. Influence of a Teacher's Scaffolding Moves During Child-Led Small-Group Discussions. *American Educational Research Journal* 48: 194–230. [CrossRef]

Jäger, Ludwig. 2015. Medialität. In *Handbuch Sprache und Wissen*. Edited by Ekkehard Felder and Andreas Gardt. Berlin: de Gruyter, pp. 106–22. [CrossRef]

Kelly, Gregory J., Stephen Druker, and Catherine Chen. 1998. Students' reasoning about electricity: Combining performance assessments with argumentation analysis. *International Journal of Science Education* 20: 849–71. [CrossRef]

Kienpointner, Manfred. 1992. *Alltagslogik: Struktur und Funktion von Argumentationsmustern*. Stuttgart: Frommann-Holzboog.

Kienpointner, Manfred. 2008. Argumentationstheorie. In *Rhetoric and Stylistics/Rhetorik und Stilistik, Teilband 1*. Edited by Ulla Fix, Andreas Gardt and Joachim Knape. Berlin and New York: Mouton de Gruyter, pp. 702–17. [CrossRef]

Knoblauch, Hubert. 1995. *Kommunikationskultur. Die kommunikative Konstruktion kultureller Kontexte*. Berlin and New York: de Gruyter.

Komor, Anna. 2010. *Miteinander kommunizieren-Kinder unter Sich*. Münster: Waxmann.

Krelle, Michael. 2014. *Mündliches Argumentieren in Leistungsorientierter Perspektive. Eine Empirische Analyse von Unterrichtsdiskussionen in der Neunten Jahrgangsstufe*. Baltmannsweiler: Schneider Verlag Hohengehren.

Kreuz, Judith. 2021. *Ko-Konstruiertes Begründen unter Kindern. Eine Gesprächsanalytische Studie von Kleingruppeninteraktionen in der Primarschule*. Tübingen: Stauffenburg. [CrossRef]

Kuhn, Deanna. 1992. Thinking as Argument. *Harvard Educational Review* 62: 155–79. [CrossRef]

Kuhn, Deanna, and Wadiya Udell. 2003. The Development of Argument Skills. *Child Development* 74: 1245–60. [CrossRef]

Kuhn, Deanna, Nicole Zillmer, Amanda Crowell, and Julia Zavala. 2013. Developing Norms of Argumentation: Metacognitive, Epistemological, and Social Dimensions of Developing Argumentive Competence. *Cognition and Instruction* 31: 456–96. [CrossRef]

Kuhn, Deanna, Victoria Shaw, and Mark Felton. 1997. Effects of Dyadic Interaction on Argumentive Reasoning. *Cognition and Instruction* 15: 87–315. [CrossRef]

Kyratzis, Amy, Tamara Shuqum Ross, and S. Bahar Koymen. 2010. Validating justifications in preschool girls' and boys' friendship group talk: Implications for linguistic and socio-cognitive development. *Journal of Child Language* 37: 115–44. [CrossRef] [PubMed]

Luginbühl, Martin, Vera Mundwiler, Judith Kreuz, Daniel Müller-Feldmeth, and Stefan Hauser. 2021. Quantitative and Qualitative Approaches in Conversation Analysis: Methodological Reflections on a Study of Argumentative Group Discussions. *Discourse and Conversation Analysis/Gesprächsforschung* 22: 179–236. [CrossRef]

Means, Mary L., and James F. Voss. 1996. Who Reasons Well? Two Studies of Informal Reasoning among Children of Different Grade, Ability, and Knowledge Levels. *Cognition and Instruction* 14: 139–78. [CrossRef]

Mercer, Neil. 2009. Developing Argumentation: Lessons Learned in the Primary School. In *Argumentation and Education. Theoretical Foundations and Practices*. Edited by Nathalie Muller Mirza and Anne-Nelly Perret-Clermont. Dordrecht: Springer, pp. 177–94. [CrossRef]

Mondada, Lorenza. 2016. Challenges of multimodality: Language and the body in social interaction. *Journal of Sociolinguistics* 20: 336–66. [CrossRef]

Morek, Miriam. 2014. Constructing social and communicative worlds—The role of peer-interactions in preadolescents' discursive development. *Learning, Culture and Social Interaction* 3: 121–33. [CrossRef]

Morek, Miriam. 2015. Dissensbearbeitung unter Gleichaltrigen—(k)ein Kontext für den Erwerb argumentativer Gesprächsfähigkeiten? *Mitteilungen des Deutschen Germanistenverbandes* 62: 34–46. [CrossRef]

Morek, Miriam. 2020. Learning to Modalize is Learning to Reason. On the Role of Epistemic Modalizations in Parent–Child-Talk and in Written Argumentation of Secondary School Students. *Research on Children and Social Interaction* 4: 115–41. [CrossRef]

Muller Mirza, Nathalie, and Anne-Nelly Perret-Clermont, eds. 2009. *Argumentation and Education. Theoretical Foundations and Practices*. Dordrecht: Springer.

Muller Mirza, Nathalie, and Christian Buty. 2015. L'argumentation dans les contextes de l'éducation: Enjeux et questions vives. In *L'argumentation dans les Contextes de l'éducation*. Edited by Nathalie Muller Mirza and Christian Buty. Bern: Lang, pp. 13–36.

Mundwiler, Vera, Judith Kreuz, Stefan Hauser, Brigit Eriksson, and Martin Luginbühl. 2017. Mündliches Argumentieren als kommunikative Praktik. Schulbuchübungen und empirische Befunde im Vergleich. In *Gesprächskompetenz in schulischer Interaktion. Normative Ansprüche und Kommunikative Praktiken*. Edited by Stefan Hauser and Martin Luginbühl. Bern: hep, pp. 91–123.

Nussbaum, E. Michael. 2011. Argumentation, Dialogue Theory, and Probability Modeling: Alternative Frameworks for Argumentation Research in Education. *Educational Psychologist* 46: 84–106. [CrossRef]

Pullman, George. 2013. *Persuasion. History, Theory, Practice*. Indianapolis: Hackett.

Quasthoff, Uta M. 2009. Entwicklung der mündlichen Kommunikationskompetenz. In *Mündliche Kommunikation und Gesprächsdidaktik*. Edited by Michael Becker-Mrotzek. Baltmannsweiler: Schneider Verlag Hohengehren, pp. 84–100.

Quasthoff, Uta. 2021. Methodische Überlegungen zur Datenbasis in der Interaktionalen Diskursanalyse: Grundlegendes zur Erhebung von Stichproben und Korpora. In *Diskurserwerb in Familie, Peergroup und Unterricht: Passungen und Teilhabechancen*. Edited by Uta Quasthoff, Vivien Heller and Miriam Morek. Berlin and Boston: De Gruyter, pp. 43–76. [CrossRef]

Quasthoff, Uta, and Christian Kluger. 2020. Familiale Interaktionsmuster als Erwerbsressource im längsschnittlichen Verlauf. In *Diskurserwerb in Familie, Peergroup und Unterricht*. Edited by Uta Quasthoff, Vivien Heller and Miriam Morek. Berlin and Boston: de Gruyter, pp. 107–56. [CrossRef]

Quasthoff, Uta, Friederike Kern, Sören Ohlhus, and Juliane Stude. 2019. *Diskurse und Texte von Kindern. Praktiken–Fähigkeiten–Ressourcen: Erwerb*. Tübingen: Stauffenburg. [CrossRef]

Rapanta, Chrysi, Merce Garcia-Mila, and Sandra Gilabert. 2013. What Is Meant by Argumentative Competence? An Integrative Review of Methods of Analysis and Assessment in Education. *Review of Educational Research* 83: 483–520. [CrossRef]

Rauch, Charlotte. 2014. Form-Funktions-Beziehungen von Begründungen in Kindlicher Spielkommunikation. Master's thesis, Martin-Luther-Universität Halle-Wittenberg, Halle (Saale), Germany.

Redder, Angelika. 2009. Modal sprachlich handeln. *Der Deutschunterricht* 61: 88–93.

Rigotti, Eddo, and Sara Greco Morasso. 2010. Comparing the Argumentum Model of Topics to Other Contemporary Approaches to Argument Schemes: The Procedural and Material Components. *Argumentation* 24: 489–512. [CrossRef]

Schneider, Stefan. 2010. Mitigation. In *Interpersonal Pragmatics*. Edited by Miriam A. Locher and Sage L. Graham. Berlin and New York: de Gruyter. pp. 253–70. [CrossRef]

Schwarz, Baruch B., and Michael J. Baker. 2017. *Dialogue, Argumentation and Education. History, Theory and Practice*. Cambridge: Cambridge University Press. [CrossRef]

Schwarze, Cordula. 2010. *Formen und Funktionen von Topoi im Gespräch. Eine Empirische Untersuchung am Schnittpunkt von Argumentationsforschung, Gesprächsanalyse und Sprechwissenschaft*. Frankfurt am Main: Peter Lang.

Schwitalla, Joannes. 2012. *Gesprochenes Deutsch*. Berlin: Schmidt. [CrossRef]

Selting, Margret, Peter Auer, Dagmar Barth-Weingarten, Jörg Bergmann, Pia Bergmann, Karin Birkner, Elizabeth Couper-Kuhlen, Arnulf Deppermann, Peter Gilles, Susanne Günthner, and et al. 2009. Gesprächsanalytisches Transkriptionssystem 2 (GAT 2). *Discourse and Conversation Analysis/Gesprächsforschung* 10: 353–402.

Sidnell, Jack. 2013. Basic Conversation Analytic Methods. In *The Handbook of Conversation Analysis*. Edited by Jack Sidnell and Tanya Stivers. Chichester: Wiley-Blackwell, pp. 77–99. [CrossRef]

Sidnell, Jack, and Tanya Stivers, eds. 2013. *The Handbook of Conversation Analysis*. Chichester: Wiley-Blackwell.

Spiegel, Carmen. 2006. *Unterricht als Interaktion. Gesprächsanalytische Studien zum kommunikativen Spannungsfeld zwischen Lehrern, Schülern und Institution*. Radolfzell: Verlag für Gesprächsforschung.

Spiegel, Carmen. 2011. Argumentieren schriftlich–mündlich: Gemeinsamkeiten und Unterschiede. In *Sprachliches Lernen zwischen Mündlichkeit und Schriftlichkeit*. Edited by Ulrike Behrens and Birgit Eriksson. Bern: hep Verlag, pp. 33–54.

Stein, Nancy L., and Christopher A. Miller. 1993. A Theory of Argumentative Understanding: Relationships among Position Preference, Judgments of Goodness, Memory and Reasoning. *Argumentation* 7: 183–204. [CrossRef]

Stein, Nancy L., and Elizabeth R. Albro. 2001. The Origins and Nature of Arguments: Studies in Conflict Understanding, Emotion, and Negotiation. *Discourse Processes* 32: 113–33. [CrossRef]

Stivers, Tanya. 2008. Stance, Alignment, and Affiliation During Storytelling: When Nodding Is a Token of Affiliation. *Research on Language & Social Interaction* 41: 31–57. [CrossRef]

Stivers, Tanya, Lorenza Mondada, and Jakob Steensig. 2011. Knowledge, morality and affiliation in social interaction. In *The Morality of Knowledge in Conversation*. Edited by Tanya Stivers, Lorenza Mondada and Jakob Steensig. Cambridge: Cambridge University Press, pp. 3–24. [CrossRef]

van Eemeren, Frans H., and Rob Grootendorst. 2004. *A Systematic Theory of Argumentation*. Cambridge: Cambridge University Press.

Vogt, Rüdiger. 2002. *Im Deutschunterricht Diskutieren. Zur Linguistik und Didaktik einer Kommunikativen Praktik*. Tübingen: Niemeyer. [CrossRef]

Walker, Joi Phelps, and Victor Sampson. 2013. Learning to Argue and Arguing to Learn: Argument-Driven Inquiry as a Way to Help Undergraduate Chemistry Students Learn How to Construct Arguments and Engage in Argumentation During a Laboratory Course. *Journal of Research in Science Teaching* 50: 561–96. [CrossRef]

Walton, Douglas, Katie Atkinson, Trevor Bench-Capon, Adam Wyner, and Dan Cartwright. 2010. Argumentation in the framework of deliberation dialogue. In *Argueing Global Governance*. Edited by Corneliu Bjola and Markus Kornprobst. London and New York: Routledge, pp. 210–30. [CrossRef]

Wild, Elke, Uta Quasthoff, Jelena Hollmann, Nantje Otterpohl, Antje Krah, and Sören Ohlhus. 2012. Die Rolle familialer Unterstützung beim Erwerb von Argumentationskompetenz in der Sekundarstufe I. *Diskurs Kindheits- und Jugendforschung* 7: 101–12. Available online: https://nbn-resolving.org/urn:nbn:de:0168-ssoar-389446 (accessed on 16 May 2022).

Zadunaisky Ehrlich, Sara, and Shoshana Blum-Kulka. 2014. "Now I said that Danny becomes Danny again". A multifaceted view of kindergarten children's peer argumentative discourse. In *Children's Peer Talk. Learning from Each Other*. Edited by Asta Cekaite, Shoshana Blum-Kulka, Vibeke Grøver and Eva Teubal. Cambridge: Cambridge University Press, pp. 23–41. [CrossRef]