



Detecting the factors affecting classroom dialogue quality

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ABSTRACT

Despite the emphasis on dialogue and argumentation in educational settings, still not much is known about how best we can support learners in their interthinking, reasoning, and metadialogic understanding. The goal of this classroom intervention study is to explore the degree of students' dialogicity and its possible increase during a learning programme implementing dialogic and argument-based teaching goals and principles. In particular, we focus on how students from 5 to 15 years old engage with each other's ideas, and whether/how this engagement is influenced by lesson and classroom setting factors. The participants were 4208 students distributed in pre-primary, primary, and secondary classrooms of five countries (UK, Portugal, Germany, Spain, and Cyprus). Findings suggest that there is a consistent increase with age for some high-dialogicity moves, and students behave more dialogically in whole-class discussions rather than small-group activities.

1. Introduction

The questioning of the learning productiveness of the once predominant Initiation-Response-Evaluation (IRE) classroom discourse pattern has opened a whole area of research that analyses and develops dialogic strategies for interacting with students (Khong, Saito, & Gillies, 2019; Littleton & Howe, 2010). Students' engagement in dialogic activities has been found to improve their capacity to express ideas with clarity and persuasiveness (Reznitskaya & Wilkinson, 2017, 2021) and lead to developing trust relations with classmates and teachers alike (Haynes, 2018). Moreover, dialogues have been shown to shape classroom environments into epistemic communities, where students feel "accountable" to each other and thus tend to comply more closely with standards of reasoning and take into consideration the problem of shared knowledge (Michaels, O'Connor, & Resnick, 2008).

Classroom dialogue is both an educational ideal (Wegerif, 2020) and a challenge (Sedova, 2017), as it shifts the perception – and sometimes the design – of classroom dynamics. One of the most discussed shifts has been described in the literature by the terms "dialogic" and "argument-based" teaching. The first refers to teaching and learning through, for, and as dialogue (Kim & Wilkinson, 2019). The second is characterised by the use of argumentation – considered as a collaborative

negotiation of meanings, solutions or decisions amongst partners – as part of the pedagogical methods used in a classroom (Larrañ, Howe, & Freire, 2018; McNeill, 2011). Both practices have been found to result in an increase of a specific dimension of classroom discourse quality known as *dialogicity*, a term referring to the general dialogue quality/productivity. Dialogicity is generally grasped by dialogue processes or outcomes such as the level of *interthinking* – or the development of a dialogue on previous contributions (Littleton & Mercer, 2013; Mercer, 2002) –, the presence of *sophisticated arguments* – namely claims supported by a clear evidential support and explanations of the links between the claim and the support (McNeill, 2011) –, or the manifestation of *metadialogue* or *metatalk*, namely the talk about the quality of the dialogue itself (Krabbe, 2003; Newman, 2017). These three components, namely interthinking, argumentation/reasoning, and metadialogue can define the degree of dialogicity of classroom discourse (Howe, Hennessey, Mercer, Vrikki, & Wheatley, 2019).

Thus far, three dimensions of dialogicity have been emphasised in the educational literature: (a) dialogic teacher talk, (b) students' engagement with each other's ideas through dialogic moves, and (c) general dialogic teaching organization (Hähkiöniemi, Lehesvuori, Nieminen, Hiltunen, & Jokiranta, 2019). Although extensive research has been done on (a) and (c) (e.g., Boyd & Markarian, 2011; Caughlan,

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Juzwik, Borsheim-Black, Kelly, & Fine, 2013; Juuti, Loukomies, & Lavonen, 2020; Teo, 2016), still not much is known about how best we can support learners in their interthinking, reasoning, and metadialogic understanding.

The goal of this large-scale, multi-country, classroom intervention study is to explore whether and how students' degree of dialogicity increases during a learning programme implementing dialogic and argument-based teaching goals and principles. In contrast with most existing studies on classroom dialogues, we chose not to focus on content knowledge learning outcomes, but rather on the details of how students from 5 to 15 years old engage with each other's ideas, and whether and how this engagement is influenced by lesson and classroom setting factors. In particular, we aim at addressing the following questions:

RQ1. Does students' dialogicity increase over time as manifested during dialogic lessons?

RQ2. To what extent is there a relation between students' age/educational level and their degree of dialogicity as manifested during dialogic lessons?

RQ3. To what extent is there a relation between the social setting (whole-class versus small-group discussion) and the manifestation of students' dialogicity?

To pursue these objectives, first we will provide a literature review on the potential of dialogue and argumentation on young students' intellectual development, a definition of the term 'dialogicity', and a summary of empirical results on factors affecting students' dialogicity. We will then describe the details of the methodological design of our study. Quantitative findings, illustrated by excerpts from our extended multi-country corpus, will be finally presented followed by a discussion on the ways students' dialogicity can be fostered in an ordinary classroom.

2. Literature review

2.1. Potential of dialogue and argumentation on intellectual development

The systematic research of classroom interactions over the last few decades has revealed that certain forms of dialogue are associated with students' learning outcomes and social and emotional well-being (Hardman, 2020). This has led to the promotion of a pedagogy grounded on the implementation in practice of productive forms of dialogue and argumentation (Howe & Abedin, 2013). The growing body of research conducted by scholars of various disciplines has led to the existence of a range of different terms describing dialogic pedagogy. These include 'dialogic teaching' (Alexander, 2016), 'accountable talk' (Michaels & O'Connor, 2015), 'dialogic inquiry' (Wells, 1999), and 'exploratory talk' (Barnes & Todd, 1995; Littleton & Mercer, 2013) when referring to student-student interactions.

Despite the range of terms, the features emphasised in the literature are the same. Productive forms of classroom dialogue are the ones where students have opportunities to express their ideas and are being encouraged to do so, even if their ideas are not fully formed yet (Rojas-Drummond, Littleton, Hernandez, & Zuniga, 2010). In this multiplicity of ideas, students are encouraged to consider all ideas carefully, think how they are different to their own, and build on them. An important part of this process is the students' justification of their own ideas and their development of constructive criticism of others' viewpoints. Such deliberations give students the opportunity to participate in joint inquiries, co-construct knowledge, and resolve differences as a team (Littleton & Mercer, 2013).

In a dialogic classroom environment, the teacher's role shifts from the authoritative figure to the facilitator of discussions (Mortimer & Scott, 2003). As part of this role, teachers' initiations should shift from closed questions that require a brief and predetermined answer, to open and authentic questions that require extended and no predetermined

answers (Chin, 2007; Nystrand, Wu, Gamoran, Zeiser, & Long, 2003; Wells & Arauz, 2006). Examples of such teachers' questions are student invitations to elaborate on their ideas, build on others' ideas, and justify ideas (Hennessy et al., 2016). Teachers should also follow up on students' answers by asking them follow-up questions (Davies & Esling, 2020). Finally, teachers should place emphasis on explicit links amongst contributions to coordinate the multiplicity of ideas (Howe et al., 2019).

An important component of dialogic practices is argumentation. Argumentation places emphasis on the part of dialogue that concerns the use of evidence to justify ideas, which is manifested both by the individual process of defending a claim or conclusion based on concrete premises, and the social aspect of co-construction of knowledge, which involves persuading others (Rapanta, Garcia-Mila, & Gilabert, 2013). The association between the use of dialogue and argumentation in classrooms and different types of students' outcomes is being increasingly documented in the literature. A great part of this evidence comes from in-depth qualitative studies, e.g., case studies conducted on a limited number of teachers (see Rapanta, 2021; Christodoulou & Osborne, 2014; Sutherland, 2015). However, also a few quantitative, large-scale studies have also been performed.

Amongst large-scale studies looking at classroom dialogue facilitated by teachers in their classes, Howe et al. (2007) engaged 24 classes of 10–12-year-old students in Scotland in two science learning programmes that made extensive use of group work activities. They found that when engaged in groupwork, rather than in whole-class discussions, students in general made a greater use of propositions and explanations, confirming Piaget's (1932) theory about the impact of equal-status peers' interaction on reasoning. Larraín, Freire, and Howe (2014) implemented their large-scale study in Chile with 18 classrooms of 10–11-year-old students in authentic science classrooms. They found that within whole-class justificatory interactions, the emergence of students' counterarguments was more evident than in other classroom episodes, and that both justificatory utterances and counterarguments predicted increase in science learning.

In a naturalistic study in British primary schools, in which the dialogues of 72 classrooms were coded, Howe et al. (2019) reported that the level of students' participation in classroom dialogue, along with their use of building on and challenging ideas, was positively associated with their outcomes on national standardised tests. Similarly, in an intervention involving 5000 students in the UK, Alexander (2018) reported positive effects in achievement gains in English, mathematics, and science for the students in the intervention group. In another intervention that involved 21 teachers and 469 students, van der Veen, de Mey, van Kruistum, and van Oers (2017) found a significant effect on students' oral communicative competence, but no effect on students' subject matter knowledge. Muhonen, Pakarinen, Poikkeus, Lerkkanen, and Rasku-Puttonen (2018) also reported positive associations between the quality of educational dialogue in Grade 6 classes in Finland and students' academic performance in language arts and physics/chemistry. Finally, after the implementation of a professional development programme, Wilkinson et al. (2017) found that dialogic teaching supported students' argument literacy, namely the ability to comprehend and formulate arguments through speaking, listening, reading, and writing.

These studies, conducted in naturalistic or quasi-naturalistic settings by "real" teachers, support extended experimental evidence that dialogic talk "works" as an innovative pedagogical method. However, our knowledge of what, when, and how it works in terms of pedagogical settings is still scarce. Moreover, the focus of all above-mentioned studies was on the impact of dialogic teaching and learning on some content learning aspects, which may be explained by the fact that when teachers, and not researchers, implement the programme, they are also interested in getting something assessable from a know-what point of view. However, as dialogicity lies at the very heart of thinking and arguing (Billig, 1987; Kuhn, 2018), limiting its benefits to conceptual knowledge outcomes is not justified. A broader view of dialogicity as a

process of learning how to think alone and with others is necessary (Kuhn, 2015).

2.2. Defining dialogicity

Dialogicity in classroom discourse has been thus far related to teachers' discourse, either as a general distinction between dialogic and authoritative teacher-student interactions (Scott, Mortimer, & Aguiar, 2006) or as principle-level indicators for dialogic teaching (Alexander, 2016; Lehesvuori, Ketonen, & Häikiöniemi, 2022). However, students' discourse has been analysed by current research from the point of view of their "dialogicality" rather than *dialogicity*. These two concepts are different, and their distinction is crucial for our study's approach and contribution; for this reason, we will try to clearly draw the differences between these two notions, and to define the less shared meaning of "dialogicity" from a classroom discourse perspective not limited to teachers.

Dialogicality is commonly regarded as a manifestation of dialogism (Grossen & Salazar Orvig, 2011; Linell, 2001). From an educational perspective, any pedagogy rooted in the principles of dialogue promotes dialogical interactions, namely interactions in which "one voice allows itself to be shaped by another" (Sfard, 2020; p. 93). This view of dialogicality is close to Wertsch's (1991) and Bakhtin's (1981) views, according to which any utterance within a dialogic discourse is dialogical because several voices are interanimating within it (Wegerif, 2008). According to this perspective, a subject can engage in a dialogic discourse on their own, as, according to the theory of Dialogic Self, dialogicality does not imply the presence of an external Other (Marková, 2003). In summary, according to Linell (2017), dialogicality can be understood as "a more general capacity that enables individuals or constellations of individuals to make sense in and through interactions with others, artefacts and environments" (Linell, 2017, p. 301).

Dialogicity, in contrast, is commonly defined as other-orientedness (Macagno, Rapanta, Mayweg-Paus, & Garcia-Milà, 2022; Makkonen-Craig, 2014). It always takes place within an interpersonal interaction context, as the goal is "that ideas of multiple interlocutors – including, crucially, the ideas of other students – shape the further development of ideas of those present" (Aukerman & Boyd, 2020; p. 378). Contrary to dialogicality, which is assessed on a dialogical versus monological axis, dialogicity can be evaluated along a continuum, ranging from zero – when an action does not move communication forward – to a maximum degree of manifestation – occurring when an action contributes to meaning co-construction. In this sense, dialogicity is a manifestation of the existence of dialogue within an interaction, where "dialogue" is defined from a pragmatic point of view as "overt exchanges of sequentialised utterances or contributions by two or more participants who are co-present in particular situated encounters" (Linell, 2017, p. 301).

2.3. Productive pedagogical settings that affect students' dialogicity

Research evidence suggests that dialogic interactions rarely occur in the classroom (Howe & Mercer, 2007; Netz & Lefstein, 2016; Reznitskaya et al., 2012) and when authentic conversations are observed, these are typically brief and involve a small number of students (Colley & Windschitl, 2021). The lack of dialogic interactions in the classroom is also evident by research efforts aiming to improve classroom dialogue and argumentation (Berland & Reiser, 2011). As a result, in the last decade dialogic and argument-based teaching initiatives have been the emphasis of many studies exploring classroom dialogue with a focus on students' learning and improvement of dialogic interactions (e.g., Evagorou & Osborne, 2013; Erduran, Simon, & Osborne, 2004; Grooms, Sampson, & Enderle, 2018; Venville & Dawson, 2010). Here we will refer to some of these studies shedding light on how specific pedagogical settings may influence students' manifested dialogicity, in terms of producing talk that is at the same time reasoned (argumentation), dialogically situated (interthinking), and reflective (metadialogue).

2.3.1. Nature of activities

Findings from research studies are not conclusive but existing classroom evidence suggests the following conditions that can support classroom dialogue: (a) using specific teaching practices, including the use of open or critical questions (Chin & Osborne, 2010; Mercer, Dawes, & Staarman, 2009), (b) providing more time for students, especially kindergarten students, to talk and voice their ideas (Bautista, Moreno-Núñez, Ng, & Bull, 2018), (c) supporting group discussions and forming groups based on students' characteristics (Evagorou & Osborne, 2013); (d) forming groups in a way that can support critical use of questions by students (Chin & Osborne, 2008), and (e) designing and using appropriate teaching materials (Larraín et al., 2017; Larraín et al., 2018). Evidence from Colley and Windschitl (2016) suggests that some practical activities "could generate shared experiences and conceptual resources which students could draw upon in subsequent dialogic activities" (p. 56), and findings from McNeill, Marco-Bujosa, González-Howard, and Loper (2018) highlight how the use of language supports the development of dialogic components of argumentation.

2.3.2. Whole-class versus small-group discussions

The difference between small-group and whole-class discussions has been stressed by the literature. On the one hand, findings from previous studies show that group discussions can engage students in dialogue and provide more opportunities than whole-class discussions (Chinn & Clark, 2013), mainly because there is more time for all students to participate. Studies focusing on group discussions suggest that different groups can potentially develop dialogues of different levels, and the more successful groups are characterised by questions focusing on the key ideas and the occurrence of what Mercer, Wegerif, and Dawes (1999) refer to as 'exploratory talk' (see also Evagorou & Osborne, 2013; Chin & Osborne, 2008). Earlier studies exploring the influence of students' small-group argumentation also maintain that higher achieving groups have better possibilities of engaging in more productive dialogues (Sampson & Clark, 2011). On the other hand, the positive impact of whole-class dialogue has also been highlighted by studies that have identified high frequencies of high levels of dialogue within teacher-students discussions (e.g., Vrikki, Wheatley, Howe, Hennessy, & Mercer, 2019; Howe et al., 2019; Michaels & O'Connor, 2015).

Studies comparing the effect of whole-class and small-group discussions on students' dialogue are very rare, but those that exist demonstrate a positive effect of groupwork on students' dialogues. Galton, Hargreaves, and Pell (2009) compared the academic performance (English, mathematics, science) and classroom behaviour of 11–14-year-old students who were taught in two different classroom organisational settings: one group was taught following a cooperative groupwork approach, while the other following a whole-class, teacher directed instruction. The authors reported that students involved in the groupwork approach had higher attainment than the other group, and were observed to engage in "more sustained, higher cognitive level interactions" (Galton et al., 2009; p. 119).

2.3.3. Differences in age or educational levels

Studies comparing how different students engage in dialogic discussions and argumentation claim that higher achieving students perform better than low achieving students (Ho et al., 2019). Students of different educational levels (i.e., elementary, middle, and high school) take part in dialogue and argumentation differently, and in particular older students have been found to engage in more complex discussions (Berland & McNeill, 2010; Higham, Brindley, & Van de Pol, 2014). However, most research on the use of dialogic pedagogy focuses on primary education, rather than secondary education. This tendency can be explained by the fact that the study of dialogue is easier in this context, as primary school teachers spend more time with the same group of students and have more opportunities to set up an environment that is suitable for dialogic interactions (Vrikki, Brindley, Abedin, & Riga, 2019).

Although a few studies suggest that age is one of the most important factors affecting students' dialogicity (e.g. Hännikäinen & Rasku-Puttonen, 2010), there is lack of consistent evidence of how dialogicity differs across ages. Furthermore, both groupwork and whole-class discussions seem to improve students' quality of dialogues (Vrikki et al., 2019; Sampson & Clark, 2011). However, the impact of group versus whole class discussions on dialogicity – across ages and using the same teaching materials – has not been examined through a comparative analysis thus far.

3. The present study

Research using dialogue and argumentation as pedagogical means for achieving learners' individual outcomes – often (re-)assessed after their engagement in dialogic activities – is extensive. For instance, significant improvements were shown in students' dialogic reasoning skills, and in particular their capacity to formulate persuasive arguments in a dialogic context and transfer this ability to other contexts, such as writing (e.g., Kuhn, Hemberger, & Khait, 2016; Reznitskaya et al., 2012). However, most of this research is limited to specific interventions led by researcher and is not focused on students' dialogicity as an outcome of a dialogic pedagogy enrooted and cultivated by the teachers, in their design and application of productive pedagogical settings. In this paper, we focus on how citizenship education issues may be productively discussed through classroom talk, as part of carefully designed teacher-delivered lesson plans.

3.1. Dialogic learning programme

The study was conducted as part of a large-scale, multi-country research project aiming at the development of cultural literacy amongst students from preprimary to secondary education. For the purposes of the project, cultural literacy learning was conceptualised in terms of dialogic and argumentative gains, as manifested in discussions around themes related to citizenship education, such as social responsibility, living with others, and sustainability (Rapanta, Vrikki, & Evagorou, 2021; Maine, Cook, & Lähdesmäki, 2019). For the purposes of this study, cultural literacy is a core part of the so-called critical literacy, within which dialogue plays an essential role, empowering individuals as social change agents (Duncan-Andrade & Morrell, 2007).

The design intervention consisted of the creation (as part of a teachers-researchers codesign process), pilot testing, and implementation of a Cultural Literacy Learning Programme (CLLP) consisting of 45 lesson plans, 15 per age group, aiming at fostering genuine dialogue and argumentation between teacher and students, and amongst students alike. The design elements of the intervention were: (a) the use of a wordless cultural text (a picturebook or an animated film) related to cultural literacy dispositions, such as tolerance, empathy and inclusion, as a triggering stimulus for constructive discussion; (b) the pre-construction of lesson plans around each picturebook/film with at least one dialogue and argumentation goal made explicit and pursued through the proposed activities; (c) a mix between whole-class and small-group discussion activities to benefit from both settings; and (d) the creation of individual or group cultural artefacts, such as drawings or other artistic constructions, as a response to the classroom discussion and the ideas it generated. For more information about the project, the CLLP, and examples of student-created artefacts see <https://dialls2020.eu/>.

The cultural texts included in the programme were selected based on their representativeness of the countries participating in the project, their potential to trigger productive discussions around cultural literacy themes, and their age group adequacy. The latter was assessed through pilot tests with participant students from all age groups (for more about this see <https://dialls2020.eu/wp-content/uploads/2021/05/DELIVERABLE-5.3-final.pdf>). Moreover, the fact that the texts were wordless allowed their use by classrooms from different linguistic backgrounds.

The present study is based on a design intervention applied to 71 classrooms belonging to five European countries (England, Cyprus, Spain, Germany, and Portugal) observed at least once during their implementation of the dialogic learning programme, namely at Session 3 (i.e., the session in which the third lesson plan of CLLP per age group was implemented) and/or Session 8 (i.e., the session in which the eighth lesson plan of CLLP per age group was implemented). We opted for not including a pre- and post-test assessment based on the rationale that for teachers to be able to foster dialogic interactions in their classrooms, they must acquire some experience with this innovative practice first. Another reason for the lack of a pre-/post-test was the fact that our focus of assessment was students' oral dialogicity expressed during dialogically framed lessons, and not any other type of individual skill or benefit, as for example science content knowledge, as in Howe et al. (2007) and Larraín et al. (2014).

3.2. Participants

The participants were 4208 students distributed in preprimary, primary, and secondary school classrooms of five different countries (UK, Portugal, Germany, Spain, and Cyprus). Students had different socio-economic backgrounds, representing therefore heterogeneity within and across the five partner countries. The average age of the preprimary group was 5 years old, of the primary group it was 8.5 years old, and of the secondary group it was 14 years old. Considering the gender distribution, participants represented a balanced sample between male and female students. Table 1 below presents the number of students involved per country and educational level.

Regarding the within-classroom ethnic diversity, 47% were classified as 'low ethnic diversity' (proportion of other-ethnicity students lower than 5% per school), 34% of medium (if the above-mentioned proportion was between 5% and 15%), and 19% of high ethnic diversity (for a proportion higher than 15%). These data were not available for Portugal due to school regulations.

3.3. Procedure

The construction of the lesson plans forming part of the CLLP was piloted with participant teachers and students from four countries, representing all three age groups. In several cases, lesson plans had to be adapted for the main implementation phase to respect teachers' and students' perceptions during the piloting phase. With these adaptations, we ensured that the final lesson plans were adequate not only for the different age groups but also for different ethnic backgrounds.

To guarantee the implementation of the CLLP by the participant teachers, a teacher professional development (TPD) programme was designed and delivered locally in each country. The TPD followed the same structure and contents in each country, allowing, however, for modifications according to the local researchers' expertise and participant teachers' needs. Also, the implementation of the suggested CLLP lesson plans was similarly flexible. The most important aspects of this implementation were that the following: (a) teachers used the suggested cultural text (film or picturebook) followed by the suggested open questions to open up and guide dialogue with the class; (b) the suggested dialogue and argumentation goal was made explicit and pursued throughout the lesson implementation; and (c) the small-group activity,

Table 1
Number of students involved in the study.

Age group	Country					Total
	UK	Portugal	Germany	Spain	Cyprus	
Pre-primary	720	181	22	100	520	1543
Primary	720	167	115	125	575	1702
Secondary	240	328	230	115	50	963
Total	1680	676	367	340	1145	4208

when applicable, followed the suggested task and procedure. Reflection activities and the students' construction of artefacts (e.g., an expression of art) were considered as optional and therefore included only when teachers had the time and affordances for such. The six lesson plans that were used as context for our data collection are presented in [Appendix A](#).

Before the first data collection, the local research teams guaranteed that all participant teachers and their students had correctly signed consent forms for their participation in the project. In the few cases in which a child was not allowed to be video recorded, their image was blurred in the whole-class video, and they were not included in the groups that were chosen for data collection. For each observed/recorded class, two groups were randomly selected to form part of the data collection during small-group discussions, but only one of them was used for transcription and analysis purposes (the other served as a backup). All recordings were safeguarded in external, password-protected hard drive discs, and will be deleted three years after the end of the project. For the transcription of the data, codes were used to replace schools', teachers', and students' names since the very beginning of data treatment. Transcriptions followed a simplified adaptation of [Jefferson \(2004\)](#) conventions, as explained in detail in [Rapanta et al. \(2021\)](#).

The dialogic lesson plan constructed for preprimary's Session 3 was based on the animated film "Ant" by Julia [Ocker \(2017\)](#), for primary's Session 3 was based on the animated film "Papa's boy" by Leevi [Lemmetty \(2010\)](#), and for secondary's Session 3 was based on the wordless book "Excentric city" by Béatrice [Coron \(2014\)](#). Session 8 lesson plans for the three age groups were all based on the animated film "Baboon on the moon" by Christopher [Duriez \(2002\)](#), and slightly modified to address each age group. The inclusion of a similar lesson plan structure on a common stimulus, as our Session 8 lesson plan, was done deliberately to allow for some cross-sectional insights regarding the development of dialogicity (see RQ2).

An innovative aspect of our dialogic learning programme, and its implementation by the participant teachers thereof, was the inclusion of concrete dialogue and argumentation goals as the main learning objectives of each lesson plan (such as listening to others, everyone contributing, justifying opinions with evidence, and considering alternative points of view). In this fashion, our explicit focus on dialogicity as a desired learning outcome – and not a by-side goal – was emphasised.

3.4. Data analysis

The object of our analysis was the lesson transcript, namely the transcribed talk occurring in the video/audio-recorded session. Whole-class discussion activities were analysed focusing on the discursive interactions between teachers and students, while the analysis of small-group discussions was conducted by taking into account the interaction amongst students. The transcript was segmented into lines, with each line corresponding to a turn performed by a speaker, either teacher or student. The total number of lines of the analysed corpus was 53.253 (see [Rapanta et al., 2021](#), for access to the coded corpus), whereas the total number of lessons transcribed was $N = 111$, distributed amongst the five participant countries, as shown on [Table 2](#).

Each transcript line/turn was coded according to a coding scheme that was constructed and validated for the purposes of the larger research project, with the aim of grasping teachers' and students' dialogicity manifested as moves that take the *other's perspective* into account. As mentioned above, dialogicity presupposes the involvement of the other's perspective in the speaker's talk. A dialogic attitude is an other-orientated communicative behaviour in which the others' points of view are taken into account ([Häkikiöniemi et al., 2019](#)), which contrasts with a monological or authoritative attitude – focused only on one point of view, the speaker's ([Lehesvuori, Ramnarain, & Viiri, 2018](#); [Scott et al., 2006](#)).

In our corpus, the difference between monological and dialogic interactions has been captured through the occurrence of specific moves that manifest an other-orientated attitude. Mercer and colleagues

Table 2

Mean number of student turns, according to social setting by session, educational level and country.

Session	<i>n</i> ^a	Total	Whole class	Reduced setting ^b
Session 3	67	257.58	128.74	134.32
Session 8	44	253.54	148.00	112.70
Ed. Level	<i>n</i>	Total	Whole Class	Reduced Setting
Preprimary	45	209.13	189.17	20.13
Primary	34	292.20	120.05	187.08
Secondary	32	283.37	79.46	209.12
Country	<i>n</i>	Total	Whole Class	Reduced Setting
UK	28	250.28	129.53	145.14
Germany	20	187.75	56.95	130.80
Portugal	21	408.04	199.38	208.71
Cyprus	19	235.05	191.38	44.05
Spain	23	200.65	111.13	89.52

^a *n* represents the number of lessons.

^b Reduced setting refers to both small-group discussions and teacher-mediated small-group discussions. The groups were formed by 4–5 students compared to the average of 20 students in the whole class setting.

defined the notion of "exploratory talk" as an instrument for thinking together as based on specific interactional behaviours, such as ([Mercer, Dawes, Wegerif, & Sams, 2004](#), p. 362): inviting the members of the group to contribute to the discussion, considering opinions and ideas, inviting to make one's own reasons clear, putting forward and negotiating challenges and alternatives, and reaching agreement. In [Webb et al. \(2014\)](#), students' high-level engagement with others' ideas was distinguished from medium or low-level engagement based on specific types of moves. Higher dialogic moves included expanding another's contribution (by adding details) and suggesting grounded alternatives in case of disagreement (providing reasons in favour of their acceptability), while low-level dialogic moves were characterised only by the expression of a disagreement or the stating of an alternative. Thus, while the latter category of moves is aimed at a (lowly) dialogic accumulation of viewpoints, the former is intended to pursue an "interanimation" ([Häkikiöniemi et al., 2019](#); [Scott et al., 2006](#)) of perspectives.

The coding scheme constructed for this study (see also [Macagno et al., 2022](#)) consists of eight dialogue categories, mirroring different degrees of dialogicity. The first three categories, namely *Stating* (ST), *Managerial* (MA), and *Accepting/Discarding* (AC/DC), are considered as not necessarily dialogic, as they are not prototypically used for understanding the other's perspective. *Stating* consists in merely advancing a viewpoint, thus not involving the "otherness" or interest in the other's viewpoint or position presupposed by a dialogic attitude. *Accepting/Discarding* expresses the positioning of the speaker vis-à-vis the other's viewpoint, without addressing or providing the reasons underlying such an acceptance or refusal. Finally, *Managerial* moves are performed to organise an activity, which does not involve an exchange of viewpoints nor understanding of others' ideas. In contrast, five categories, namely *Expanding* (EX), *Inviting* (IN), *Metadialogic* (MD), *Reasoning* (RE), and *Metadialogic Reasoning* (MD_RE) are necessarily dialogic, as they need to include, address, or somehow consider the interlocutor's perspective. *Expanding* is a move that builds on another's contribution, or on one's own idea, specifying, describing, or developing it, or provides more details to the interlocutor to understand one's own viewpoint. Inviting moves involve the interlocutor in the discussion, and thus can be dialogic in the sense that they can be used for acquiring information on another's viewpoint or perspective. The last three categories – *Metadialogic*, *Reasoning*, and *Metadialogic reasoning* – are not only necessarily used for dialogic purposes, but they are characterised by a higher level of dialogicity. *Metadialogical* moves are aimed at defining the meaning of the words used, namely establishing the common ground between the interlocutors, thus addressing the sources of possible disagreements. The performance of *Reasoning* moves prototypically requires dialogic empathy, as to persuade someone, the speaker needs to start from the premises that are presumed to be

accepted by the interlocutor (Gilbert, 1997; Walton, 1992). Finally, *Metadialogical reasoning* is defined by the negotiation of the common ground: the speaker provides reasons for a specific meaning or definition that constitutes the presupposition for understanding or coming to an agreement with the interlocutors. The eight types of dialogic moves are thus classified in two levels of dialogicity, from low (ST, AC/DC, MA moves) to high (EX, IN, MD, RE, MD_RE moves). An overview of the coding scheme used in this study is presented in Fig. 1, and examples from students' discourse are shown on Fig. 2 (low-dialogic moves) and Fig. 3 (high-dialogic moves).

As seen in Fig. 1, the determination of the moves' relevance is the starting point for assessing their dialogicity. For instance, even though inviting another's viewpoint is a potential signal of dialogicity, when the inviting move is not related to the topic under discussion or the previous moves, it fails to manifest the intention to engage with the others constructively. Relevant low dialogicity moves were distinguished from relevant high dialogicity ones based on the following criteria: (a) the degree to which they open up the "discourse space for exploration and varied opinions" (Boyd & Markarian, 2011; p. 515); and (b) the degree to which they result in productive uptake or successful repair (Chin, 2006). A more dialogic move is aimed at building on the previous discourse to contribute to the dialogue – in other words, it needs to be "transactive" (Berkowitz & Gibbs, 1983, 1985; Clarke, Resnick, & Rosé, 2015; Felton & Kuhn, 2001; Vogel et al., 2016). These criteria mirror the ones used in the literature to distinguish the level of dialogicity, either implicitly or explicitly under the label of *interanimation* (Scott et al., 2006) or *engagement with others' viewpoints* (Howe et al., 2019).

Compared to the existing methods of assessing the quality of educational dialogue (e.g., Hennessy et al., 2016; Resnick, Michaels, & O'Connor, 2010; Reznitskaya & Wilkinson, 2021), this coding scheme provides some original and distinct features. First, it is exhaustive, as all on-task interaction units are codable. Second, its categories are mutually exclusive, with clear criteria distinguishing between them, as explained in detail in Macagno et al. (2022). Finally, and most importantly, it distinguishes low-dialogic from high-dialogic moves, introducing, therefore, a hierarchy within the moves. The inter-rater agreement in the final test between and across countries was moderate to good (Krippendorff's Alpha = 0.77) (Krippendorff, 2011). The detailed inter-rater reliability scores per code are in Appendix B (three countries were used for these tests, namely UK, Portugal and Spain). Details about the validation process of the coding scheme, as well as the extended codebook used by the research assistants can be found in Macagno et al. (2022).

3.4.1. Statistical analysis

Since the data were not normally distributed, non-parametric statistical tests were performed. In particular, for exploring students' degree of dialogicity during participation in dialogic and argument-based lessons (RQ1), we applied the Wilcoxon test for paired data of each dialogic category¹ (MA, ST, AD, EX, IN, MD, RE, MD_RE) between the two sessions (Session 3 versus Session 8 of the dialogic learning programme). To capture the manifestation of students' dialogicity according to the social setting (whole class discussion vs. "reduced setting" – which includes both small-group discussions and teacher-mediated small-group discussions) (RQ2), a Wilcoxon Signed Ranks Test within-subjects was also conducted. Finally, in relation to the age/educational level differences in responding to the dialogic and argument-based lessons (RQ3), a between-subjects Kruskal-Wallis statistical test was performed.

¹ We applied the Wilcoxon test for paired data to compare the raw data (not adjusted/controlled) of each dialogic category (MA, ST, AD, EX, IN, MD, RE, MD_RE) between the two sessions (S3, S8).

4. Findings

To better understand our findings, organised according to the three research questions, we provide an overall description regarding the distribution of the mean number of coded student turns, including only the ones considered as relevant to be coded (see explanation above about relevance). This distribution is organised according to the three variables-object of our study, namely: session, social setting, and educational level for each country participating (see Table 2).

For RQ1, as we compared students' dialogicity across the two sessions, the sample corresponds to the lessons performed by the classroom that participated in both Session 3 and Session 8, resulting in a total number $n = 40$ lessons. For RQ2, i.e., the cross-sectional analysis, we only included the lessons corresponding to session 8, resulting in a sample of $n = 44$ lessons. Finally, for calculating the setting effect (RQ3), we included the lessons characterised by both types of settings (whole class and reduced setting) ($n = 50$).

All lessons took place in public schools, and the big majority (69%) in urban school environments. Regarding the students' socioeconomic level and the degree of ethnicity diversity within the classrooms, there were some differences as seen in Table 3 (Note: data from Portugal were not available; complete data for all lessons were available only for UK and Spain).

Given this between-country diversity of the classrooms implementing the lesson plans, we first controlled the country/classroom effect on dialogicity. Due to the multilevel/hierarchical structure of the study data (two sessions nested in classrooms, and classrooms nested in countries), mixed-effects models were fitted for each dialogic category (MA, ST, AD, EX, IN, MD, RE, MD_RE). Negative-binomial distribution was the most appropriate distribution for all study outcomes.

Country and classrooms were considered as grouping variables of observed data at each session, and therefore as random effects of the models. Choosing this methodological option mainly depended on the structure/design of the data observed, and not on the presence of differences between the levels/clusters. Descriptive results from our preliminary analysis of all outcomes for each country in each session are shown in Table 4.

4.1. Changes in dialogicity during the sessions of the dialogic learning programme

The first aspect analysed corresponds to the first research question: Does students' dialogicity increase over time as manifested during dialogic lessons? To answer the question, we focussed on the change in the quality of classroom dialogue, as manifested in students' moves, when students engage in repeated dialogic lessons. To this purpose, we compared the mean percentages for the high-dialogic discourse categories in Session 3 and Session 8. Percentages were calculated as the number of coded turns corresponding to the high dialogic categories (see Fig. 3) over total number of coded (high and low) turns multiplied by 100.² The mean percentage of high dialogic categories were for session 3 and session 8, respectively: 27.4 (11.2) and 31.2 (13.3). The Wilcoxon test yielded a significant increase across sessions ($Z = -2.12$, $p = .003$; effect size = 0.34³).

To identify the discourse categories responsible for this significant change, frequencies for each high-dialogic (HI) discourse category were computed. The analysis yielded a statistically significant increase for the percentages of Metadialogical (MD), and Reasoning (RE) student moves,

² The reason why percentages were calculated as the number of coded turns over total number of coded turns multiplied by 100 rather than over the total coded and not coded is that the number of not coded turns varied largely across countries, contaminating the meaning of the percentage.

³ $r = z/\sqrt{n}$. Interpretation: 0.1-0.3: Small; 0.3-0.5: Moderate; >0.5: Large (Pallant, 2010).

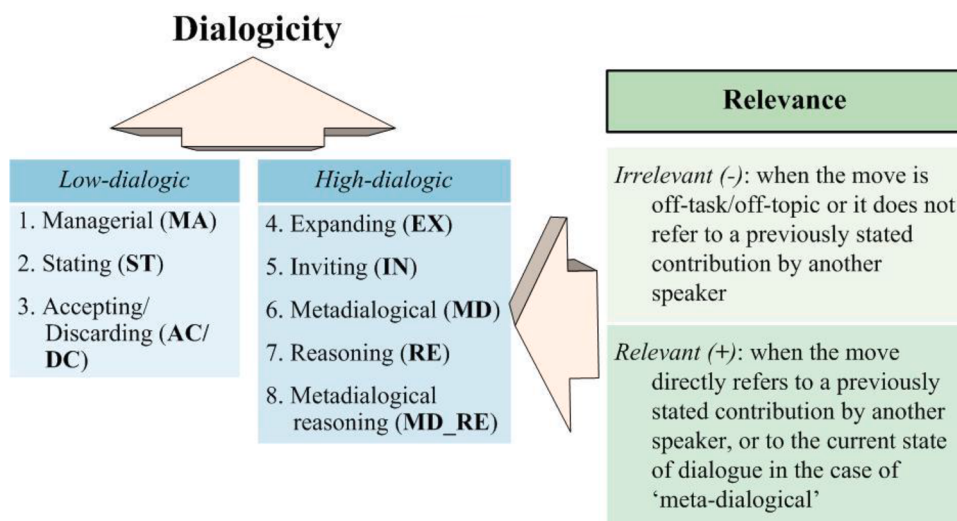


Fig. 1. The structure of the coding scheme.

Dialogicity level	Dialogue category code	Example
Low dialogicity	<i>Managerial (MA):</i> Any move used to establish the tasks (or norms for the task). In particular, MA moves include both procedural and task talk, namely all talk used to establish the task (or norms for the task)	S5: I think we have to close our discussion now. S12: We shall. S: Shall I go next or S6?
	<i>Stating (ST):</i> Any act of stating or asserting that something is true or false without defending such assertion.	S: People who go to like the opera are probably more well-mannered than people who go to a circus.
	<i>Accepting/Discarding (AC/DC):</i> Any act of accepting, acknowledging (AC), challenging, or rejecting (DC) an opinion or a state of affairs put forward by another speaker, without providing further reasons and without addressing potentially problematic background values, presuppositions, or linguistic terminology	S1: I REALLY think that this part here is the most recent and that it later passes on [...] to on something older (ST) S2: I also think that (AC)
		S1: You must ALWAYS follow the rules. (ST) S2: I disagree (DC)

Fig. 2. Examples of coded students' dialogic moves for the three low-dialogic categories.

but a significant decrease for the percentages of Invite (IN) (see Table 5 and Fig. 4).

The same cross-session comparative analysis was performed for each educational level separately, to understand specific tendencies within preprimary, primary, and secondary education data. In preprimary lessons, we notice that the discourse categories that significantly increased were %EX, %MD, and %RE (quasi-significant). In contrast, the category for %IN decreased across sessions. The test comparing dialogic categories for the other two educational levels did not yield significant differences neither for primary nor for secondary education (See Table 6 and Figs. 5–7).

4.2. Relationship between educational level and dialogicity

The second research question refers to differences in the quality of classroom dialogue across educational levels (preprimary, primary, and secondary education). To this purpose, we compared the mean percentages of the high-dialogic moves across the three educational levels (see Table 7 and Fig. 8) only for Session 8, which was our cross-sectional lesson plan (charactered by the same film, “Baboon on the moon” and a similar structure of activities, see Appendix A). The only dialogic category that yielded significant differences across educational levels is the %MD_RE. Mean percentages increased from 0.11 in preprimary, to 0.80

Dialogicity level	Dialogue category code	Example
High dialogicity	<i>Expanding (EX):</i> Any effort of extending, clarifying, or emphasizing one's own or another's individual or shared perception about the issue at hand. It can include the following: giving an example, adding details, extending a thought, expressing doubt about someone's ideas, clarifying something that was ambiguous, etc.	S11: I think, in Syria, they have to wake up really early, 'cos they have to get like lots of water, because it might be far away. (ST) S5: <i>Exactly, like lots of miles, like in Africa. (EX)</i> S11: <i>Yeah. They have to. And there might not be any transport for them to go to school, unless the school had been blown up or bombed, [then] (EX)</i>
	<i>Inviting (IN):</i> Any discourse attempt to invite others to provide (further) reasoning and/or elaboration either on their own or on others' contribution.	S2: <i>Yeah, OK, but right now what are you going to say about what are the father's expectations of the son?</i>
	<i>Metadialogical (MD):</i> Moves talking about another move, turn, or discussion, in order to focus on the meaning of a linguistic item (<i>linguistic metadialogical</i>) or the relationship between the move and the subject matter or the discourse itself (<i>pragmatic metadialogical</i>).	S: I have already said it, a house is a building made for living or live together and a home is when you give a sentimental sense, emotional, which is yours or your family's. (Linguistic MD)
		S: We are so different that we cannot arrive at a common interpretation. (Pragmatic MD)
	<i>Reasoning (RE):</i> Any expression of a justification of a viewpoint on an issue at hand, which moves the dialogue forward and includes arguments or counterarguments.	S1: Because I can be the same culture as her but maybe she is a man and I am a woman, and this already makes us different, for sure.
	<i>Metadialogical reasoning (MD_RE)</i> Attacks to viewpoints or arguments based on the meaning of the viewpoint or the argument or the implicit premise that is taken for granted.	S: Yes. [...] Ahm [...] I don't know... [home] It's also a place where you're supposed to rest... I mean-
		S: So because I can rest, I can sleep, but I can sleep anywhere like that... you don't need a house!

Fig. 3. Examples of coded students' dialogic moves for the five high-dialogic categories.

Table 3

Frequencies' distribution of lessons according to participant students' socioeconomic and ethnicity diversity (within the same classroom).

Country	Socioeconomic inequality				Ethnicity diversity			
	low	medium	high	total	low	medium	high	total
UK	14	10	4	28	0	12	16	28
Germany	0	14	4	18	0	4	8	12
Cyprus	6	6	4	16	2	0	2	4
Spain	23	0	0	23	23	0	0	23

Table 4
Medians of percentages of dialogic categories per country in session 3 and session 8.

[illegible]

in primary, and 1.8 in secondary education [χ^2 (d.f.=2) = 13.2, p = .001].

4.3. Relationship between social setting and dialogicity

For the third research question regarding the relation between the social setting and the manifestation of students' dialogicity, we performed a within-subjects comparison of mean percentages for the high-dialogic categories in the two classroom settings: whole class versus reduced setting (including small-group discussion and small-group/teacher interaction). The mean percentage of students' high dialogic moves over total coded students turns for the whole class setting was 32.07 ($SD = 16$, $n = 50$), whereas for the reduced setting it was 29.0 ($SD = 11$, $n = 50$).

In order to capture the discourse categories responsible for this difference, we applied the Wilcoxon test to each high-dialogic category. The analysis yielded statistically significant differences for RE and for MD_RE categories, with a higher mean percentage for whole class, while for IN, the difference was also significant but with a reverse tendency: it was higher for the reduced group setting (see [Table 8](#) and [Fig. 9](#)).

4.4. Examples showcasing the findings

A particularly interesting finding – consistent across our three research questions – is that students from the very early age of 5 years old are able to produce metadiscourse in the form of Metadialogue and Metadiological reasoning, and this discursive ability improved within a five-lesson time, especially in the whole-class dialogue setting. [Table 9](#) illustrates one of the most complex and highly dialogical sequences from preprimary’s Session 3. This whole-class discussion excerpt is about whether we should always follow the rules or not (the session was inspired from the film “Ant” – see [Appendix A](#) for the lesson plan).

Here, the students' moves concern their own private experience, which is not generalised, nor related to the crucial concepts of "rule" or "compliance." The arguments are mostly from example. Similarly, teachers' prompts aimed at eliciting a definition of a concept are replied normally providing private accounts ("I follow a rule..."). In contrast, in Session 8, preprimary students already manifest a much different dialogic behaviour. Two examples (Tables 10 and 11) can illustrate this change.

In this excerpt, different definitions of “home”, coded as Metadialogical moves, are provided drawn from personal experience but generalised to an abstract concept. More importantly, these abstract concepts are then used in arguments, such as in the following dialogue (Table 11) concerning the reason why the character of the story (a baboon living on the moon) is blowing its trumpet.

Student 8 is interpreting the text by using the definitions previously developed, and justifying her interpretation based on an abstract concept of what home is. More importantly, this argument manifests a critical stance towards the text: not only does the student describe or explain what the text says (textual level), but also provides an interpretation in which the text is confronted with world knowledge (Scardamalia & Bereiter, 1991). This argument is then addressed by Student 12, who provides his own point of view (a usual move in Session 3) and more importantly relates it to the interlocutor's argument, rebutting it. The same behaviour is illustrated in the following discussion as well (Table 12), in which a request for explanation leads to a dialogue on the concept of wild animal, which results in a Metadialogical interpretation of the text.

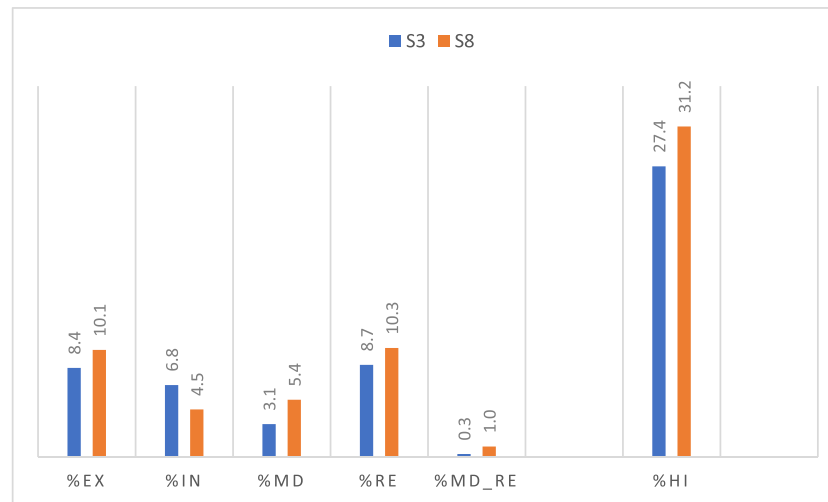
5. Discussion

There is vast evidence on the positive effect of discourse-intensive pedagogies on student learning (Wilkinson, Soter, & Murphy, 2010), in terms of conceptual outcomes. Empirical studies on how dialogically orientated teaching affects students' acquisition of thinking skills are

Table 5

Wilcoxon test comparison for each high-dialogic category according to session (n = 40).

Session	High-dialogic category type					
	%EX	%IN	%MD	%RE	%MD_RE	%HI ^a
Session 3	8.4 (6.0)	6.8 (5.1)	3.1 (3.1)	8.7 (6.4)	0.32 (0.7)	27.4 (11.2)
Session 8	10.1 (5.9)	4.5 (3.2)	5.4 (5.3)	10.3 (6.0)	1.0 (3.0)	31.2 (13.2)
Z Wilcoxon	-1.5	-2.26	-1.90	-1.9	-0.713	-2.12
p (2-tailed)	ns	.02	.05	.05	ns	.03
effect size	–	0.35	0.30	0.30	–	0.34

^a HI corresponds to the term *high-dialogic categories*.**Fig. 4.** Distribution of mean percentages for each high-dialogic (HI) category according to session.

Note: n = 40; only lesson transcripts from the same class implementing both Sessions 3 and 8 were included.

Table 6

Distribution of mean (and SD) percentages for each high-dialogic category according to session, and for each educational level.

Educational Level						
Preprimary (n ^a = 18)						
Session	%EX	%IN	%MD	%RE	%MD-RE	%HI
Session 3	6.3 (2.5)	7.9 (5.8)	1.2 (1.2)	7.0 (5.2)	0.1 (0.25)	22.7 (9.4)
Session 8	10.7 (7.5)	3.3 (1.9)	4.0 (4.3)	9.7 (4.6)	0.03 (0.15)	27.9 (10.5)
Z Wilcoxon	-2.6	-2.7	-2.42	-1.77	-0.73	-1.85
p (2-tailed)	.01	.006	.016	.07	ns	.058
effect size	0.63	0.63	0.57	0.47	–	0.43
Primary (n ^a = 14)						
Session	%EX	%IN	%MD	%RE	%MD-RE	%HI
Session 3	9.6 (8.7)	4.5 (4.0)	4.7 (3.7)	11.3 (5.8)	0.45 (0.77)	30.6 (11.6)
Session 8	8.9 (4.4)	5.3 (3.9)	5.4 (4.5)	11.9 (6.3)	0.70 (1.3)	32.5 (12.8)
Z Wilcoxon	-0.031	-0.534	-0.157	-0.847	-0.153	-0.973
p (2-tailed)	ns	ns	ns	ns	ns	ns
Secondary (n ^a = 8)						
Session	%EX	%IN	%MD	%RE	%MD-RE	%HI
Session 3	11.1 (5.5)	8.2 (4.1)	4.4 (2.8)	7.9 (8.7)	0.6 (1.0)	32.6 (13.4)
Session 8	10.7 (4.8)	5.7 (3.9)	8.5 (7.9)	8.7 (8.0)	3.7 (6.2)	35.6 (18.2)
Z Wilcoxon	-0.14	-1.6	-0.70	-0.56	-1.35	-0.70
p (2-tailed)	ns	ns	ns	ns	ns	ns

^a n represents the number of lessons transcribed.

mostly limited to (quasi-)experimental interventions led by researchers (e.g., Kuhn et al., 2016; Shi, 2019). Moreover, such studies tend to focus on students' writing, rather than oral dialogicity, which we operationalised in this paper as students' capacity to take the other's perspective into consideration while formulating their own points of view. Such dialogicity is highly important in terms of intellectual development as it is a direct manifestation of critical argumentative reasoning, interthinking, and metacognition. It is also a manifestation of actively participating in dialogic deliberation, a key 21st century critical literacy skill (Mirra and Garcia, 2021).

Several studies have focused on students' capacity to critically analyse given texts (e.g., Bråten, Britt, Strømsø, & Rouet, 2011; Murphy et al., 2018; Reznitskaya et al., 2008). They found that when students engage in meaningful discussions about the text, they gradually acquire skills of thinking "around and with the text" as well (Murphy et al., 2018; p. 1116), implying that dialogue-inspired pedagogies have an impact on students' high-level comprehension skills. Is this also true when the pedagogical focus is on students' dialogicity *per se*, not as a by-side outcome but as a direct goal? And if this is the case, when, how and why does students' dialogicity manifest the most?

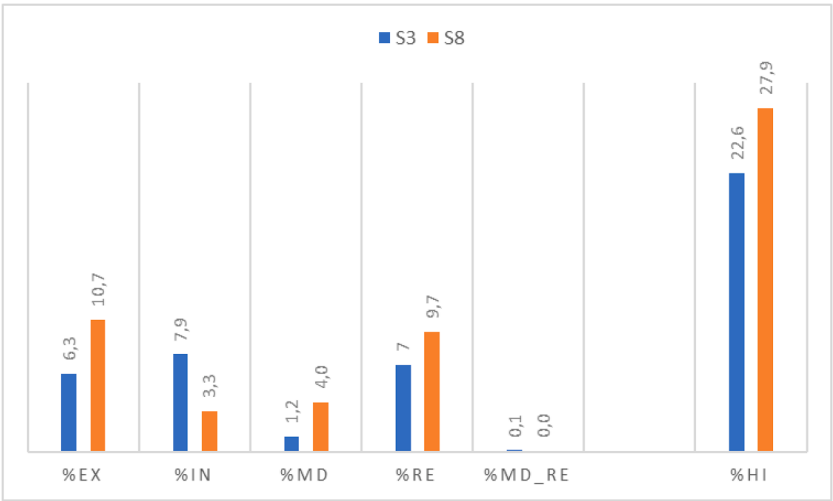


Fig. 5. Distribution of mean percentages for each high-dialogic (HI) category according to session for preprimary lessons (n = 18).

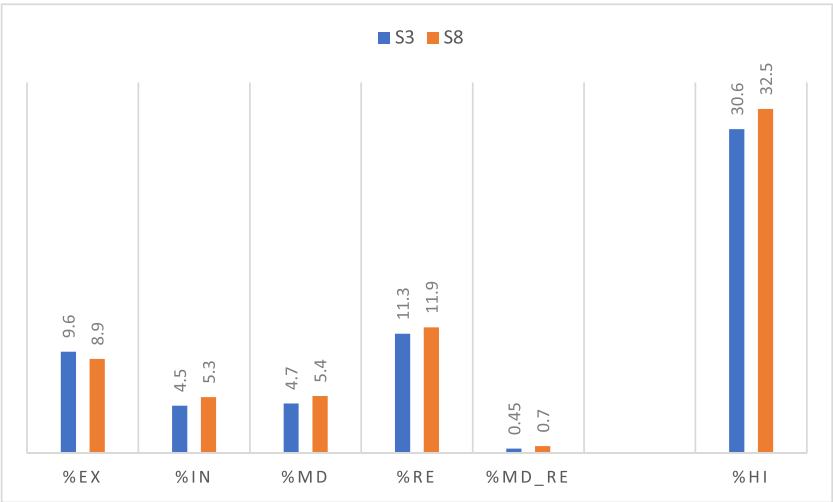


Fig. 6. Distribution of mean percentages for each high-dialogic (HI) category according to session for primary lessons (n = 14).

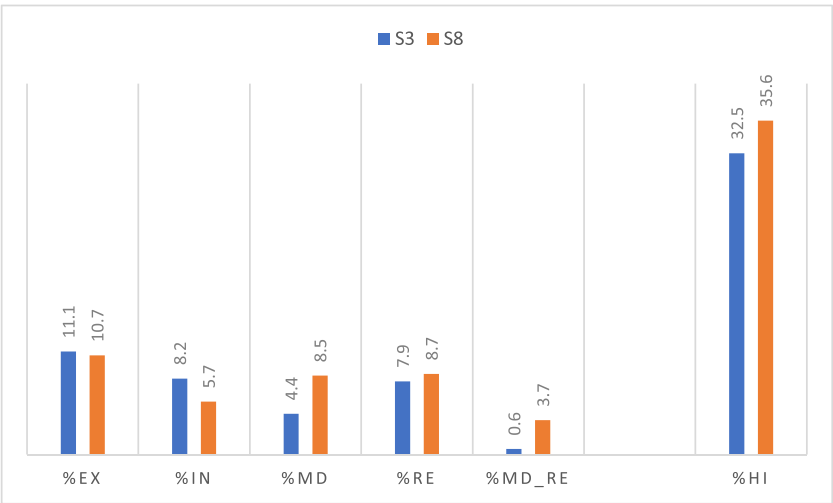


Fig. 7. Distribution of mean percentages for each high-dialogic (HI) category according to session for secondary lessons (n = 8).

Table 7

Distribution of mean percentages for each high-dialogic category according to educational level (only session 8, $n = 44$).

Educational level	High-dialogic Category Type					
	%EX	%IN	%MD	%RE	%MD-RE	%HI
Preprimary	11.4 (7.7)	3.3 (1.8)	4.7 (5.2)	9.5 (4.5)	0.11 (0.45)	29.2 (11.6)
Primary	9.2 (3.5)	6.0 (3.7)	5.9 (4.5)	11.9 (4.6)	0.80 (0.97)	34.0 (8.5)
Secondary	10.7 (5.6)	5.2 (3.5)	6.4 (6.9)	9.2 (7.9)	1.8 (2.1)	33.5 (17.7)
χ^2 Kruskal-Wallis	0.62	4.64	4.56	2.05	13.2	1.9
Df	2	2	2	2	2	2
p (2-tailed)	ns	ns	ns	ns	.001 ^a	ns

^a The Mann-Whitney U statistical comparison yielded statistical significance for the comparison between Preprimary and Primary ($U = 58.5$, $p = 0.023$), but it was not significant for the comparison between Primary and Secondary ($U = 59$, ns), probably due to the small sample.

For this purpose, we designed a dialogue-intensive learning programme focusing on the development of cultural literacy skills, with the underlying assumption that being culturally literate in nowadays' world implies being open, tolerant, and constructive towards different perspectives (Rapanta, Vrikki, & Evagorou, 2021). Dialogue and argumentation goals were made explicit as part of the lesson plans (see Appendix A), and were the main learning goals of the programme, situating it within the "learning to argue" research tendency (Rapanta & Felton, 2021). This positive disposition towards otherness, identified either externally or internally, was operationalised in discourse categories that were assumed to have a higher dialogicity (i.e., other-orientedness) than others. Our innovative discourse coding scheme introduced a hierarchy, not previously encountered in educational dialogue analytical methods,⁴ which allowed us to distinguish between moves that are not necessarily dialogic – in the sense that they do not need to take the other into account – and the ones that are necessarily dialogic – namely necessarily addressing the other's

Table 8

Distribution of mean percentages (and SD) for each high-dialogic category according to social setting ($n = 50$).

Social Setting	High-dialogic Category Type					
	%EX	%IN	%MD	%RE	%MD-RE	%HI
Reduced Group	8.8 (6.6)	10.3 (7.4)	4.9 (5.7)	5.6 (7.8)	0.3 (0.7)	29.9 (11.2)
Whole Class	9.4 (5.9)	3.1 (2.9)	5.1 (5.9)	13.0 (9.8)	1.6 (3.6)	32.3 (16)
Z Wilcoxon	-0.5	-5.6	-0.044	-4.9	-3.08	-1.5
p (2-tailed)	ns	.001	ns	.001	.001	ns
Effect size	–	0.78	–	0.69	0.43	–

perspective. For the complete validation process of the coding scheme see Macagno et al. (2022).

This distinction between "low" and "high" dialogic moves further allowed us to identify when, how, and why students' dialogicity manifests the most, as part of the dialogue-intensive learning programme, implemented in five European countries (UK, Portugal, Spain, Cyprus, and Germany).

5.1. When and how does students' dialogicity manifest the most?

Through analysing students' discourse moves at the beginning (Session 3) and later on (Session 8) during the dialogic learning programme, we found that, overall, two of the five moves that were pre-defined as high-dialogic showed a statistically significant increase. These moves were *Metadialogical* and *Reasoning*. This finding implies that the time of students' engagement in dialogue-intensive activities may positively relate to their skill to be dialogic with the teacher and with each other. Other studies have confirmed a similar positive and timely effect of dialogic or argument-based teaching on students' capacity to reason (e.g., Kuhn, 2018; Osborne et al., 2019; Reznitskaya et al., 2008, 2012). However, there are only few findings available concerning the development of Metadialogical abilities manifested in

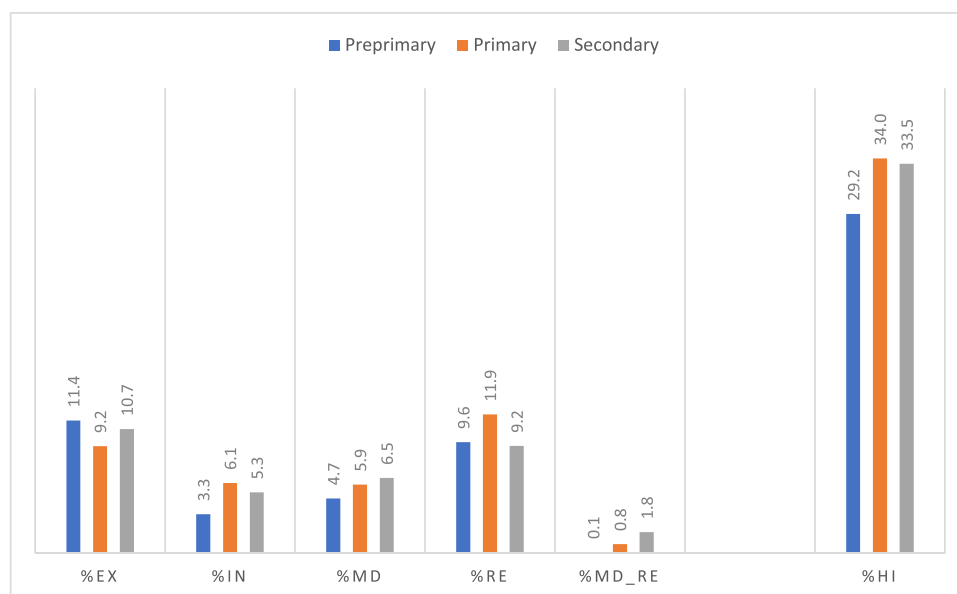


Fig. 8. Distribution of mean percentages for each high-dialogic category according to educational level (only session 8, $n = 44$).

⁴ Note that Al-Adeimi & O'Connor (2021) make a distinction between high and low dialogic talk, but only focusing on teachers.

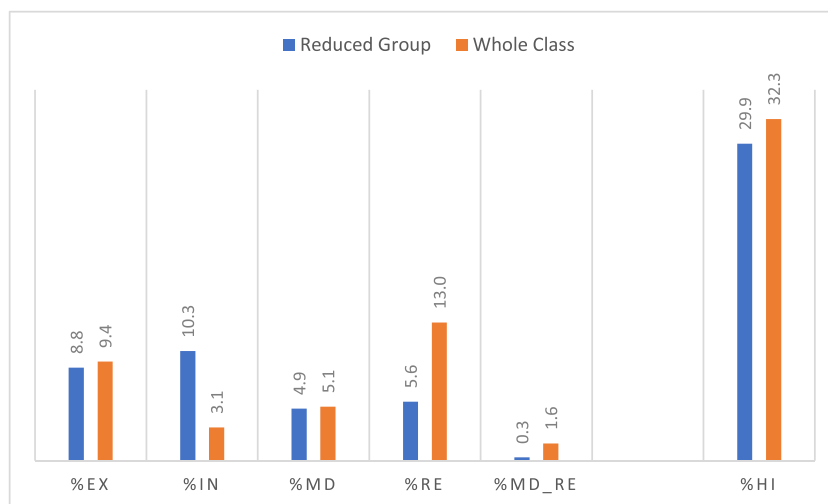


Fig. 9. Distribution of mean percentages for each high-dialogical category according to social setting (n = 50).

Table 9

An example of a high dialogical sequence of a preprimary lesson in session 3.

Speaker	Speech	Code
S8	Because, if you disagree, you might you might suddenly punch someone and then that wouldn't be nice.	RE
T	S8 says, if you don't follow the rules, you might accidentally - did you say 'accidentally'?	MD
S8	Yeah.	AC
S1	I agree because, if the teacher tells you something to do, you must do it.	RE
S12	Cos, you know, on the street you have rules to not drive fast and, if you drive fast on the road, you might get a ticket.	RE
S19	Uhm uhm If you don't follow the rules, then you just, if you don't follow the lights, uhm then you then you get a ticket.	EX
T	Thank you, S19. Anyone else in the agree camp? S5, did you agree? Tell me.	IN
S5	{UNCLEAR} If you have your lights on when you're driving, you're disobeying the rules.	ST
T	If you have your lights on when you're driving, you're disobeying the rules?	IN
S23	But how will you see at night?	RE

Table 10

An example of a high dialogical sequence of a preprimary lesson in session 8.

Speaker	Speech	Code
T	What is home?	MD
S	[I think home means {unclear} really nice people].	MD
S5	That you live in.	MD
T	What is home? Somewhere you live? OK. I'll write that in here. (Writing) Some [...] where you live. S33.	AC
S33	It's somewhere safe.	MD
S23	It's where we sleep.	MD
S19	It's somewhere you buy it.	MD
T	You can BUY your home. OK (writing). [...] S16.	AC
S16	It's where you have Christmas.	MD
S21	It's somewhere where you're friendly with?	MD
S8	It's somewhere where you can feel calm and relaxed and like no bad things can happen to you? [...]	MD
S1	I think it's where - it's where you have no worries.	MD
S11	Uhm it's it's where you could eat food.	MD

discourse. Our study shows that through a brief (5 sessions) exposure to activities aiming at dialogue and argumentation goals, students' capacity to reason at a "meta" level regarding their own discourse and the process of dialogue per se increases.

Looking separately at the three age groups of our study participants, namely preprimary, primary, and secondary students, we found that the

Table 11

An example of a high dialogical sequence of a preprimary lesson in session 8.

Speaker	Speech	Code
S33	I think he blew the trumpet so people could hear and go to his world and then take him to the to the other earth {because} he wanted to go on it.	RE
T	Right, you disagree or agree with S11 about the trumpet?	IN
S8	I disagree with S23 because I think he already has his home on the moon, because I could see he was eating breakfast and all the things that listed there in the first thing that we did, that's what is home. So I think actually the moon is - he calls the moon earth.	MD_RE
S12	Yeah, but I disagree with S1, 'cos he was [crying]- and then he was blowing the trumpet to the earth.	RE

Table 12

An example of a high dialogical sequence of a preprimary lesson in session 8.

Speaker	Speech	Code
T	Well, why was he on the MOON? Do baboons come from the MOON?	IN
S31	They only live in the zoo.	ST
T	ONLY in the ZOO?	IN
S21	Some animals live in parts of Africa or North America or sometimes Australia or the South Pole, the North Pole or Antarctica or Arctic, and they are all WILD ANIMALS. So they don't just live in zoos.	MD_RE
S12	Also dogs don't need owners, some dogs are wild dogs.	EX
S12	Cos hyenas are dogs and they live in the desert.	RE
S23	Oh, and I'm just gonna add onto S12's - and also wolves. So dogs are like wolves but they're a bit smaller than wolves and they're not - and they're not in the wild, dogs.	EX
S19	They are. They're pets.	EX
S12	There's some - there's some animals are - like they're different and they're called different, but they're the same type. Like a tIGER is a big cat.	EX
T	OK. So that's great. You guys are so full of FACTS and information. I'm so impressed. But what about my little BABOON ON THE MOON? How did he get there? Why is he there? S1.	IN
S1	It's just a little film! (laughing)	MD
T	It's a - yes but why? Why did he film him there?	IN
S1	They were just ACTors.	MD_RE

overall difference between Session 3 and Session 8 described above was mainly due to preprimary students, whereas for the primary and secondary students no significant increase was identified. This lack of significant progress between primary and secondary students may imply

considerations on the ways dialogicity is fostered amongst adolescents, with an urgent focus on more action-orientated approaches, such as the ones interweaving literacy programmes with active citizenship initiatives (e.g. Koudelka, 2021), or the ones relating dialogue to civic issues that directly matter to adolescents (such as the guns' issue in Mirra & Garcia, 2022). If motivation was indeed a hindering factor for the participant adolescents, we may consider including an action component in the future, more related to society and its facing problems than the cultural artefacts' creation part of our study.

To further explore the relation between students' age and their dialogic behaviour, we separately looked at Session 8, which functioned as our cross-sectional lesson plan (see section 3.3). We found a consistent increase along with age when it comes to Metadialogical reasoning. Finally, when we identified the social setting as our independent variable, we found that overall students behaved more dialogically when they were engaged in whole-class discussions than small-group discussions. We found that this was particularly the case with the *Reasoning* and *Metadialogical reasoning* categories. However, *Inviting* moves were more frequent in small-group discussions. In the section that follows, we will provide some possible explanations for these findings.

5.2. Why does students' dialogicity manifest the most?

5.2.1. Relation between age and metadialogue

Metadialogue is an important aspect of metadiscourse (Latawiec, Anderson, Ma, & Nguyen-Jahiel, 2016), which in turn is an essential manifestation of metacognitive development (Tang, 2021). Although studies on the early emergence of metacognition situate it between 3 and 5 years old (see Kuhn, 2000; Whitebread, Bingham, Grau, Pino, & Sangster, 2007), the limited existing evidence on metadiscourse situates it at the beginning of the school life (grades 1 or 2) (Resendes, Scardamalia, Bereiter, Chen, & Halewood, 2015), and only after it is intentionally scaffolded (see, for example, Köymen & Tomasello, 2018; Arvidsson & Kuhn, 2021). Our study showed the appearance of metadialogue and its more sophisticated form of metadialogical reasoning already from the preprimary school level; in addition, these were the two discourse categories that increased with age, as shown by our analysis of classroom discourse around the cross-sectional lesson plan "Baboon on the moon." What do these findings tell us about the nature and importance of metadialogue?

From a pedagogical perspective, the early emergence of Metadialogical moves amongst our study participants may imply that, in the right context, students from the early age of five years old can engage in "discourse about discourse," viewing the discourse (or text) as an object of enquiry (Resendes et al., 2015). In our corpus, it was possible to distinguish between two types of metadialogical discourse: the first concerns the abstraction of some conceptual properties that apply to a category of objects (linguistic metadialogical); the second refers to the capacity of distinguishing between a text and the discourse about the text. In both Sessions 3 and 8, preprimary students were exposed to comparable dialogic tasks, namely interpreting a text, and reflecting on some basic concepts, such as rules and freedom (Session 3) and home (Session 8). However, in Session 8 students replied to the teachers' prompts in much different ways from Session 3, as illustrated in Tables 10–12.

Of course, for this emergence to take place, a scaffolding environment was necessary (see also section 6.2.3). As almost all preprimary dialogic discussions took place in whole-class settings, the importance of concrete prompts and structures for such metadialogical moves to emerge is not to neglect. The same importance is also highlighted by studies with older children and adolescents. For example, Sutherland (2015), in her study with 13–14-year-olds, showed that teachers' scaffolding in form of metadiscoursal reflection resulted in changes in the use of a more tentative language from part of the students (e.g. it *might* be like this, *could* it be that?, etc.), permitting knowledge to be contested. The fact that similar scaffolds may have an impact from a much

earlier age than the one that is usually studied is promising for future research in metadialogue as a pedagogical tool.

From an educational psychology perspective, our findings about the early appearance of metadialogue, and its gradual increase along with age, seem to confirm the Vygotskian view that metacognition and metadiscourse have similar regulative functions, and, therefore, "as metacognition is often activated through a self-commentary of one's ongoing talk and action, it tends to occur naturally with metadiscourse" (Tang, 2021, p. 12). This idea has at least two implications: first, if metacognition is present since the preschool years, as it is broadly claimed, then the same is possible with metadiscourse; and second, the more individuals are exposed to social discourse activities, the more metacognitive and metadiscursive behaviours are expected. Both implications were confirmed by our study.

5.2.2. The impact of the lessons' structure

The structure of the lessons could possibly explain certain findings, especially those related to the *Inviting* category. One of the findings suggests that students' use of inviting decreases over time and this finding is especially true for preprimary students. A closer look at the lesson plans of Lessons 3 and 8 for preprimary classes (see Appendix A) reveals that the activities proposed for the film 'Ant' (Session 3) involves students formulating questions at a greater extent compared to the activities proposed for the film 'Baboon on the moon' (Session 8). The lesson plan for 'Ant' proposes a whole class, "hot seat" strategy (Meskin, Singh, & Van der Walt, 2014) where one student would pretend to be the 'ant boss' and the other students would ask them questions about their actions in the film. Then, the "hot seat" would be repeated, this time with a student pretending to be the 'maverick ant' and the other students asking him questions. By nature, this strategy forces students to formulate their own questions and pose them in whole-class settings. The lesson plan for 'Baboon on the moon' does not involve students in formulating questions. This certainly played a role in the number of invitations formulated on the students' part.

The lesson plans can be considered mostly equal regarding the expectation of the manifestation of the other three high dialogic categories for which we found some significant differences, namely *Reasoning*, *Metadialogical reasoning*, and *Metadialogical*. In particular, the cross-sectional lesson plan on "Baboon on the moon" involved as the main activity for students of all ages (see Appendix A) the definition of "home." For this reason, the Metadialogical move of "defining" was equally expected across all groups considered.

The second relevant finding suggests that students' use of inviting is higher in reduced (i.e., groupwork) settings than in whole-class settings. As studies comparing students' participation in dialogues in whole-class settings and groupwork settings are limited, this finding makes an important contribution. It suggests that when students are offered opportunities to engage in dialogues in groupwork settings, they do take advantage of them by asking each other for information, viewpoints, or action. Nevertheless, this finding should be interpreted with care, as there are various qualities of invitations that students could have used in groupwork settings. Especially with younger age groups, the lesson plans propose groupwork focusing on the development of artefacts (see Section 4.1). Invitations between students, therefore, could have had a procedural purpose.

Although the findings in relation to student invitations should be interpreted with care, they still highlight the importance of balancing whole-class and groupwork activities. The latter provides students with additional opportunities to participate in dialogue. Lesson structure, however, should be taken into consideration so that planned activities increase students' use of dialogic moves.

5.2.3. The need of scaffolding for students' reasoning

One of the findings of the study shows that reasoning in both its forms (simple and metadialogical) emerged mostly within a whole-class format. This finding contrasts with findings from previous studies

suggesting that groupwork might provide better reasoning outcomes. An example is the study by Galton et al. (2009) who explored 11–14-year-old students’ attainment levels in groupwork and whole-class settings and provided evidence for higher level cognitive interactions when students engaged in groups. One hypothesis on why our finding differs from previous studies is that the way in which the lesson was designed might afford for the difference in reasoning. A closer look at Lesson 8 (see Appendix A) for all age groups reveals that both for the whole-group discussion and the groupwork similar questions were provided to be used as prompts for discussion. It is important to note that as a first step the students were invited to discuss the questions in their groups, and then to reflect on their responses during a whole-class discussion. This might suggest that the groupwork served as a safe space for students to share ideas, without the presence of the teacher, and then reflect on their ideas with the support of the teacher during the whole-class discussion. During the whole-class discussion the teacher is involved in important actions that include amongst others the diagnosis of student talk (understanding what students say) and responsiveness (adapting pedagogical strategies to address student needs) (Smit, van Eerde, & Bakker, 2013). During the whole-class discussion teachers can potentially support students to compare different views, reflect on their reasoning and reconcile different perspectives (Mercer, 2004), something that does not happen during group work. An example of teacher scaffolding during whole-class discussions and the different prompts used can be seen in the excerpt shown in Table 12, where the teacher starts from a general question (“Do baboons come from the moon?”), to transform it into a challenge (“Only in the zoo?”) and then to a justification request (“How did he get there? Why is he there?”). Implications from this finding include examining in detail the prompts used during whole-class discussions to understand the type of questions that can scaffold students’ reasoning.

5.3. Contributions, limitations, and future research

To conclude, this study showed that within a relevantly short period of time (i.e., five sessions), students from 5 to 15 years old and from five different countries benefitted from a learning programme grounded on dialogic and argument-based teaching methods. In particular, these

benefits were more evident in younger students and relative to reasoning and metadialogical reasoning behaviours, mostly in whole-class discussion settings. Moreover, the manifestation of metadialogical reasoning was significantly different across the three age groups, with the elder groups’ metadialogue being more evident. These results show the importance of scaffolding as part of both the lesson’s structure, or pedagogical framing thereof, and teachers’ capacity to implement it in meaningful and constructive ways that increase students’ dialogicity. In addition, more research is necessary to define types and functions of metadialogical moves, given that research has so far focused on meta-language (e.g., Iddings, 2021) without specifying its uses within a dialogic context.

Certainly, the study also bears several limitations. For example, neither participants’ cultural background was taken into consideration as a variable, nor teachers’ previous experience with dialogic/argument-based teaching programmes. Research suggests that classroom’s “culture” (not only related to the ethnical dimensions) may be an important aspect to take into consideration when studying dialogicity (Cui & Teo, 2021). The importance of teachers’ role also emerged as one of the possible factors influencing students’ dialogicity, as shown by the differences between whole-class and small-group discussion settings concerning the frequency of Reasoning and Metadialogical reasoning. This finding is in line with recent research in critical literacy pedagogies highlighting the role of critical questions that scaffold students’ reasoning and dialogic participation (e.g., Gibson, 2018). A better understanding of what types of scaffolds may result in what types of dialogic moves from part of the students is necessary, for concrete pedagogical guidelines to emerge.

Declaration of Competing Interest

The authors have no relevant interest(s) to disclose.

Data availability

Data are already available in a Data in Brief article (see here: <https://doi.org/10.1016/j.dib.2021.107518>).

Appendix A. The learning programme lesson plans for Session 3 and Session 8

Lesson Overview Session 3		
Cultural text	Ant (2017)	
Text creator	Julia Ocker	
Length of film	03:37 minutes	
Age	Preprimary	
Preparation for the lesson	You will need a rope to act as a continuum; small notes for children’s names; large paper and art materials for the cultural artefact. If possible, arrange the room so that children can sit in a circle and can easily turn to work in 2 s/3s	
Theme	Living Together	
Sub-theme	Democracy: Giving citizens the opportunity to participate directly in both procedural and social dimensions of decision making.	
Success indicators	Dialogue and Argumentation	I can listen to others and respect their ideas (tolerance).
	Cultural Learning	I can examine how democracy allows everyone to have a voice and the ability to change things.
Lesson Procedure		
Share the film	Introduce the Talking Point - ‘You must always follow the rules’ Represent a continuum on the ground using a line or rope. One end labelled ‘agree’ one end labelled ‘disagree’. Children place a note with their name on to show their initial response to the Talking Point. Introduce and watch the film <i>Ants</i> . Repeat the Talking Point - ‘You must always follow the rules’ Invite the children to offer their initial responses	
Activity to stimulate thinking	Whole class hot seat Arrange the children to sit in pairs or threes. Model being ‘the boss’, blowing whistle and miming instructions e.g. pointing with a cross face. Give the children time to think of things they would like to ask the ‘boss’.	

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Lesson Overview Session 3	
Ideas for whole class / group discussion	e.g. <i>Why did you feel so cross?</i> Children ask their questions and the 'boss' gives a response. Repeat the activity with the 'maverick' ant in the hot seat (choose a child to play the role) e.g. <i>Why didn't you follow the rules?</i> Share the D&A objective/indicator and ask <i>how can we show we are listening?</i> If possible, seat the children in a circle. Tell them that when they wish to speak they should hold out their hand in front of them and the speaker can decide who follows their response. Repeat the Talking Point <i>'you must always follow the rules'</i>. Invite children to respond to the Talking Point initially and then to each other. All responses must begin with <i>'I agree' or 'I disagree'</i> Return to the rope continuum. Ask the children to consider their response to the Talking Point by moving or not moving their name on the agreement continuum.
Reflection activity	Ask the children to reflect on if they changed their mind and why?
Cultural artefact	In-lesson: Ask the children in groups to draw something that they can change about their own behaviour to contribute to the classroom being a better place. OR Beyond-lesson: Turn these into more elaborate designs to be displayed on a class board. In either case ask the children to describe and explain what they have created and make a note of this so that it can be shared on the online gallery next to their work.

Lesson Overview Session 3	
Cultural text	Papa's boy [Isan Poika] (2010)
Text creator	Leevi Lemmetty
Length of film	03:00 minutes
Age	primary
Preparation of the lesson	Make sure that your classroom setting is organised in a way so that your students can work in small groups. Prepare some A3 cardboard paper for the posters. Prepare some A4 sheets of paper for the comic strip.
Theme	Living Together
Sub-theme	Equality: Actively seeking to achieve the state of being equal, especially in status, rights, or opportunities.
Success indicators	Dialogue and Argumentation I can respect others' contribution and arguments during a class discussion (this develops from the previous lesson). Cultural Learning I can reflect on issues of family tolerance.
Lesson Procedure	
Share the film	Introduce the film you are about to share with your class and ask your students to think about the following questions, while watching this film: What do you think about the mouse (think of its hobbies, behaviour, clothes and attitude)? Can you see any elements of being different?
Activity to stimulate thinking	Identify elements showing being different/diversity through the development of the story (e.g. papa mouse's clothes, little mouse's clothes) Ask students to discuss the following in their groups and then share in whole class discussion: <i>"What are the father's feelings/emotions in different parts of the story? How do you know?"</i>
Ideas for whole class/group discussion.	Introduce the D&A objective/indicator: "I can respect others' contribution and arguments during a class discussion." Then ask your students to work in their groups in order to discuss the following talking point and prepare a poster with five bullet points supporting their opinion regarding the talking point below using examples either from their experiences or the film. Each point should not be too long but you need to explain that it should state their opinion and argument clearly. Remind the students that all opinions and ideas should be respected. Talking point: <i>"We should not suppress our needs and dreams in order to follow social stereotypes but we should stay true to ourselves."</i> Use the following prompt questions to help the students: What can you say about the mouse? Can you see any elements of being different/diversity in the film? Identify elements showing being different/diversity through the development of the story (e.g. papa mouse's clothes, little mouse's clothes) What are the father's feelings/emotions in different parts of the story? How do you know? What are the son's feelings/emotions in different parts of the story? How do you know? Did you notice anything different about the bedroom? Should it be like that? (with boxing gloves?) Did you notice anything different about the boy? Should it be like that? What are the family's feelings at the end of the story?
Cultural artefact	In-lesson: Draw a comic strip showing father's and son's emotions at the beginning, middle and end of the story. Ask the groups of children to write a short paragraph explaining their comic strip, as a caption for the online gallery.
Reflection activity	Ask students to remind their classmates about the D&A objective/indicator. "How do you feel about our objective? Do you think we managed to meet this objective? How did you show your respect to your classmates' contribution and arguments during our discussions? How did your classmates show respect to your contribution and arguments? What can we do in future lessons in order to build on this objective and actively demonstrate that others' contribution and arguments matter and are respected?"

Lesson Overview Session 3	
Cultural text	Excentric City (2014)
Text creator	Béatrice Coron
Age	secondary
Length of book	Leporello (no pages)

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Lesson Overview Session 3	
Preparation for lesson	Bring an A4 or an A3 paper for each group, scissors, and anything else that you think they may need for the creation of a leporello at the end of the lesson.
Theme	Living together
Sub-theme	Celebration of diversity: Celebrating cultural differences. This includes learning to know one's own culture, appreciating it and developing one's own cultural identity.
Success indicators	Dialogue and Argumentation I can negotiate meaning by building on the ideas of others (inclusion). Cultural Learning I can demonstrate how to promote respect for others. I can understand diversity.
Lesson Procedure	
Share the book	Ask students to sit in the groups they formed in the last two lessons. Consider changing the coordinator of the group to give everyone the opportunity to coordinate. Share D&A objective/indicator and remind the ground rules from Session 2. Share the book with the class. Ask students: "What is the book about? What is it depicting?"
Activity to stimulate thinking	Give students the following Talking Point: "We are all human, but with different life experiences. Have a short whole class discussion."
Ideas for whole class / group discussion	Ask students to discuss in groups the question from the previous activity. Use the following prompt questions to support group discussion. Prompt Questions: Where are the differences between different humans? What different life experiences can be identified in the book's stories? Ask the group coordinators to take notes of the discussion. Ask the groups to present their conclusions to the whole class. Have a discussion.
Reflection activity	As a final conclusion, remind your students of the cultural learning objective/indicator and pose a final question: "What is diversity based on what we discussed?" Ask students to reflect on how their initial response has changed. Make sure at least one person from each group has a turn.
Cultural artefact	In-lesson: Ask each group to be inspired by the book and create a leporello with a sequence of sketches representing their own everyday-life culture. Ask children to write a short paragraph explaining their choices as a caption for the online gallery. This will be the cultural artefact for the lesson.

Lesson Overview Session 8	
Cultural text	Baboon on the Moon (2002)
Text creator	Christopher Duriez
Length of film	06:00 minutes
Age	Preprimary
Preparation for the lesson	Small notes (e.g. post its) Print and cut out jigsaw pieces
Theme	Dispositions Being European
Sub-theme	Empathy: Empathy has been defined as 'what happens when we put ourselves into another's situation and experience that person's emotions as if they were our own' (Lipman 2003, 269). Empathy includes mutual understanding. Belonging: A means of conceptualising membership in shared communities (eg families, schools, clubs) or a feeling of belonging to a community
Success indicators	Dialogue and Argumentation I can build on ideas. Cultural Learning I can reflect on the concepts of 'belonging' and 'home' and what these might mean for people.
Lesson Procedure	
Share the film	Ask children "What is home?" Ask the children to write down one idea on a paper and stick them on the board at the front of the class Watch the film, encourage children to listen carefully to the different sounds in the background - talk about these. Are they sounds from the moon – or from Earth?
Activity to stimulate thinking	After the film ask children: <i>What do you think the film was about?</i> <i>Is the baboon at home? Where does he feel he belongs?</i> Ask children to answer the question and explain why they agree or disagree Make links to the film that link to children's ideas
Ideas for whole class / group discussion	Whole class discussion. Introduce D&A objective/indicator: <i>I can build on ideas.</i> Talk about what that might mean as they link between the ideas of each other. Introduce prompts such as <i>'building on what X has said...' or 'I agree with X and I'd like to add that.'</i> Look at the children's ideas on the board from the pre-task <i>'what is home?'</i> Discuss with children how the word 'home' can mean different things to different people. Make connections to the image of the house in the film and ask <i>'Is the baboon at home? Where does he feel he belongs?'</i> Ask children <i>'What is home to you? Where do you belong?'</i> Put children in pairs to take it turns to talk about the question. Ask children to feedback their ideas.
Cultural artefact	In-lesson: Hand out the jigsaw template (below) and ask each child to draw a picture on the puzzle piece <i>'What does home mean to you?'</i>

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Lesson Overview Session 8	
	Ask children to sit in a circle with their drawing and add their puzzle piece to form one large puzzle. Children talk about their drawing giving reasons to their drawing (Make a note of these to upload onto the platform). OR Beyond-lesson: Create a larger more elaborate piece of art using different materials to present ideas around the saying ‘home is where the heart is’ Ask the children to describe and explain what they have created and make a note of this so that it can be shared on the online gallery next to their work.
Reflection activity	How have different viewpoints helped the children to understand the difference between a house and a home?

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Lesson Overview Session 8	
Cultural text	Baboon on the moon
Text Creator	Christopher Duriez
Length of film	6:00 minutes
Age	secondary
Preparation for lesson	This lesson is expected to take two periods (i.e. 80–90 minutes) Print out the template from the appendix (one for each group of students). Bring some additional pieces of paper and some modelling clay for the cultural artefact.
Theme	Dispositions
Sub-theme	Being European
Success indicators	Empathy: Empathy has been defined as ‘what happens when we put ourselves into another’s situation and experience that person’s emotions as if they were our own’ (Lipman 2003, 269). Empathy includes mutual understanding. Belonging: A means of conceptualising membership in shared communities, (e.g. families, school, clubs, localities) or a feeling of belonging to a community. Dialogue and I can listen to others and respect their ideas. Argumentation I can empathise with divergent viewpoints. Cultural Learning I can understand the impact of life conditions in intercultural relationships and reflect on “home” as a concept.
Lesson Procedure	
Share the film	If you are in a computer lab setting, ask students to sit in groups (the number of groups should have been agreed with the other teacher prior to the lesson). Give numbers to the groups (i.e. Group 1, Group 2, Group 3 etc). Show the film to the students. After they have watched it ask them: “What do you think is the meaning of the film?”
Activity to stimulate thinking	Now have a discussion about the generic subject “What is a home?”. Eventual questions/sub-themes to be handled: nostalgia; empathy; home as a concept; the meaning/emotional burden of the music; the origins of the main character of the film; what the moon represents, etc. You can use the following prompt questions: Where does Baboon come from? Why is he on the Moon? Does he like it being there? What would you do if you were Baboon? How would you feel? Where is Baboon’s home? On the Moon or on Earth?
Ideas for group discussion	Share the D&A objectives/indicators by writing them on the board. Ask your students to reflect on ways in which they can show respect and empathise with others ideas. Each group of students can work to create a mind map of ideas in order to show respect to others’ opinions and ideas that can be used in the next activity. Ask them to share their mind maps with the other groups in-class. Ask students in their groups to choose a sequence of the story that is representative of the meanings of the film. Ask them to draw a wordless narrative choosing three moments/excerpts of the film, presenting its plot. (See the template at the end of the lesson plan.) Highlight that their narratives should reflect the most important theme(s) of the story. Once the groups have completed their work, they present their narratives to a whole-class discussion explaining which theme arising from the film they consider more important and why.
Cultural Artefact	In-class discussion: Once the exchange of narratives is complete, return to the question of the beginning “What is a home?” and encourage your students to think: “Is home the same for different people? What does it mean to have a home and why is it important? What could be some reasons that threaten someone’s home or sense of belonging?” In-lesson: In order to prepare your students for the cultural artefact ask them: “What is home for you? How would you feel if you were in Baboon’s position and had to live away from your home? Would it be anything that you could take with you to remind you of your home?” Ask your students to design a 3D object, which represents home and belonging for them, using modelling clay and link their objects with images of “home” that they will draw, in order to show how their object represents home for them. OR Beyond-lesson: Depending on the availability of time you have, you can ask your students to extend this artefact into a wordless short film with the addition of music and sound.
Reflection activity	In either case ask your students to write a short paragraph explaining their choices as a caption for the online gallery. Remind your students of the objectives/indicators of the lesson and ask them: “How do you feel about the objectives of this lesson? Do you think we managed to meet them? How else could you show respect and empathise with others’ ideas?”

Appendix B. The inter-rater reliability scores per coding category

Code	Portugal Agreement	Cohen's Kappa	Krippendorff's Alpha	Spain Agreement	Cohen's Kappa	Krippendorff's Alpha	Germany Agreement	Cohen's Kappa	Krippendorff's Alpha	All 3 countries Agreement	Cohen's Kappa	Krippendorff's Alpha
Not-Coded	.93	.76	.76	.94	.61	.61	.99	.95	.95	.96	.84	.84
NT-MA	.92	.74	.74	.93	.53	.53	.97	.82	.82	.95	.73	.73
NT-ST	.81	.48	.48	.85	.51	.51	.94	.8	.8	.89	.65	.65
NT-AC/DC	.93	.68	.68	.9	.58	.58	.98	.92	.92	.95	.78	.78
NT-EX	.95	0	0	.95	.69	.69	.97	.84	.84	.96	.72	.72
NT-IN	.96	.86	.86	.92	.82	.82	.95	.85	.85	.95	.84	.84
NT-MD	.97	.23	.27	.95	0	.03	.97	.71	.71	.96	.52	.52
NT-RE	.95	.61	.61	.87	0.1	.01	.97	.82	.82	.94	.6	.6
NT-MD	1	-	-	.99	0	0	1	1	1	.99	.67	.67
Relevance	.78	.42	.4	.82	.36	0.35	.99	.99	.98	.9	.7	.7

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