

Research into building on ideas in dialogue between pairs of students

Summary

The aim of my research was to investigate my students' ability to build on each other's ideas during conversations with one other student - their learning partner. A learning partner is another student in the class, chosen by the teacher, who they sit next to. Most children had the same learning partner for the whole inquiry, however some students had different learning partners due to student absences.

My focus was to develop the quality of the dialogue between students, by teaching them how to build on ideas shared during a discussion. I also aimed to increase the number of times students were able to build on each other's ideas when talking to each other.

The most significant data I collected was audio recordings of my students engaged in discussions at different points during my inquiry. The recordings were transcribed and analysed to draw conclusions for my context.

My data showed there were changes to the students' dialogue. Some students were able to build on ideas during a discussion, while other students made attempts to do so. However, some students were not able to build on ideas during a discussion by the end of the inquiry.

My inquiry will inform my ongoing practice, as I will have a stronger understanding of how to help my students develop the skill of building on ideas in their discussions. I may also be able to use a similar approach to teach other skills, such as challenging ideas or elaborating on ideas in a discussion.

My context:

My research was undertaken at a community school in South West London. It is a co-educational school which currently has 719 students, aged between 3 and 11 years old. The school is a 3-form entry school, from Reception to Year 6, and also includes a Nursery. The school was rated 'Outstanding' in its' last OFSTED evaluation in October 2016.

The students in this study were in Year 3, and aged between 7 and 8 years old. I was their regular class teacher. The class was made up of 30 children at the beginning of the research, although one student left during the term. The class included both boys and girls, and four students with Special Education Needs (SEN). The children ranged in ability across curriculum subjects and all were fluent English speakers. Most of the children in the class were working at or beyond expectations for Year 3, however a small number children were working towards the expected level in different areas of the curriculum. All children had the ability to participate in all learning activities conducted as part of the research project.

My motivation for the inquiry, the focus and inquiry questions:

Observing and reflecting on the way my students talked to each other during lessons was one factor that drove my inquiry focus. I regularly ask the students to work with and discuss ideas with their learning partner and I observed that the quality of the dialogue between students did not seem to develop their learning. Some students let their learning partner do all the talking, or they would state their thoughts without listening to what their learning partner said. Some pairs either did not talk at all or their talk was off topic. The children were not able to structure their discussions and they did not understand the purpose of their talk.

Mercer and Littleton make the following point, which is almost exactly what I observed happening in my class.

"When a teacher asks students to 'discuss' a topic, the teacher is almost certainly expecting a certain quality of interaction to take place, but these expectations are seldom made clear and explicit to the children. They are left to somehow work out what is

required and what constitutes a good, effective discussion, but they rarely succeed in doing so.” (Mercer, N, Littleton, K., 2007, p. 58)

My students needed guidance on how to engage in effective dialogue, which I hoped would also develop their thinking skills and expand their knowledge. “A prime aim of education should therefore be to help children learn *how* to talk together such that language becomes a tool for thinking, collectively and alone.” (Mercer, N, Littleton, K, 2007, p. 59)

Before beginning my inquiry, I participated in a self-audit, to reflect on dialogic practices in my classroom. When I reflected on whether I invited students to elaborate and build on their own and others’ ideas, I felt that I did not. This also contributed to my decision to focus my inquiry on building on ideas during discussions.

The rationale for my research was linked to dialogic theory, but also directly to my experience of dialogue in my classroom. “For an enquiry to be fruitful then it is important that the area of research is closely related to your own experience as a teacher.” (Baumfield, V., Hall, E., & Wall, K, 2017, p. 41)

My initial inquiry question was ‘Do students build on the ideas of their class mates when participating in partner discussions?’ As I conducted my inquiry, this question developed into investigating to what extent the children were able to build on ideas during a discussion. Overall, I wanted to investigate to what extent children could build on ideas during open-ended discussions across a range of subjects, including English, Maths and other subjects, such as Geography and History.

As my focus skill for developing the children’s dialogue involved building on ideas, I expected that the children’s discussions would become cumulative talk. “...cumulative talk characterizes dialogue in which ideas and information are shared and joint

decisions are made: but there is little in the way of challenge or the constructive conflict of ideas in the process of constructing knowledge.” (Mercer, N, Littleton, K., 2007, p. 54)

I hoped to see several changes in the children’s discussion, but the main change I hoped to see was that the children would listen to ideas shared in the discussions and then use those ideas to build on ideas or explain ideas further.

The main success criteria would be that there a noticeable increase in occasions of students building on ideas or invitations to build on ideas, during their discussions. An improvement in the children’s beliefs about whether they could build on ideas in a discussion would also be a criterion for success.

My inquiry plan and activities:

For my inquiry cycle, detailed in Appendix A, I used two methods to investigate my inquiry question and evaluate change.

The first method was creating audio-recordings of the children’s discussions at different points in the inquiry cycle. These recordings were transcribed and coded using the T-SEDA template 2A: Template for coding an audio transcript (Teacher-SEDA pack v7c, 2019, p. 36). I used the coding framework from the T-SEDA pack, Section 1: Coding Framework (Teacher-SEDA pack v7c, 2019, p.25-28) to help me analyse my transcripts. I coded specifically for examples of students building on ideas and inviting others to build. However, I also noted other dialogic skills, such as challenges, if they were obvious.

I conducted baseline recordings at the beginning of my inquiry cycle, in which the children were given an open-ended topic to discuss, across a range of subject areas.

After teaching a lesson about ground rules to the children, I conducted some mid-cycle recordings and transcribed them (Appendix C), to see if there were any changes in the students' dialogue and to inform future teaching that needed to occur around building on ideas.

I collected final recordings of the children's dialogue, (Appendix D) after working with small groups about how to build on ideas during a discussion. Final recordings were again created during discussion of open-ended topics across different subject areas; however, the topics were different to baseline recording topics.

I compared the transcripts of the recordings to determine changes in the children's dialogue.

The other method I used was an adapted T-SEDA Student Self-audit (*Teacher-SEDA pack (V7c) Editable templates*, 2019). The original self-audit was for primary students during group dialogue, so I adapted the questions to suit my inquiry focus of dialogue between two children (Appendix E). The purpose of the self-audit was to determine the children's attitudes about their learning partner discussions and if they felt they were able to build on ideas in a discussion.

The Student Self-audit was given to students at the beginning of the inquiry, before any teaching had taken place. It was re-administered at the end of the inquiry, after all teaching activities had occurred. The results were then tallied and compared to determine any changes in children's attitudes and understanding of how to build on ideas.

Ethical considerations and relationships with others:

My research involved a number of ethical considerations. Therefore, I read and considered ethical implications detailed in the Ethical Guidelines for Educational Research, published by the British Educational Research Association (BERA) (BERA, 2018).

I discussed all the potential ethical issues of my research with my supervisor, who granted ethical approval for my research project.

As my research involved children, I was required to inform their parents/guardians of my research and gain their consent before conducting any research. I provided parents with relevant details of my research, data collection and their right to withdraw their child from the research at any point.

Twenty-eight parents returned the consent form, while two parents did not. With unreturned forms, I assumed that they did not give their consent, and consequently no data about those children was included in the report. One parent was informed and consented to the research, but did not give consent for their child to be recorded. No recordings were made of that child.

Audio-recordings were collected using a school-supplied iPad. These were stored on an encrypted USB device, along with transcriptions of the recordings.

When transcribing the recordings, I kept children anonymous by assigning each child a random number. The numbers were used consistently across the recordings. For example, Child 6 is the same student in all recordings.

Another ethical consideration I had was that I was conducting research in my own context as the practitioner. I explained to the students what I would be doing and how I believed it would help them. I also reassured them that their recordings would be anonymous.

I communicated with the Head of School, to inform her of my project and what I would be researching. I explained that although I would not be naming the school in my project, I could not guarantee that the school would remain anonymous, due to the fact that my name would appear on the report and my name also appears on the school website.

My findings:

Baseline recording findings:

The baseline audio recordings of students' discussions were short in duration, had little content and the children seemed uncertain of what to say. The longest baseline conversation was 1 minute and 15 seconds long and there were many long pauses. Some children needed prompting by the teacher, as they said nothing for a significant amount of time. Most children made short contributions with little detail, and few discussions went beyond each child having two or three turns to speak. All of these points can be seen in Extract 1.

Extract 1

	<i>16 second pause</i>
Child 4	He can see thunder.
Child 13	You can't see thunder.
	<i>12 second pause</i>
Teacher	What's he thinking about?
Child 4	His family.
	<i>18 second pause</i>

Child 13	Ahhh (7 second pause) He wonders what's happening in Tierra del Fuego.
	11 second pause

There was no evidence of children building on ideas in a meaningful way. They were not able to explain or elaborate their ideas. Additionally, children did not respond to each other's ideas. This can be seen in several of the transcripts in Appendix B.

Some children seemed uncomfortable about being recorded, which may account for the limited quantity and quality of discussions. However, all pairs of children did seem to run out of ideas very quickly, across all topics discussed, and were not sure what to talk about once they had both shared their initial thoughts, as shown in Extract 2.

Extract 2

Child 2	Subtraction is the inverse of addition.
Child 27	Subtraction is...is...is a type of maths symbol. Ah I don't know what to say anymore!

Final recording findings

Due to challenges during my research, particularly the limited time frame and the seven-day closure of my school during a critical point in the inquiry, the conclusions I draw only apply directly to my context.

Overall, the final recordings were longer than initial recordings. All conversations except one, were longer than 1 minute and the longest conversation lasted over 5 minutes. There were still pauses during conversations, but there were also occasions where children prompted their learning partner. More children were able to make several contributions to the discussions. The length of individual contributions from most children was greater and many were able to say more than one sentence during their turn.

Extract 3 is an example of a substantial contribution by a child, but further evidence can be seen in Appendix D.

Extract 3

Child 9	I think that makes me think of, actually I thought that the people that actually make the pyramid don't stay there forever, maybe, ah, when they afford enough money, maybe they can go away and buy a house and then they live in there and then they don't have to have a long of working, to be a worker.
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When I coded the transcripts of the final recordings, there was evidence of several children building on ideas or attempting to build on ideas in their discussions. However, it was also evident that there were still some children who were unable to build on ideas.

Every final discussion I recorded showed at least one of the children building on ideas, attempting to build on ideas or using an invitation to build. They were beginning to listen to each other and their contributions showed a greater awareness of how to build on ideas in a discussion. Evidence of children building on ideas in different discussions can be seen in transcripts in Appendix D.

A few children tried to use stem sentences to build on ideas, but generally the children either did not use them or were not able to use them correctly, probably because they did not get time to practise using them.

One thing I found that I did not expect, was that there were occasions where a child challenged their learning partner. While I had not done any specific teaching about challenging ideas during a discussion, this showed that the children were beginning to listen and respond appropriately to what their learning partner was saying. In Extract 4, Child 3 challenges Child 2, which then makes Child 2 elaborate on their previous statement.

Extract 4

Child 2	Isn't a even number and you can make it into a shape of a square.	
Child 3	One is an odd number. (whispered)	Challenge
Child 2	Even if it's an odd number, but you can do it with odd and even. Like three times three equals nine. And nine is three groups of three. And that can equal the square number.	Elaboration

Student self-audit results

In the adapted T-SEDA student self-audit (Appendix E) children were given ten statements (Table 1). They had to give a score of 1, 2 or 3 for each statement. (Table 2)

Table 1 – Statements from survey

G1	We both shared our ideas in the discussion.
G2	We worked as partners to complete the discussion.
G3	Most or all of our talk was about the task we were doing.
G4	We shared our own ideas and built on each other's
G5	We listened carefully to what we were both saying
G6	We enjoyed working together in a partnership
G7	When we made suggestions or agreed/disagreed with each other, we gave reasons.
G8	Even if we disagreed with an idea, we talked about it in a helpful way that showed respect.

G9	If we disagreed with each other, we tried to work it out together.
G10	Our discussions and disagreements helped us learn from each other.

Table 2 – Student agreement rating

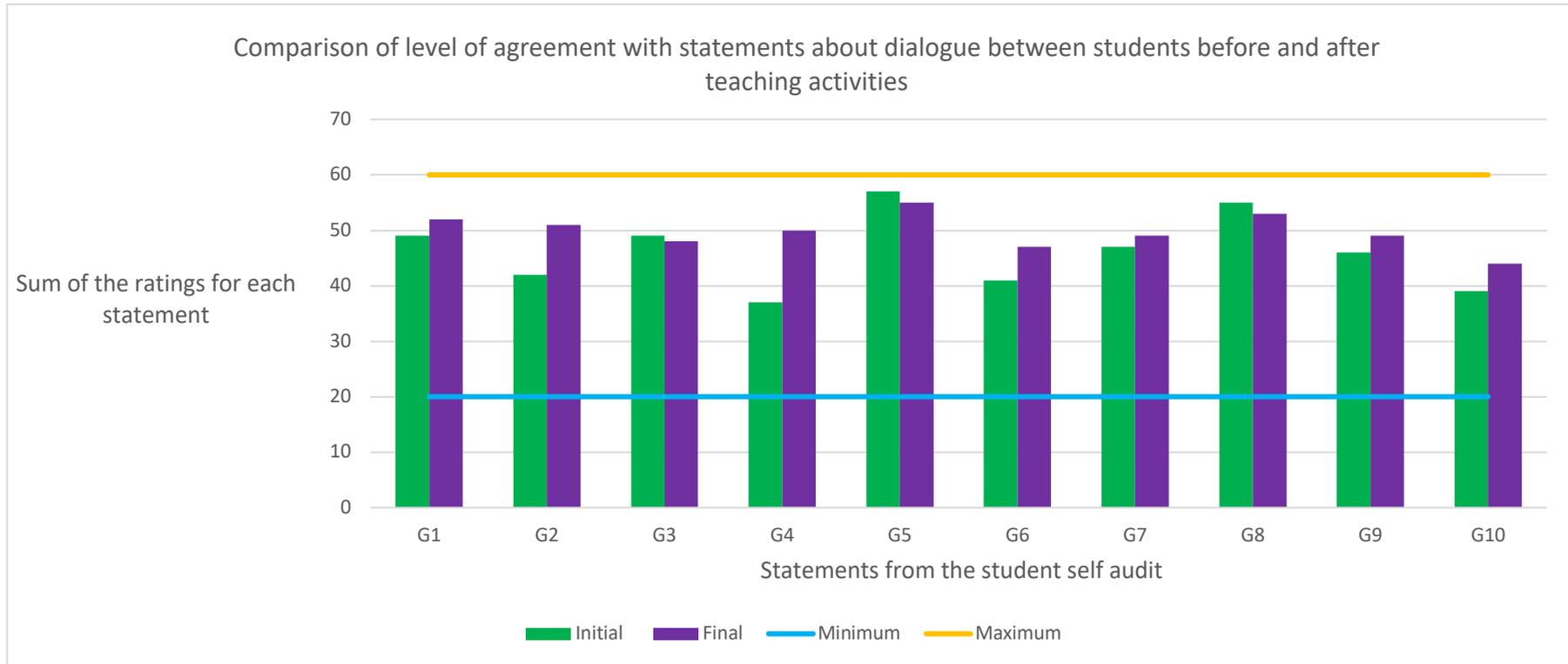
1 – not true
2 – a bit true
3 – very true

Findings of student self-audit

The initial student self-audit was given to all 28 students with consent. However, due to student absence, I could only collect data from 20 students at the end of my inquiry. Therefore, I have included and analysed data for the 20 students who completed both surveys. Such a small sample size means that any conclusions drawn from the survey relate only to my classroom context.

Graph 1 compares the level of agreement that student had with each of the statements in Table 1 in the initial survey compared to the final survey. A detailed explanation of the data shown by *Graph 1* is contained in Appendix F.

Graph 1



By comparing the difference between the initial and final self-audit scores, I drew the following conclusions, which are most relevant and specific to my inquiry and context.

For most of the statements, there was greater agreement the second time the self-audit was conducted, although most of the changes were quite small. The data showed that the teaching I had completed with the children had, in most cases, impacted positively, albeit to varying degrees, on the children’s perception of their ability to conduct an effective discussion and build on ideas.

There were changes in some of the data showed a significant change. One change was that more children agreed that they were able to share and build on each other's ideas in their discussions (G4) after the teaching sessions than at the beginning. This is consistent with data collected in the audio-recordings. The data also indicated that, by the end of the inquiry, more children felt they were able to work as partners to complete the discussion and that more students believed that their discussions and disagreements helped them learn from each other.

The resource you created:

The key resource I created was a lesson plan for working with a small group of 4-5 children to teach the dialogic skill of building on ideas, which was the main focus of my inquiry. The session is intended to be quite short, only about 15 minutes in length. Originally, I intended to use the lesson plan in the classroom. However, due to my school being closed because of COVID-19, I had to adapt it so that it could be used to conduct the lesson virtually (in my case, using Google Meet).

The lesson plan consisted of five parts:

1. Introductory listening activity
2. Reminder of the ground rules for discussion
3. Explanation of the skill to be used in discussion (building on ideas)
4. Guided discussion, with the teacher using sentence stems to prompt the students.
5. Reflection on discussion

Full details of this lesson plan were submitted as the resource with this assignment and are attached in Appendix G.

Changes to practice:

From my reading about dialogic theory and the data collected at the beginning of my inquiry, it was clear that the children needed to develop rules for their discussions, particularly addressing how to listening carefully and responding appropriately to what their partner was saying.

This led to my decision to teach a whole class lesson to make the ground rules for discussions explicit for the students, using the lesson plan in Appendix H. It was important to do this to ensure that the children were aware of exactly what was expected of them during the discussions. “By teaching ground rules for talk in classrooms we can consciously take charge of some of the implicit shared assumptions that shape us and re-design them so that we can collectively think together better, learn together better and live together better.” (Kershner, R., Hennessy, S., Wegerif, R., & Ahmed, A, 2020, p.17)

This lesson used resources from the from the *Thinking Together Project (2021)*, specifically the Preparing for Group Work lesson resource. I selected activities from that resource that I believed would benefit my children to develop their ground rules for discussions and help them understand and develop effective dialogue, based on my findings from my baseline recordings and the student self-audit.

Part of the lesson was to negotiate the ground rules with the children, which was important, as it gave them ownership of the rules. Displaying the ground rules in the classroom meant that children would be constantly reminded of the expectations and they could be referred to before any discussion.

The data from baseline recordings (Appendix B) and data collected after this lesson, the mid-inquiry recordings (Appendix C) showed that the children still needed to develop an understanding of what the skill of building on ideas was and how to do it in discussions.

This led to my decision to teach the skill of building on ideas with small groups of children, using the lesson plan in Appendix G. I used stem sentences and invitations to build on ideas to guide them in using the skill during the discussion. I conducted these sessions with small groups, rather than pairs, as it was more time efficient to do so, especially given the short time frame of the inquiry. I planned to teach these sessions in the classroom, but due to my school closure, these sessions occurred via Google Meet.

The small group sessions seemed to have the greatest impact on the children's dialogue, as I was able to see more examples of children building on ideas, or making attempts to build on ideas after these sessions than after the initial session. However, I also believe that establishing the ground rules first was essential, as the children would not have been able to build on ideas effectively if they were not following these rules.

My reflective evaluation of the process:

Data from audio recordings was the most helpful data for understanding what was happening during children's dialogue at each stage of the inquiry, and the impact of the teaching activities I completed with the children. I used the data to select appropriate activities to develop the children's skills and make comparisons about dialogue at the beginning and end of my inquiry.

I was fortunate to have the support of my colleagues and the leadership team of my school in order to conduct my research. I also benefitted from parent support, as the majority of parents gave consent for their child to participate in my research. The children's positive attitude towards activities also contributed towards the changes I observed in their dialogue. If they had not been willing to try and build on ideas, no changes would have occurred.

Something I would have done differently would be to exclude statements G7-G9 from the student self-audit, as they were irrelevant to my inquiry focus about building on ideas. However, this information could be used to inform future inquiries into dialogue with this group of students, such as investigating attitudes towards challenging ideas during a discussion.

The main external challenge I faced that my school was closed for seven days, due to COVID-19 outbreaks in the school. This occurred at the time when I planned to complete small group teaching sessions. Consequently, I was forced to conduct those sessions virtually, using Google Meet. I was able to be flexible in my practice and took the initiative to adapt my plans.

Having discussions virtually was challenging, as it felt different for both the children and myself, compared to having discussions in the classrooms. I was also not able to display resources, such as the ground rules, as I would have done in the classroom, because I wanted to see the children at all times. Despite being online, the sessions worked well. Children focused and participated well during the session and my findings showed that it did develop their dialogic skills.

Next steps:

The next step I would take with my class would be to give them opportunities to consolidate their ability to build on ideas and use the ground rules for discussions in the classroom. I would also like to teach my students other dialogic skills, in particular, how to respectfully challenge ideas shared in discussions, to help the children develop their thinking during dialogue.

I intend to share the findings of my inquiry and the resources I used and with other teachers in the school, including the Head of School. I aim to do so by running a professional development session, where I would also explain how the resources can be used in the classroom to teach their students how to build on ideas during dialogue. Additionally, I would offer support in the form

of guidance with planning and collect feedback if teachers use the resources. I would provide opportunities for colleagues to observe me using resources to develop the dialogue of my students. In this way, I hope my research could impact on the teaching of the wider teaching staff in the school and bring about positive changes in children's dialogue across the entire school.

It would be interesting to continue developing dialogic skills throughout the year, and consider what other impact it has on the children's learning. Will they begin to build on ideas or challenge during whole class discussions? How is their learning impacted by the use of dialogue? These questions could be investigated using another reflective inquiry cycle.

Statement concerning sharing the outcomes:

I am happy to share with other practitioners via the resources website linked to the University of Cambridge site:

- This report
- The resource I created
- Neither

If you have given permission to share, would you prefer:

- The materials to be anonymised
- My name to appear

Reference List

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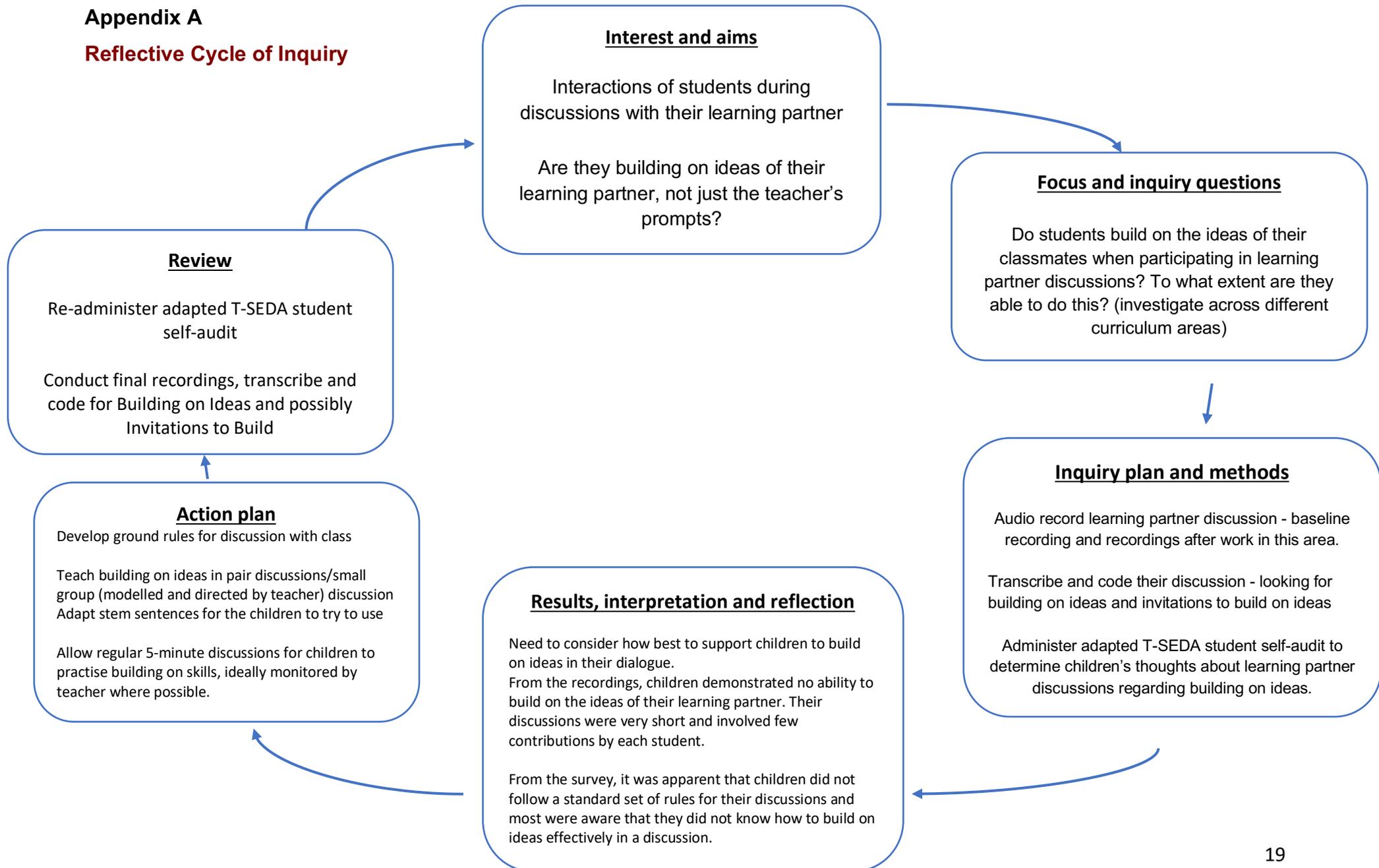
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Appendix A
Reflective Cycle of Inquiry



Appendix B

Sample of transcripts – baseline recordings 17th- 18th November 2020

Transcript 1

0s	Child 6	He wished he could go home.	
4s	Child 10	Ah, I think he feels a bit sad, cause in the text it says he knew he must go home.	
12s	Child 6	Um, he might see the um dark clouds in the sky.	
18s	Child 10	Er I don't know...He could hear...	
23s	Child 6	The wind.	Build on
24s	Child 10	He might hear the wind?	
31s	Child 6	He'd wonder what it would be like, what was going on in Tierra del Fuego.	
38s	Child 10	He might... hear lots of people chatting.	
50s	Child 6	<i>(7 second pause)</i> He might see lots and lots of buildings	
56s	Child 10	ah... he might...	
01:06	End of recording		

Transcript 2

00s		<i>16 second pause</i>	
16s	Child 4	He can see thunder.	
18s	Child 13	You can't see thunder.	Challenge
19s		<i>12 second pause</i>	

31s	Teacher	What's he thinking about?	
34s	Child 4	His family.	
35s		<i>18 second pause</i>	
53s	Child 13	Ahhh (<i>7 second pause</i>) He wonders what's happening in Tierra del Fuego.	
01:04		<i>11 second pause</i>	
01:15	End of recording		

Transcript 3

0s	Child 25	Subtraction means less than a big number or less than a small number.	
7s	Child 22	Subtraction...	
7s	Child 25	And then it so like if it's 37 minus 26, it would be less than 37.	
16s	Child 22	Subtraction means like, so like there's a number, and you take off another number to it, and then, and the number gets less than the usual number, than it had before.	
29s	Child 22	(<i>8 second pause</i>) <i>Child 25</i> Can you talk? About subtraction?	Invitation to build
42s	Child 25	I don't know...	
42s	End of recording		

Transcript 4

0s	Child 9	Rivers flow. Rivers flow. And they can be long and wide. And they sometimes carry animals.	
14s	Child 11	And ships go in them 'cause they can float.	
21s	Child 9	Not sure	
22s	Teacher	Not sure?	
23s	Child 9	<i>Inaudible</i>	
26s	Child 11	Rivers are a stream of water that go...like, the water cycle, they go round and round.	
36s	End of recording		

Appendix C

Sample of transcripts – mid-inquiry recordings 1st December 2020

Transcript 5

0s	Child 11	It makes me feel sad and it makes me feel a little bit gloomy because it's dark and brown.	
9s	Child 9	Yeah, and it makes me feel really lonely because that person is standing in the rain with a umbrella and he's really alone and he's looking out to the sea and I think he's looking for something or he's missing something.	
28s	Child 11	And also we think that he's very, very lonely because he has no one to see and also he's also he's all alone by himself, or it could be a she, and he think, and we think he's very sad and lonely and well it, it just looks a bit. And also the sea must, and also the sea makes me	Building on

		gloomy too cause it's a little bit brown and brownny blue too.	
57s	Child 9	And then it, all the colours just a shade of brown and dark colours and it really makes me feel a bit unhappy.	
01:11s	Child 11	And we think that he's a little bit gloomy and also his umbrella is gloomy and the whole picture and the sky is nearly dark and it feels so gloomy and sad.	
01:27	End of recording		

Transcript 6

0s	Child 6	I think it makes me feel a bit sad, because it has, it because, um because at the beach um, it's really... I don't like it when it's at the beach because it makes me feel tired cause all my sandcastles will just fall down.	
22s	Child 10	I agree because it's (inaudible) um quite gloomy and that guy, the person has a umbrella and it's when, so it wouldn't be a nice....	
46s	Child 6	Why do you think that?	Invitation to build
50s	Child 10	Um because when he's in the rain, his clothes get wet and he's very (inaudible)	
01:03s	Child 6	I also think that because I also think that because um it's really dark colours and there's not many people or anybody around it, um him. So it feels like he's alone.	

01:25	End of recording	
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Appendix D

Sample of transcripts – final recordings 16th – 18th December 2020

Transcript 7

0s	Child 9	(4 second pause) Um, um, the Ancient, I think the Ancient Egyptians, um, I think they wore like white cloaks like yeah. I think they just wore white cloaks. Um and...	
29s	Child 11	Well, in the Ancient Egyptians they had, they had to use hard things to break down rocks to make a huge statue of a big thing of a statue. And they had to use hard things like coal mining things to dig up things so they can build Egyptians and pyramids. And nothing about clothes.	
01:00s	Child 9	Um I think, it makes me think of that, of that the Egyptians, I think (inaudible) there were poor people that only wore something or one piece of clothes and the rich ones had lots of clothes and lots of servants. Something about clothes.	Building on
01:47s	Child 11	Um, (4 second pause) I, I agree with her, that actually yeah, um when they were forced to make a pyramid of someone, they didn't have, um, they had ripped clothes and stuff. And they had to work all their life and every day and I think that would be hard for them. So I would think that, in Egyptians I believe that it's also like having a whip both sides and hitting them if there....And they had to carry things, finding water, gotta carry everything. And it's hard and sometimes it's a lot harder if you're trying to do it, so...	

02:50s	Child 9	I think that makes me think of, actually I thought that the people that actually make the pyramid don't stay there forever, maybe, ah, when they afford enough money, maybe they can go away and buy and house and then they live in there and then they don't have to have a long of working, to be a worker.	Building on
03:20s	Child 11	Um, I also think that they, they, I also think that by now the pyramids must be a little bit broken up, 'cause they were in a long time ago and they, they, must be broken up. And inside you can feel like it's hard rock sand. It's rock and it might feel like it's gonna, it's going to fall down on you, just like the rocks in the mountains fall down.	
04:01s	Child 9	Mmm, but I still think the pyramids could be, um, some of them could still be standing and nothing could be broken. But I'm sure there could be a few cracks there, ah, cause it's like, I think it's millions of years old.	Challenge
04:23s	Child 11	Um, I agree with her, because they, it must be very old, because in Egyptians though, in Egyptians they had to wear masks and Egyptian things by their head to show that they're special. And the ones that wear just white things over them, we know that it shows that they have, they are working. And the ones that have like golden things around them, we know that it's the king and -	
05:08s	Child 9	(whispered) I think we have to talk about Ancient (inaudible)...	
05:14s	Child 11	And also I think that, we also think that maybe there is still a little bit of a pyramid left. And I hope so too.	
05:36s	End of recording		

Transcript 8

0s	Child 4	Ancient Egyptians, ah, I think they're really (inaudible) and they wear really white clothes, and they, and they don't wear any shoes. I think they wear flip flops or no shoes.	
22s	Child 13	(Dialogue inaudible although flip flops are mentioned). The Egyptian kings were 'foreos' (Pharaohs) with crowns. When they're eight years old, you die around eighteen and nineteen years old.	
44s	Child 4	and they used cars, they used cars, they pretend to use cars, but they want to use cars, but they use camels to travel, uh, to travel to other places. Because they really want cars, but they ride camels.	
01:04s	Child 13	I don't think, they didn't know what cars were at that time. Usually, usually, they didn't have any shoes, so they probably need to ride a camels like a taxi car.	Challenge
01:21s	Child 4	They used to hunt food, um, I think they used to, like, build a house. I think they just didn't build a house, I think they searched for water.	
01:33s	Child 13	They built a house on the Nile river made out wheat and grass.	Building on
01:40s	Child 4	(4 second pause) And, uh (11 second pause, with several hesitations), and they wore, they wore um like hats, like they wore something like hats.	
02:04s	Child 13	White clothes, white clothes (spoken quietly)	
02:06s	Child 4	They wore, um, white clothes, and then after they wore with their clothes, they um, wore a	

		white hat too.	
02:13s	Child 13	Usually they wear like turtle brown flip flops with straps around them, (inaudible) They built um, the great pyramids, the great Giza along the Sphinx. And no one knows why the Sphinx doesn't have a nose.	
02:49s	Child 4	And they wore, to um, put their hat, they put like a string, a black string around	Building on
02:57s	Child 13	To keep it secure	Building on
03:00s	Child 4	Yeah	
	End of recording		

Transcript 9

0s	Child 14	Egyptians liked cats and they kept them and they really liked them becau-	
9s	Child 17	Um, they had the cat goddess, um, and when their cats died they even, um, mummified them.	Building on
21s	Child 14	<i>(8 second pause)</i> They thought cats were gods.	Building on
34s	Child 17	Um and they worshipped cats.	Building on
38s		<i>10 second pause</i>	

48s	End of recording		
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Transcript 10

0s	Child 3	(4 second pause) Um, I know my eleven times table.	
11s	Child 2	The eleven times table, whatever number you multiply it by from one to nine, you always, you always get the same, like six times eleven, you'll get sixty-six, so...	Building on
30s	Child 3	And like seven times eleven equals seventy-seven.	Building on
34s	Child 2	So whatever one you do from one to nine, it always equals the same...the amount of ones are always the same as the amount of tens.	
47s	Child 3	I also think um, sometimes the zero times table is the easiest.	
52s	Child 2	Yeah, me too, cause it's just like one times zero is zero. Everything is zero.	Building on
57s	Child 3	Yeah, because you can't make a single group. You need to have groups to times it. That's like one times eleven always will equal eleven because you're not in a (inaudible).	Building on
01:11s	Child 2	And if you do the same, like, if you do one times one, you always get a square number. For like one	
01:22s	Child 3	Times one	
01:23s	Child 2	Isn't a even number and you can make it into a shape of a square	
01:30s	Child 3	One is an odd number. (whispered)	Challenge
01:33s	Child 2	Even if it's an odd number, but you can do it with odd and even. Like three times three equals nine. And nine is three groups of three. And that can equal the square number.	Elaboration

01:50s	Child 2	(23 second pause) So... (10 second pause)	
02:23s	End of recording		

Appendix E

Adapted T-SEDA student self-audit (Primary)

Adapted from Teacher-SEDA pack (V7c) Editable templates <https://www.educ.cam.ac.uk/research/programmes/tseda/index.html>

Student Self-audit: Group Work

(Primary students)

A self-audit helps you to think about your partner work. For each of the statements below, put a number in the box next to it.

Everyone should fill in their own self-audit.

If you think the statement is:

Not true – write ‘1’

A bit true – write ‘2’

Very true – write ‘3’

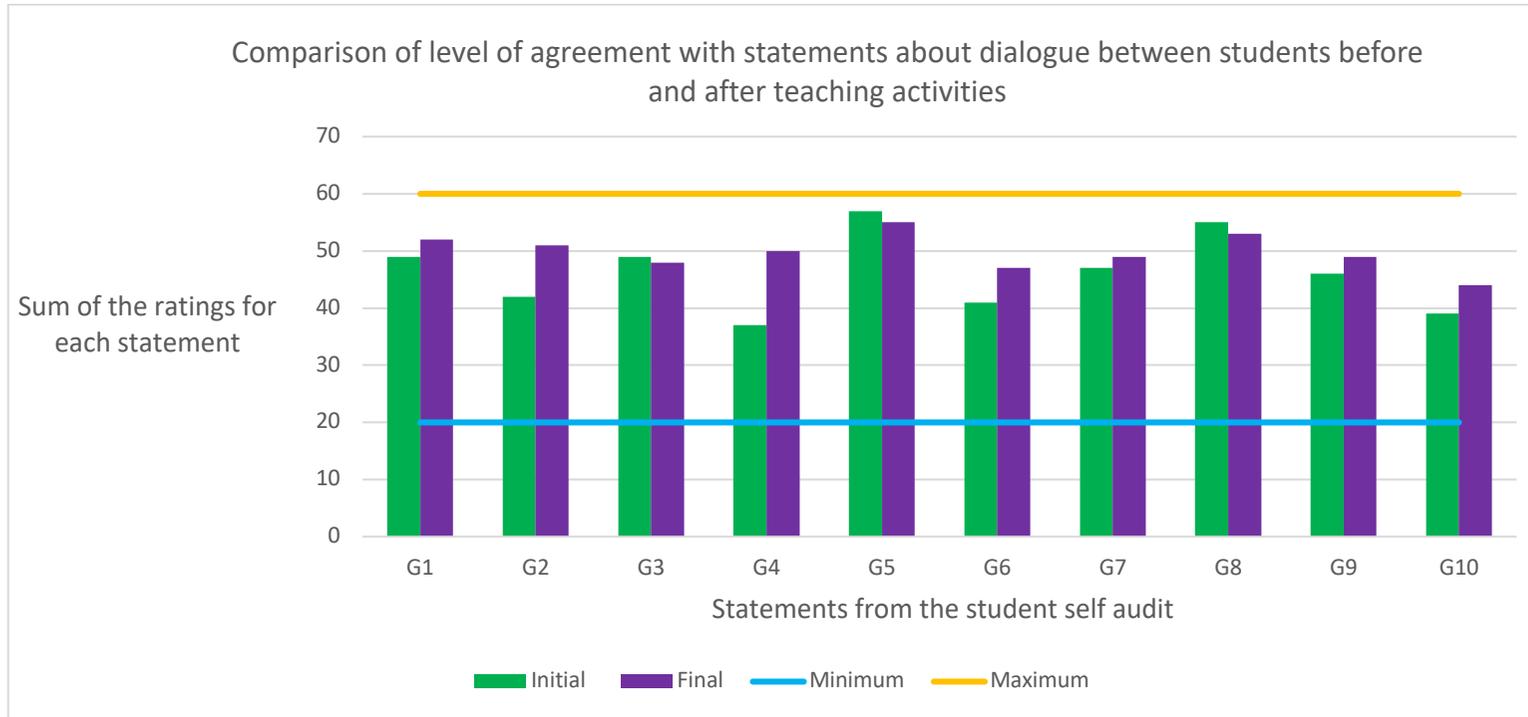
Group name(s):

Criteria	Rating
G1 – We both shared our ideas in the discussion.	
G2 – We worked as partners to complete the discussion.	
G3 – Most or all of our talk was about the task we were doing.	
G4 - We shared our own ideas and built on each other's.	
G5 - We listened carefully to what we were both saying.	
G6 – We enjoyed working together in a partnership.	
G7 – When we made suggestions or agreed/disagreed with each other, we gave reasons.	
G8 – Even if we disagreed with an idea, we talked about it in a helpful way that showed respect.	
G9 – If we disagreed with each other, we tried to work it out together.	
G10 – Our discussions and disagreements helped us learn from each other.	

Appendix F

Detailed explanation of data shown in Graph 1

Graph 1



If every child who completed the self-audit thought a statement was not true, all statements would have a score of 20 (1 (minimum possible score) X 20). This is indicated by the blue line.

If every child surveyed thought a statement was very true, each statement would have a score of 60 (3 (maximum possible rating) X 20 students). This is indicated by the yellow line.

The green bars show the extent to which children who completed the self-audit thought each statement was true at the beginning of the inquiry project (initial)

The purple bars reflect the same data at the end of the inquiry project (final).

Graph 1 indicates that the closer the bar is to 60, overall, more students thought the statement was either a bit or very true.

Appendix G

Lesson plan for small group teaching session – building on ideas

<p>Introduction/Warm up activity</p> <p>Play a listening game – I chose Simon Says, but other listening activities could be used instead. At the end of the game, explain to the children that this game demonstrates the importance of listening, which is equally important when we have discussions.</p>	<p>1 - 2 minutes</p>
<p>Prior knowledge</p> <p>Ask students which ground rules they can remember from our prior lesson. Discuss the ones they can remember and remind them of others that they can't. Remind them of why they are important and that they must be followed when they have their discussion shortly.</p> <p>If in the classroom, display the rules on the poster (if you have one). If working virtually, you could share your screen to display the rules to the children. *</p>	<p>3 - 4 minutes</p>

<p>Main activity</p> <p>Introduce the skill that you want the children to use – building on ideas.</p> <p>You could describe it to the children as building a tower of ideas about a topic, where the ideas are built on top of each other. In the classroom, you could write down the ideas and display them visually as a tower for the children. This could also be done virtually by sharing screen with the children and then typing ideas on a document as they are shared for the children to see. **</p> <p>Mention that in a discussion, you may build several towers of ideas.</p> <p>Give the children about 30 seconds to think about a topic that was familiar to them all. It is important to choose a familiar topic, so all students can have an idea to add to the dialogue.</p> <p>Now it's time to begin the discussion.</p> <p>Ask one student to share one idea to begin with. Once they finished sharing, use a stem sentence to prompt another student to build on their idea. Continue using stem sentences or invitations to build on ideas between each idea shared to prompt the next speaker, especially if a student is unsure what to say on their turn. Some students may be able to build on ideas without using a stem sentence.</p> <p>Possible stem sentences:</p> <p><i>It's also like/similar to...</i></p> <p><i>That makes me think of...</i></p>	<p>7 - 9 minutes</p>
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<p><i>My idea was similar...</i></p> <p><i>What I meant was...</i></p> <p>Possible invitations to build:</p> <p><i>What do you think about what was just said?</i></p> <p><i>Do you agree and can you add to what was just said?</i></p> <p><i>Can you give an example of what you said?</i></p> <p><i>Can we add any more ideas?</i></p> <p>(Stem sentences and invitations to build from T-SEDA pack, 2019, p. 25-26)</p> <p>As this was the first time conducting this session, I did not display the stem sentences, but used them verbally to prompt. If this session were repeated, I would display the stem sentences for the children to try use independently.</p>	
<p>Reflect</p> <p>Praise the students for participating in the discussion and trying to build on ideas.</p> <p>Ask them to share any thoughts they had about the discussion.</p> <p>Eg. Did they know what they needed to do in the discussion?</p> <p>Did they think they were building on ideas?</p> <p>Did they feel it made the discussion better? Why/why not?</p>	2 minutes

Reference:

Kershner, R, Hennessy, S, Calcagni, E & Ahmed, F, (2019), *Teacher Scheme for Education Dialogue Analysis (T-SEDA) pack (V7c)*. Retrieved from <https://www.educ.cam.ac.uk/research/programmes/tseda/index.html>

Appendix H:

Lesson Plan for Ground Rules teaching session

The lesson can be split into shorter sessions or completed as one long session.

Introduction

Ask the children to brainstorm and write down ideas about this question:

What is a discussion?

Ask children to their share ideas with the class. Teacher to scribe ideas on the board for children to see.

Ask the children to draw a picture of what it looks like when they are having a good discussion with their learning partner.

They can also write down notes about their drawing about what they are doing in the picture.

Children to feedback to their learning partner and then some students to share ideas with the whole class.

Discussion about discussion

Teacher to pose the following questions, children to write down their responses to the questions.

1. Who thinks they are a talkative person?
2. Who thinks they are a quiet person?
3. Who do you like talking to?
4. When are you asked not to talk? Why?
5. What does 'chatterbox' mean?

6. Why is it really helpful to be able to talk?
7. What sort of things can we do by talking together?

(Thinking Together Project, 2020)

Discussion Activity *(Thinking Together Project, 2020)*

Children have 1 minute each to talk to their learning partner about any subject they choose.

Children then reflect on their discussion using the following questions:

Who did they find was a good talker? Why?

Who did they find was a good listener? Why?

(Thinking Together Project, 2020)

Children to share ideas with class, teacher to scribe them to create a poster of a good talker and good listener.

Explain to the children that they will be developing Ground Rules for discussions.

Ask the children – Why do we need rules?

Ask them to think about rules in sport and why they are needed.

Talk about how Ground Rules are needed so that everyone knows what they need to do and agrees to follow the rules in discussions.

Adapted from Thinking Together Project, 2020

Give the children time to think of rules they think are necessary to have an effective discussion with their learning partner.

They can work individually or in pairs.

Pose the following questions to the students:

Do you think that if you have something to say, you should say it?

Do you think both partners should have a chance to contribute to a discussion?

Do you think you should listen carefully to each other?

Should you think about all ideas that are shared?

Should you ask each other what you think?

Should you ask each other to explain why you think something?

How should you respond if your learning partner disagrees with you?

Ask them to agree or disagree with them. Discuss reasons why with them as a whole class

Questions developed from Thinking Together Project, 2020

Ask children to write down two or three rules that they believe are essential Ground Rules for discussion

Teacher to collect and use the ideas to develop approximately 5 ground rules that reflect the needs of the class. These rules should be agreed to by the class and displayed.

Adapted from Thinking Together Project, 2020

Reference: Thinking Together, Faculty of Education, University of Cambridge, (2020) Preparing for Group work, Retrieved https://thinkingtogether.educ.cam.ac.uk/resources/downloads/Preparing_for_group_work.pdf 29 November 2020