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Children's Interactions in Ability-based Groups in a Primary Classroom

Samyia Ambreen & Jean Conteh
University of Leeds, United Kingdom

Abstract: The article reports data from an aspect of the study which aimed to study the nature of children's interactions and their perceptions of ability-based groups in a primary classroom in England. Previous studies on ability-based group have mainly used quantitative research designs to study children's interactions and appeared to award less opportunities to children to talk about their experiences of working in ability-based groups. This study has used qualitative ethnographic research design to study children's interactions and their perceptions of working in ability-based groups. Children's interactions were studied using participant observations and debriefing activities were used to elicit children's perspectives on their recorded interactions. Furthermore, informal conversational interviews were also used to hear children's perspectives on their experiences of working in ability-based groups. The article only focuses on data related to children's interactions, which revealed that children appeared to be cooperative, non-cooperative and competitive towards their peers in ability-based groups. We noted that children interpreted the group structure and learning task distinctively when deciding whether or not to work with others in groups. In some cases, children exhibited gender-biased attitudes while interacting with their peers. Children showed cooperative attitudes towards same-sex peers and non-cooperative attitudes towards other-sex peers. The findings highlight the importance of fully understanding children's contexts and their dynamic influences on children's interactions during their routinely organised ability-based group work. These also highlight the importance of listening to children's perspectives while studying their interactions in ability groups in the mainstream primary classrooms.

Keywords: *Ability-based groups; Children's interactions; Ethnographic research, Primary classrooms*

Introduction

The article reports data from an aspect of a doctoral research project conducted at University of Leeds. The main project aimed to explore the nature of children's interactions and their perceptions of working with others in ability-based groups in a mainstream primary classroom in England. Group work plays an important role in enhancing children's cognitive and social learning (Galton and Hargreaves, 2009). In England, group work in primary classrooms is mainly organised in the form of fixed and mixed ability groups following the recommendation of the government's 1997 White Paper (Baines et al., 2003, p. 22). Using ability grouping, children are placed into mainly three (i.e. high, average, and low) ability groups based on their attainment in different subject areas. Children are likely to work in fixed (homogeneous) ability groups in some subjects (i.e. Mathematics and English), whereas mixed (heterogeneous) ability groups are organised in Science and other subjects (Bianes, 2003). Latest figures as reported by Dracup (2014) show that almost three-quarters of children in secondary schools are taught in ability groups for Maths (71%), nearly two-thirds for Science (62%) and over half for English (58%) (Dracup, cited in Francis et al., 2016).

The use of fixed ability grouping has been discouraged by some educational researchers (Hallam, 2012; Marks, 2014; Hargreaves, 2019; Holmes, 2019) as it delimits opportunities for children to enjoy the cognitive and social benefits of group work despite sitting in groups for most of the time during their lessons. Some researchers such as

(Gomoran, 2002; Saleh et al., 2007) suggest the adoption of mixed ability grouping, while considering it inclusive for all children with their different abilities. However, only changing the group structure from fixed to mixed ability does not seem to address the problems associated with fixed ability grouping (Francis et al., 2016). Group work in mixed ability groups requires careful consideration on the part of class teachers, requiring them to design appropriate tasks to satisfy everyone's needs in the groups (Taylor et al., 2016). Hence why despite encouraging research evidence, Taylor et al's study with secondary school teachers identified that teachers express fears and concerns about replacing ability/attainment grouping with mixed ability group work (Taylor et al., 2016). Teachers consider mixed ability grouping difficult and unconventional, while also paying heed to their schools' commitment to accountability which mainly focuses upon children's attainments.

The debate on the best grouping strategy is complex (Francis et al., 2016) and research continues to explore as how children should be grouped in the classrooms to support their learning through social interaction (Taylor et al., 2016) as proposed by the constructivist theories of learning (Woolfolk et al., 2016). The findings of previous research on group work (Howe et al., 2007; Baines et al., 2009; Webb et al., 2009; Gillies et al., 2014), particularly on ability grouping (Boaler et al., 2002; Hallam and Ireson, 2007; Marks, 2014) profoundly guide researchers and practitioners as how to effectively organise group work among children. However, such research prioritises adults' perspectives while using quantitative research methods and provides fewer opportunities to children to talk about their experiences of working in ability groups (Marks, 2014; Hargreaves, 2019). Children's perspectives on their learning experiences are important to be listened to as these help researchers and practitioners to gain insider knowledge (Mayall, 2008) and design policies and practices (James at al., 1998) which best meet children's learning needs. In the present study, we studied children's interactions using unstructured participant observations and used qualitative methods such as debriefing sessions and informal conversational interviews to elicit children's responses on how and why children interact with peers differently under different grouping structures. Unlike the other studies, we did not aim to identify which grouping structure (i.e fixed or mixed) favour children's cognitive and social learning through interaction. In this small-scale exploratory study, we intended to explore what could be the nature of children's interactions and how do it get changed under different ability-based group structures and why? What children think about their interactions with other peers in different ability-based groups and what influence them to think so?

Literature Review

Group Work and Children's Learning: Background

For many years, group work has been used widely to enhance children's participation in educational settings (Galton & Hargreaves, 2009). Due to its recognition as an effective educational strategy, numerous research studies have highlighted its role in increasing children's cognitive and social understanding (Howe et al., 2007; Baines et al., 2009; Webb et al., 2009; Gillies et al., 2014). Group work helps children to stimulate their conceptual knowledge by sharing ideas with their peers (Baines et al., 2008). Questioning among group members stimulates discussion and serves as a cognitive prompt, or intellectual scaffolding (King, 2008) which enhances children's comprehension of

the learning activity (Ross, 2008). Group work is also considered useful for developing children's social and communicative skills (Battistich & Watson, 2003). It develops children's pro-social skills and encourages them to reach common goals through effective interaction and collaboration (Gillies, 2003, p. 36).

Group work in educational settings is organised in numerous ways (Galton & William, 1992) to achieve the above-listed benefits. Some of the common forms of group work include seating, working, cooperative and collaborative groups. The cooperative and collaborative groups are predominantly favoured in the educational system as they enable children to interact and learn from others' experiences and knowledge capabilities (Blatchford et al., 2003); whereas the purpose behind seating and working groups is to save lesson time by introducing the topic, giving directions, and guiding activities for five or six groups of children rather than for 30 individuals (Galton & Williamson, 1992). In further discussion of group structure, Roseth et al. (2008) suggest using the cooperative group structure as it helps children to develop positive social interdependency by creating favourable conditions for working with others in groups. According to the authors, children compete with one another by developing negative or no interdependency as a group under competitive and individualistic group structures. In discussing effective group organisation, Gillies and Boyle (2008) and Gillies and Haynes (2011) have highlighted the important role of the class teacher in assisting children's group work. Similarly, the appropriate design of learning tasks and lesson activities (Gillies, 2008) and enhancement of children's readiness for group work through training (Baines et al., 2009) have also been regarded as important means of maximising children's learning through group work.

Ability-Based Groups and Children's Learning

The role of ability grouping in children's learning and development is a prominent aspect of discussion in educational policy and research in England (Francis et al., 2016). Fixed ability groups are mainly considered favourable for increasing the academic achievements of children, particularly those with high attainment levels (Gamoran, 2002). Mainly, research evidence does not favour fixed ability groups for children's academic and social development (Marks, 2013; William & Bartholomew, 2004; Boaler, William & Brown, 2000). In terms of academic development, as proved by Boaler et al.'s (2000) four-year longitudinal study, children enjoy fewer learning opportunities in ability-based groups in mathematics classrooms. Children with high abilities felt pressurised to finish the complex tasks, whereas children with low abilities performed at a low level due to working on less difficult tasks while learning the same lesson. The differentiation of learning tasks based on children's assessed performances also generated inequalities among children. Children in the high ability group were known as mini-mathematicians, while children in the low ability group were known as failures (Boaler et al., 2000). Similarly, Hallam and Ireson (2007) engaged 8000 children from 45 mainstream secondary schools in their research to explore their preferences in regard to ability groups. Their study indicated that 38% children in Mathematics, 33% in Science and 23% in English were unhappy and dissatisfied with their placements in ability-based groups.

Children's learning is negatively affected in fixed ability groups, since their abilities are perceived in terms of their speed of learning (Hart et al., 2004). This is reiterated by Hargreaves (2019), who regards ability grouping as a way

of measuring children's performances, an approach which discourages teachers from inquiring about and investing in children's learning. In a longitudinal study, Hargreaves (2019) explored the role of attainment focused schooling in affecting children's perceptions about themselves, as well as the ways in which children respond to these influences. The findings of her study showed that the excessive use of ability groups based on children's attainment in core subjects (i.e. Maths and English) led children to identify themselves as more able if placed in the high ability group and less able if placed in the low ability group.

This approach to learning not only calls attention to the existing differences in children's attainments, but also predicts their future performance (Boaler, 2005), while negatively affecting their well-being and aspirations (Holmes, 2019). Children develop their self-images as more or less able due to remaining in high or low ability groups during their time in school. Their association in low ability groups affects their self-image negatively in other social contexts later in adulthood (Boaler, 2005). Marks (2013) added to the debate by identifying ability groups as negatively affecting children's relationship with their peers. Her study with primary school children found that children do not perceive other children as individuals but as members of high, average, or low ability groups, which affects their relationships while working together as a group.

Until now, research has mainly identified fixed ability grouping as unhelpful for children's learning as it creates academic and social inequalities among children (Francis et al., 2016). However, it is hard to figure out whether ability grouping itself is the main cause of children's failure, or whether some other factors such as children's socio-economic backgrounds, teachers' expectations, pedagogy, lesson designs and children's self-images (Francis et al., 2016) affect children's participation and performances. This highlights the need for further research on ability grouping to help practitioners to implement alternative forms or structures of group work, which favour children's learning through peer interaction (Taylor et al., 2016).

The Present Study

In the present study, we studied children's interactions through ethnographic lens which allows emersion in children's lives to gain insider perspectives on their daily experiences (James et al., 2012). We studied children's interactions using participant observations and considered them as evolving individuals, who shape as well as are being shaped by the social structures around them (Wyness, 2011). To study relationships between children and their environments, we used ecological system theory, which recognises children's interactions with outside social structures (Bronfenbrenner, 1995, p. 188) and divides these structures into five sub-systems (i.e. microsystem, mesosystem, exosystem, macrosystem and chronosystem). According to Bronfenbrenner (1995), children's parents, friends, teachers, peers and neighbours, and social events linked to these individuals, are part of the microsystem. Children can directly influence or become influenced by individuals through a bidirectional relationship in the microsystem. The mesosystem is a combination of two or more microsystems, such as the relationship between parents and teachers or parents and peers, which has a direct impact on children. The third type, the exosystem, is comprised of forces which can influence children but are not directly linked with them, such as a parental

workplace. The macro system contains cultural and societal values that affect children and everyone else in a society. The relationship between children and their surroundings is unidirectional/indirect, which means that children can only be influenced by forces operating at macro level. The chronosystem deals with major life events that take place in children's lives and change their interaction with the above-defined sub-systems such as moving to a different country or the death of a family member or friend (Bronfenbrenner, 2005).

The division of children's environments into sub-systems allows researchers to have a holistic understanding of environmental forces which are linked with children and influence their participation in any social setting (Woolfolk et al., 2013). We found the ecological theory even more useful in this study as we studied children's ability group in an ethnically diverse classroom, which was attended by children from British Asian Pakistani communities (70 per cent), Eastern European communities (20 per cent), and white English communities (10 per cent). Individuals' learning in multicultural educational settings is determined by numerous political, ideological, historical, social, and cultural aspects of their lives (Conteh, 2015, p. 50). So, the use of ecological theory helped us to explore whether children's distinct cultural backgrounds influence their interactions with other peers and their perceptions of group work; in this case within ability-based groups.

To cover the limitation of ecological theory that children are not only dependent on the social structures; we used principles of new sociology of childhood to define children as social actors in this study. New sociology of childhood defines children as active agents of their lives with abilities to construct distinctive meanings of the world around them (James et al., 1998). This conception of children advocates for their active participation in educational research to design educational policies and practices, which are not solely a representative of adults' perspectives on children's learning (James et al., 1998). By adopting these principles as a second framework for our study, we explored how ability-based grouping is interpreted by the children which previous research less likely appeared to investigate. After observing children's interactions, we organised debriefing sessions with children to elicit their thinking on aspects of their interactions. We also conducted informal conversational interviews with children through which we explored their perceptions of working with others in different ability-based groups. The data based on children's informal conversational interview has been published somewhere else. This article only presents data on observations of children's interactions in different ability-based groups organised in the studies classroom and debriefing sessions which were held with children to explore their perspectives on their observed interactions. Thus, the data presented in this article addresses the following research questions:
What could be the nature of children's interactions with peers, during their routinely organised fixed and mixed ability groups?

Can children's interactions with their peers get changed under different grouping structures? If so, how, and why?

Methodology

The data presented in this article form only one segment (observations of children's interactions) of our main study, which was conducted with 27 Year 5 children aged 9 to 11 in one primary classroom in West Yorkshire in England. Children's interactions while in their ability-based groups were discerned through participant observations using an ethnographic research design. Ethnography is literally defined as an approach based on telling and writing authentic stories/accounts of people (Jones, 2010, p. 13). In ethnographic studies, researchers capture the informal behaviour and language of people grouped together for a certain period in schools, communities, and other organisational settings (Madden, 2010). Emphasis is placed on giving voice to the people being researched while noting how ongoing processes are interpreted and negotiated among communities' members, which simultaneously helps researchers to understand the social world around their participants (Jones, 2010).

The main reason for using an ethnographic research design in this study was to make sure that we observed children's interactions thoroughly while further ensuring that we were researching the studied classroom not only as outsiders, but also as insiders and members of the school community (Hammersley & Atkinson, 2007). This closeness led us to observe a full range of activities in which children were engaged in order to note the richest descriptions (Hammersely & Atkinson, 2007) of children and their interactions with peers during their time in school. We were able to describe in detail lesson activities, group structures, learning tasks and other indoor and outdoor school activities in which children took part.

Ethnographic research design places emphasis on the emic perspective (Blommaert & Jie, 2010), requiring researchers to interpret data without pre-determining them under any theoretical framework. It derives theory from the data (Madden, 2017) by focusing on views of the people involved in the research. This design allowed researchers to remain open and gather all sorts of data related to children's participation in group-based learning activities. We remained flexible to incorporate changes in research plans and thus address any dynamic and unforeseen scenarios that might emerge during field work (Madden, 2017). We were also able to present ourselves as learners and listeners to access the honest feelings and thoughts of the participants. Further details on building rapport with research participants and creating an image as trustworthy researchers can be read in (Ambreen, 2017).

Observing Children's Interactions in Ability-Based Groups

Children in the studied classroom were grouped in ability groups whereby those at similar academic levels were placed in fixed ability groups for Literacy and Numeracy lessons. Children at different academic levels were grouped in mixed ability groups for other subjects. Consent was granted by the children, their parents, and their teachers to ensure their voluntary participation in this study. Initially, all children in Year 5 were observed during their routinely organised ability-based group work. After studying all children in all three (i.e. high, average, and low) ability groups, we selected two children from each ability group as a sample for our research, while using purposive sampling. Purposive sampling is a technique of selecting participants deliberately due to their known

qualities (Bernard, 2002). It is a non-random technique for selecting participants; therefore, researchers do not use any theoretical rationale or set of numbers while choosing participants (Bernard, 2002). Within purposive sampling, a maximum variation/heterogeneous sampling method was used to study peer interaction among children from diverse (i.e., high, average, and low) ability groups. The maximum variation method allows researchers to select a range of diverse cases to gain holistic information relevant to the focus of their studies. Based on judgement, researchers select participants with diverse characteristics to ensure that the maximum variability is present in the primary data of the study (Etikan et al., 2016). Keeping the research focus of the study in mind, we wanted to closely observe children in a fixed ability group to note their interaction with children of similar abilities, besides observing the same children in mixed ability groups to note their interaction with children of different abilities. Based on initial observations of all children in the different (i.e. high, average, and low) ability groups, we identified two children from each ability group (i.e. low, average, and high) as key participants of the study as explained in the table below:

Table 1

Participants information

Participants	**Ability Group**	**Age**	**Gender**
Rafique	High	10	Male
Sumaira	High	10	Female
Isma	Average	9	Female
Ahsan	Average	9	Male
Danial	Low	9	Male
Farkhanda	Low	9	Female

Note: The table explains characteristics of the participants selected to be observed in fixed and mixed ability groups

The selected children worked in fixed ability groups during their Literacy and Numeracy lessons, and in mixed ability groups for other subjects including Science, ICT and Art. The recruitment of children from different ability groups helped in getting as many insights on children's interactions and their perceptions of ability-based group as possible. Thus, providing a diverse opinion on their experiences of working in both fixed and mixed ability groups. We used exploratory research design in our study hence why we did not aim to compare children's responses based on their age and gender differences. The information in the above table is presented to explain the characteristics of the participants and was not used in data analysis to proportion children's interactions and their perceptions based on age and gender.

Purposive sampling is a non-random sampling technique and is mainly based on researchers' judgements (Dolores & Tongco, 2007). Therefore, it requires great vigilance on the part of researchers when deciding who will be

selected and how, to ensure that the selected sample is a true representation of the whole population (Bernard, 2002). One way to avoid bias/subjectivity in purposive sampling, as suggested by Bernard (2002), is to know the cultural/research field before selecting participants. Using this principle, the lead researcher worked in the studied classroom as a volunteer support teacher to get to know the participants (children and their class teacher). During the field work, the lead researcher also communicated with the class and support teachers regarding children and their placements in different ability groups in different subjects. These teachers' suggestions served as reflections from key persons of the researched community (Dolores & Tongco, 2007), which helped researchers to choose a reliable person with sufficient knowledge and experience relevant to the focus of the study.

Recording Observations

The formal observations of children's interactions during their fixed and mixed ability group work were carried out from October 2013 to June 2014. We relied on the natural occurrence of data and used open-ended unstructured field notes to keep a record of children's interactions. In the process, notes were taken on the children's actions and conversations, physical settings of the group structure, its composition, and the lesson or activity. Children's verbal and non-verbal expressions and body movements were also focused on. Children's emotions, including any positive and negative responses, were noted, to analyse the nature of their interactions with peers in a particular group. We jotted down this information in note-form and in incomplete phrases in the field. These incomplete phrases and sentences were completed soon after the observations to record most of what had been noticed.

A digital voice recorder was used as an additional device to record children's conversations with other peers during their group work. Consent for digitally recording these conversations was granted by the children themselves, their parents, and the class teacher. At the end, audio transcriptions and field notes were merged to obtain more detailed accounts of the activities that were observed in the research field, as shown below in Figure 1:

Figure 1

Sample of recorded observations

> *Sumaira: Where's my thing gone (**audio recording**) while looking something at the table (**field notes**)*
> *Sumaira: Yeah! This is my page (**audio recording**) taking a page from the table (**field notes**)… you have taken aren't you? (Audio recording) Asking to Numen (**field notes**) Miss he is taking my pages. Miss ….he is copying our work (**audio recording**) (Observations of children's interactions recorded on 12-11-13)*

Notes: Figure explains how written field notes of the children's interactions and their conversations recorded through a voice recorder were merged to make sense of the data

We also conducted debriefing sessions with children to explore their thinking on their observed actions. Two semi-structured interviews and various informal conversations were also conducted with the class teacher to explore her reflections on children's participation in ability-based groups. These interviews and informal conversations with the class teacher were held after observing children's interactions in their fixed and mixed ability groups. We were careful not to reveal the actual (raw) data related to children's interactions with the class teacher during these discussions. We first studied the data thoroughly and asked questions in an anonymised general way without explicitly sharing names of the children and other details of their interactions with peers. The discussions with the class teacher were also useful for further understanding the context of children's group work in which their interactions with peers were observed and recorded.

Analysing Data

The data gathered in the form of descriptive field notes on children's actions and audio transcriptions of children's conversations were imported to NVivo Version 10 for purposes of organisation. At first, thematic analysis was used to seek emerging themes that were important for explaining the nature of children's interactions as recorded in their fixed and mixed ability groups. Thematic analysis involves the identification of themes through careful reading and re-reading of the data while identifying patterns within the data which later become categories for analysis (Rice & Izzy, 1999, p. 258). The repeated and similar explanations related to children's interactions were listed in one category. Indigenous categories, defined as local terms present in the data (Bernard & Ryan, 2010, p. 57) were used to thematise similar patterns related to children's interactions. This way the data extracts were grouped into several loose categories/themes such as blaming each other, not listening to peers, sharing work with others, awareness of ability group, and likes or dislikes of ability group. Later, broader terms existing in the previous literature on group work and children's interactions were used to group data extracts in understandable themes such as children's on-task talk, children's off-task talk, children's cooperative and non-cooperative attitudes towards peers, and gender biased attitudes/behaviour.

Once data extracts were thematised into the above-identified categories, discourse analysis was used to further analyse data related to children's interactions in fixed and mixed ability groups. Discourse analysis is defined as a philosophy of studying language as a social action which creates and represents social phenomena (Dijk, 2011). Language in discourse analysis is analysed not only in the form of spoken words but as a representation of participants' social, institutional, and cultural backgrounds (Gee, 2011, p. 176). There are various theoretical tools and frameworks in the field of discourse analysis which allow researchers to study participants' social worlds through their language/discourses (Gee, 2011). Among these, we chose three analytical tools (i.e. the fill in tool, building things in the world, and the big D discourse tool) from Gee's framework.

The fill in tool requires researchers to add details about physical settings, bodies, eye gaze and movements of the participants, which help researchers to draw out the meaning of what has been said in a setting (Gee, 2011). Using this tool, we mentioned physical settings of the children's group work, including details of their physical place, the

learning task/activity assigned to them by their class teacher, and children's non-verbal expressions and movements while working with others in groups.

The building things in the world tool helps researchers to consider language as a means of building things or performing actions in the real setting. It allows researchers to understand how participants build or re-build actions in the real world by speaking (Gee, 2011). With the use of this tool, we were able to understand the various roles performed by children by focusing on their discourses: for example, when children acted as cooperative or non-cooperative partners. It remained helpful in identifying the particular significance that children were attributing to their actions when talking about their individual work or talking about their placements in high, average, and low ability groups.

The big D discourse reflects the fact that participants do not always speak as individuals, because they are connected to various social and cultural groups. So, individuals' actions represent social and cultural norms that they are affiliated with (Gee, 2011). This tool is also used to analyse participants' identities, roles, and responsibilities, which are specified by the contexts around them and expressed through their languages and spoken words (Dijk, 2011, p. 191). This tool was mainly useful for identifying how the context of children's group work and their belonging to distinctive ethnic group might have motivated children to act in certain ways while interacting with peers in fixed and mixed ability groups in the studied classroom.

Findings

This section discusses data related to children's interactions during their ability-based group work in a primary classroom. It also discusses data recorded in debriefing sessions conducted with children after observing their group work, and interviews and informal conversations conducted with the class teacher.

The observations of the children's interactions in routinely organised fixed and mixed ability groups identified that these interactions remained situational. Children exhibited cooperative or non-cooperative/competitive attitudes towards their peers. The observations showed that there were various elements of the classroom context such as group structure, learning task and teaching strategies which appeared to influence children towards showing cooperative or non-cooperative interactions with their peers in both fixed and mixed ability groups. Children in this study also exhibited gender-biased interactions due to influences from their age group and home environment. Gender in a few cases was observed as a prominent aspect which influenced children in deciding whether to work with their peers cooperatively or non-cooperatively.

We start with the role of group structure to see how it played a considerable part in perpetuating cooperative and help-giving behaviour among the children. We noticed that children exhibited helpful attitudes towards their peers when given the same task to perform under the same ability group structure, as evidenced in the table below:

Table 2

Cooperation among children under cooperative group structure

Farkhanda: Where is the rubber? Saira: I got it (passing it to Farkhanda) After some time… Danial: Give me ruler Farkhanda (she gave it to him). Saira: Copy mine Farkhanda (she gave her work to Farkhanda).

Note: Observations of children's interactions recorded on 16/11/13 at 9:30-10:30

The children were expected to write a biography of a famous English musician, 'John Lennon', in a literacy lesson. They cooperated with their peers by giving and sharing general objects and items: for example, a rubber and a ruler. Children interacted with their group members in helpful ways to fulfil their needs and support their writing task.

We also noticed that due to group structure, children sometimes generated competitive behaviour towards their peers. For instance, on one occasion the children were directed to play numeracy games in pair work. The pair had to choose factors and multiples for certain numbers mentioned on the given sheet and record winning points for each partner on a whiteboard. Both girls (Khuda and Sumaira) were looking for the factors and multiples of 26, when Sumaira appeared to generate some competition, as shown in the table below:

Table 3

Competition among children under competitive group structure

Khuda: There is no more (looking at the sheet). Sumaira: There is. Khuda: Where, come on tell me (passing the sheet to her). Sumaira: (looking at it) I am going to do it … don't wanna [want] lose this game no way. Khuda: Come on girl we need to do more.

Note: Observations of children's interactions recorded on 13/11/13 at 9:30-10:20

The pair were engaged in a shared task. However, Sumaira did not allow her partner to win a point. She uttered: 'I don't wanna lose this game, no way', thus generating competition. Compared to Sumaira, Khuda seemed to display cooperative interaction by using plural pronouns, as in 'Come on girl, we need to do more', which indicated her willingness to continue their work as a shared activity. However, Sumaira concentrated on maintaining her individual success by continually searching for another multiple of the same number (26).

In addition to the group structure, the nature of the learning task, such as its design as an individual task, led children to avoid working with their peers cooperatively. The observations showed that the children refused to accept help from their peers in a Numeracy lesson. Children felt that they were expected to engage in individual work, as they had been given an individual task sheet by their class teacher. Working on individual learning sheets also led children to hesitantly acknowledge mistakes identified by their peers. They did not accept help from their peers to improve their work, as shown in the following table:

Table 4

Examples of non-cooperation among children while working on individual task

[Extract #01) Babar: Why have you written 26? Ahsan: It's partitioning. Babar: It's not partitioning. We are doing division man. Ahsan: No I'm right. Babar: I am telling you how to do it. Ahsan: No I'm doing my own I can do it …. Miss gave me my own sheet. Babar: You can ask me for help … you can ask Miss as well. Extract # 02 Isma: It's not correct, it's 4. Babar: No. It's 3. Isma: 1 time 7 = 7 and then 2 times 7 = 14 (continuing) then you take 4 away from 8 so its 4, yes Babar. Babar: No, it's 3, no it's 3. I know and I am right.

Note: Observation of children's interactions recorded on 21-10-2013 at 10:05-10:40)

In the first instance (see table # 4), children argued over their answers and did not accept each other's feedback in the same group. By ignoring his peer, Ahsan refused to accept his fault and denied replacing 36 with 26 to correct his answer. He emphasised that the class teacher had given him his own (individual) work, and claimed that, therefore, he did not need to interact with anyone or receive help from others. In the second instance, children refused to accept their peers' feedback to correct their work and did not want to be guided by their colleagues. Isma acted as a helpful peer by explaining the entire division sum to Babar. She elaborated her answer to enable Babar to understand his mistake. The question was 88 divided by 7, and Babar wrote w12r 3 as an answer. Isma intervened and corrected his answer. She explained that there should be 4 as a remainder, and not 3. However, Babar refused to listen to her suggestion to correct his mistake, and emphasised his incorrect answer continuously, stating, 'No, it's 3, no it's 3', and 'I am right'.

Children's interactions as presented above (see tables 2-4) seemed to be dependent on the cooperative or competitive group structure, as well as on the nature of the learning task. However, this was not so in all cases. On some occasions, as we observed, children did not take influence from the group structure and learning task to be cooperative with their peers' in their group work. We implemented the Discussion Wheel Activity (a picture of a wheel with small boxes to encourage children to think, share and jot their ideas down on the provided worksheet in groups) in the studied classroom to generate task-related discussions among children and so to illuminate their competitive and non-cooperative behaviours. This was organised in one Literacy lesson, in which the children were engaged in mixed ability group work. Children were instructed to discuss 'The confusions of Lady Macbeth when she convinced her husband to kill King Duncan' in their groups. They were told to share, discuss, and learn from one another while working on the activity. We observed that the children's competitive interactions were not altered by changing their group structures. Children continued to prioritise competitiveness by highlighting their individual contributions, as shown in the table below:

Table 5

Competition among children under cooperative group structure

Amaad: Two boxes each. Hassan: You write here. Shoaib: Where shall I write? Amaad: I want to do more. Isma: I will write with pen (giving sheet to another girl) you choose your colour. Write with your own colour.

Note: Observations of children's interactions recorded on 06/05/14 at 11:30-12:00

The extract shows that the children did not work together as a group, regardless of the given instructions and provision of material with which to work collaboratively. They did not merge themselves as a group but maintained their individuality and competitive nature. We noticed that children did not negotiate or share ideas with others to work as a group on the given task but divided the boxes among themselves to write down their individual views in separate boxes. They also used different colours to differentiate their points from each other's.

In addition, children appeared to suspect their peers of copying their work, as observed in the studied classroom. In one example of mixed ability group work in a literacy lesson, a child from a high ability group blamed her peers for stealing and copying her work, as shown in the table below:

Table 6

Mistrust among children

Sumaira: Where's my thing gone [while looking something at the table], Yeah! This is my page [taking a page from the table]…. you have taken haven't you? [asking to Numen] Miss he is taking my pages. Miss …. he is copying our work. Hassan: No Miss …. I know what to do … Miss you have to do…….. Sumaira: No… Miss... he is copying my work [she was asking about Numen]. Numen: I don't copy you. Mr John: Red table you are too noisy. Sumaira: Sir these boys are copying us

Note: Children's interactions recorded on 12-11-13 at 11:30-12:00

The participant (Sumaira) did not trust her peers and accused them of stealing her pages to copy her work. Her group members denied her accusation and justified the denial by saying that they did not need her pages to copy as they knew very well how to do the given task.

According to the class teacher, competition, and mistrust among the children in the studied classroom was 'usual', as explained here:

Table 7

Class teacher's reflections on children's competitive/non-cooperative interactions

They don't like each other (laughing tone) very much, in general. There is a kind of competition among them. There is always someone trying to be the leader. They don't like the idea that someone takes credit for doing something. When we are working together like all doing the exact same piece of work, like I say everyone colour in green red and yellow, they [will] all do it but someone will say she is copying me… [Laughing loudly]…. I mean what is the point you are doing the same thing.

Note: Interview with the class teacher held on 7/7/14 at 3:30

The class teacher shared that the children in her classroom tried to lead their peers and competed with one another when completing the earlier tasks. They also mistrusted one another without thinking. She gave an example of a debriefing activity that she conducted in the classroom, in which she asked children to depict their understanding of the lesson in red, yellow, and green colours. It was the same activity for everyone as reported by the class teacher, but children hid their boxes from one another and complained of being copied.

We considered it important to explore children's perspectives to better understand their reasons for being competitive and developing mistrust towards their peers. So, we organised debriefing sessions at the end of their group work to explore children's experiences of working with others. In these sessions, the children were asked questions about working, discussing, and sharing ideas with others. During one of the sessions, children reflected on their experiences of working with others as presented in the table below:

Table 8

Children's reflections on their interactions with peers

Afzaal: Some of them were sharing their ideas so I would say group work in our table was 80% only. CT: And who was not sharing. Afzaal: Shoaib. CT: Shoaib, why you haven't had a go. Shoaib: Miss, because other people steal your ideas. CT: But it's good if your ideas are working for others. Shoaib: Yeah, but I can do which they don't so why should I tell them.

Note: Children's reflecting on their group work during a de-brief session (data recorded on 14/05/14 at 11:00-12:00)

Children overall acknowledged sharing and trusting their peers in this group and graded their group work as '80 per cent good'. One group member (Shoaib), however, expressed his desire to engage in individual work without sharing or giving and receiving help from others in his group. He rejected the idea of interacting with his peers and seemed to believe that everyone was responsible for their own learning. Here, we noticed that children's desire to work individually rather than in groups and their emphasis on individual performance appeared to be influenced by the ability-based group organisation in the studied classroom. As stated above (see page 10) , children's individual

performances were considered to place them in high, average, and low ability groups, which seemed to influence them to be individualistic.

While observing children's group work, we also noticed that they preferred to work with same-sex peers in most cases. Gender also appeared to be an important element for children when deciding whether to work with their peers cooperatively or non-cooperatively as shown in the following examples:

Table 9

Examples of gender biased interactions among children

Extract # 01 Khuda: We both [girls] will do together and you [boys] do together right…. Huma: Yeah! We are working in pairs not in groups. Extract # 02 Saira (dragging her chair and pointing to Khuda): This is good luck and this is not good (pointing to her partner). Amaad: It is so good when Miss asked us with who you want to sit? Saira: Yeah! I would like to be with Kim.

Note: Children's interactions recorded on 25-11-13 at 9:30-10:40 and on 11/11/13 at 11:05-12:00

In the first instance, children involved in a writing task in a Literacy lesson were instructed by their class teacher to discuss their ideas in groups. Children, particularly girls, helped each other to work as same-sex partners. They excluded the boys from group work by turning it into pair work. In the second instance, children were expected to discuss the features of report writing in a Literacy lesson. They were instructed by the class teacher to discuss the given task together with their peers as a group. The children, particularly the girls, appeared to favour same-sex peers for their group work. Saira dragged her chair to get close to the other girls in the group and did not want to sit next to a boy (Amaad). She regarded same-sex peers as representing good luck and working with other-sex peers as representing bad luck.

The class teacher considered gender division among children in her classroom as a feature of their age and typical development. She also considered gender segregation in the studied classroom as influenced by the children's faith, as explained in the following table:

Table 10

Class teacher's reflections on gender biased interactions among children

Class Teacher: As far as I am concerned it happens everywhere, I mean all kids especially in this age. But I do think to some extent, not a large one, I think it's parental influence and their faith as well. Parents say no they can't …. work with boys … play with boys so they don't, so sometimes that's the comment that gets passed by the girls when they have been asked to work with boys or do something with boys. They just say that I am not allowed to play with boys. Me: So do the parents themselves ask you something about gender divide? Class Teacher: No, they don't speak to me about it. Pupils say their parents said that they can't work with a boy … it's very rare that the parents come and say anything about working in the classroom.

Note: Interview with the class teacher held on 7/7/14 at 3:30

The class teacher considered that children are sometimes influenced by their parents and their faith when choosing same-sex peers for working within groups in her class. When the interviewer probed further about the role of parents in influencing her teaching practices in the classroom, she admitted that parents did not directly interfere in classroom seating plans. However, children passed on messages to her, such as that their parents did not allow them to work with other-sex peers. The table below presents children's views on their gender biased interactions:

Table 11

Children's reflections on their gender biased interactions

I: mmm I like to work with different people as you know about different people but if they are behaved not naughty M: Naughty I: yes …….. miss …….. you know sometimes they don't let you to do work that's why like some times boys they talk about other things not work M: Only boys are naughty? I: yes miss they always talk about football, Chelsea, premier and so …….. then I don't like to work with them … I like girls like all girls Khadiha, you know miss…….. Summaira and Farkhanda they are all my friends. In boys I only like to work with Danny and new boy…… miss do you know him? M: Yes…….. Sameer I: yes miss I like to work with them only as they are my cousins M: why only cousins? I: this is what you do at home …and told to do so

Note: Child's reflections during a debrief session (recorded on 11/12/13 at 2:30)

The girl chose only her brother and cousin to work with in groups while justifying her choice of working with other sex peers. She referred to home environment which regards working with brothers and cousins as an only way of working with other sex peers.

Discussions

The above-mentioned findings showed that children engaged in dynamic interactions with their peers while working in their fixed and mixed ability groups.

The data showed that the aspects of the classroom context such as group structure and learning task, could generate interaction and cooperation during children. On the other hand, these aspects could generate individualisation and competition among children when they were grouped in competitive structures, without being interlinked through shared common goals (Gillies & Khan, 2009). We noticed that children displayed cooperative interactions while offering academic and general support to their peers when they were given a formal cooperative learning space to work together (Gillies, 2014). Children exhibited positive social behaviours and interacted cooperatively towards their peers. In this case, the children's categorisation as 'low ability' generated an identity-based positive social interdependence (Johnson & Johnson, 2002, p. 99) among them. Children created competition and did not cooperate with their peers when they were grouped under competitive group structures (Roseth et al., 2008). Children perceived themselves as independent rather than not interlinked with one another and attempted to take the lead over their peers. The observations showed that the allocation of individualistic learning tasks also created competition and non-cooperation among the children. Children exhibited individualistic and competitive interactions because of working on such tasks during their group work. They refused to interact with other peers or share ideas with them and preferred to concentrate on their own individual work while generating negative and, in some cases, no interdependency as a group. Thus, confirming the ideology of the social interdependency theory (Johnson & Johnson, 2002), we have seen that the nature of cooperative or competitive group structure (Roseth et al., 2008) and learning tasks (Gillies, 2014) have influenced children to adopt cooperative or non-cooperative interactions with their peers.

However, as the findings from the data have suggested, the influences of group structure and learning task on children's interactions remained situational and dynamic in this case. On some occasions, the children did not appear to be affected by the cooperative group structure or shared learning task and continued to exhibit competitive interactions during their group work. They were not convinced of the merits of working together with peers as a group, since they did not stop working individually. Despite being given cooperative group structures to work in, children continued to prioritise their individual work and did not change their competitive interactions. This indicates that children absorbed influence from the classroom context (Kellet, 2010) in which individual work was given priority by their class teacher in order to place them in different (i.e., low, average, and high) ability groups (Hargreaves, 2019; Holmes, 2019). The children, as a result, cared more about the individual work with which to maintain or improve their academic levels, while devaluing group work (Yarker, 2013).

The findings also showed that children regarded gender as an important aspect in deciding whether to work with their peers cooperatively or non-cooperatively. Children preferred to work with same-sex peers and adopted cooperative interactions with them. They exhibited non-cooperative interactions with other-sex peers. Gender bias, as reported by the class teacher and children, was an element in the children's physical development (Mehta & Strough, 2009) but was also due to the influence of home environments (Basit, 2012). Gender bias in this case led children to prefer to work with same-sex peers cooperatively, while refusing to work with other-sex peers or exhibiting negative attitudes towards them.

Conclusion

The findings revealed that children's interactions in ability groups could represent reactions to the influences flowing from their classrooms and home environments. Children interpret the aspects of their classroom and home environment differently to adopt dynamic, and sometimes cooperative or non-cooperative interactions, towards their peers while working in groups. The above-mentioned data highlighted that children sometimes took influence from cooperative, competitive or individualistic group structure and learning environment while exhibiting cooperative, competitive, or individualist interactions towards peers. However, at the same time they appeared to ignore these influences and consider other social elements such as gender in this case to decide whether to work with others as a group or not.

Based upon these findings, we suggest a few important implications for research and practice in the field of group work overall as well as ability-based group work. The findings of our study recognise that children distinctively interpret the influences coming from their classroom organisation, the learning task, teaching strategies and home environment (Cummins, 2001, p. 199; Bronfenbrenner, 2005) to adopt distinctive interactions towards other peers while working in different groups. Therefore, these findings reiterate the importance of considering the context of children's group work, which is not limited to the classroom or but is linked with children's home environments and cultures (Gonzalez et al., 2005). This broader definition of the context will allow researchers/practitioners to fully understand the situations (Amanti, 2005, p. 139) which led children to interact with others cooperatively or non-cooperatively in ability-based groups.

These findings also highlight the need to conduct longitudinal, participatory, and open-ended research (Gonzalez et al., 2005; James, 2012) while researching ability based group work among children grouping. Suggestions designed in the light of controlled and artificial settings may provide an overall picture through which to understand emerging situations, but do not provide researchers with enough opportunities to understand the complex relationship between schools, children and their home contexts (Amanti, 2005), all of which play an important role in determining the nature of children's interactions in ability based group work. Additionally, the status of children in research (Kellet, 2010) on ability-based group work needs re-consideration. There should be more opportunities for children to actively participate in this research (Ambreen, 2020) to led practitioners and policy makers aware of children's perspectives on their experiences of working in ability-based groups.

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Corresponding Author Contact Information:

Author name: Samyia Ambreen

Department: School of Education

Faculty: Faculty of Social Sciences

University, Country: University of Leeds, United Kingdom

Email: s.ambreen@leeds.ac.uk or samyia186@gmail.com

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