

Olchfa Action Research Project:

GREAT Discussions: Improving Group Discussions Across KS3 iThink (Humanities)

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Abstract

This paper details the findings of the action research project undertaken in Olchfa School in the summer of 2018. Olchfa is a large comprehensive secondary school with approximately 1800 pupils situated in the City and Council of Swansea. Olchfa is a successful school with above average attainment when compared to national data.

In response to the Successful Futures report (Donaldson, 2015), Olchfa was awarded Pioneer School status in 2015 with the responsibility to lead on the design and development of the new curriculum for Wales. The action research project arose in response to changes to the subsequent changes to the KS3 Curriculum at Olchfa. An increase in collaborative working, especially at KS3 raised many questions about the best way in which teachers should approach pupil discussion and group work. A comprehensive review of the new year 7 and year 8 curriculum was conducted in the autumn of 2017. This provided the questions that formed the basis of the action research project.

The action research focused on pupil participation and the quality of discussions taking place. Approximately 90 pupils and four teachers were involved in the study. The intervention was conducted over the duration of a half term with resources packs and teacher training provided for all staff involved. Data collected took both qualitative and quantitative forms.

It is hoped that the results of this action research project will help inform both teachers and curriculum designers at Olchfa on the most effective ways of improving group discussion amongst pupils.

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Introduction

This report presents the findings of a study into the effectiveness of our *GREAT Discussions* intervention: a six week research-informed intervention in response to a school need to enhance pupil collaboration. The study was conducted by the research team at Olchfa School between May 2018 and September 2018. The National Foundation for Educational Research (NFER) and the School of Education at University of Wales Trinity St David (UWTSD) have assisted in the planning and implementation of this study.

Background Evidence

The Education Endowment Fund (EEF) suggests that a *collaborative* (or cooperative) learning approach:

“Involves pupils working together on activities or learning tasks in a group small enough for everyone to participate on a collective task that has been clearly assigned. Pupils in the group may work on separate tasks contributing to a common overall outcome, or work together on a shared task.”

(EEF, 2018)

There is a large body of evidence that indicates that students gain both academically and socially when they have opportunities to work with others to accomplish shared goals. Gilles (2008) suggests that the main advantages are that students learn to:

- interrogate issues;
- share ideas;
- clarify differences;
- construct new understanding;
- increased participation in group discussion;
- demonstrate a sophisticated level of discourse; and
- engage in fewer interruptions while others speak.

Although the literature suggests that the impact of collaborative approaches on learning is consistently positive, the size of impact varies suggesting that it is important to get the detail right. Effective collaborative learning requires much more than just sitting pupils together and asking them to work in a group; structured approaches with well-designed tasks lead to the greatest

learning gains. The EEF (2018) also highlight that approaches *which promote talk and interaction between learners* tend to result in the best gains.

Mercer (2004) has published a plethora of research on promoting talk and interaction between learners. Suggesting that children learn more effectively, and intellectual achievements are higher when they are actively engaged in pedagogic activity, through discussion, dialogue and argumentation. He highlights the need to develop the critical reasoning and inquiry skills that will enable them to participate effectively and safely in the wider communicative practices. His research suggests that there are three types of talk displayed in classroom discussions; *disputational talk, cumulative talk and exploratory talk*. The features of which are displayed in the following table:

Disputational Talk	Cumulative Talk	Exploratory Talk
<p>There is a lot of disagreement and everyone just makes their own decisions.</p> <p>There are few attempts to pool resources, or to offer constructive criticism.</p> <p>There are often a lot of interactions of the 'Yes it is! - No it's not!' kind. The atmosphere is competitive rather than co-operative.</p>	<p>Everyone simply accepts and agrees with what other people say.</p> <p>Children do use talk to share knowledge, but they do so in an uncritical way.</p> <p>Children repeat and elaborate each other's ideas, but they don't evaluate them carefully.</p>	<p>Everyone listens actively</p> <p>People ask questions</p> <p>People share relevant information</p> <p>Ideas may be challenged</p> <p>Reasons are given for challenges</p> <p>Contributions build on what has gone before</p> <p>Everyone is encouraged to contribute</p> <p>Ideas and opinions treated with respect</p> <p>There is an atmosphere of trust</p> <p>There is a sense of shared purpose</p> <p>The group seeks agreement for joint decisions</p>

Mercer (2004) suggests that when working in small groups pupils need to engage in **exploratory talk** to ensure that knowledge can be effectively jointly constructed; an important and very common aim of group discussion within a classroom. However, he appreciates, and stresses the importance of, the need for **scaffolding** to promote this exploratory talk, especially when pupils are first introduced to the concept.

Interestingly, in their reflections Giles et al (2008) suggested that students performed better in collaborative tasks where students had been provided with opportunities to participate in these activities on a regular basis, highlighting the need to embed these practices into everyday

teaching. They also discovered that student performance was further enhanced where teachers had been trained *how* to establish cooperative learning activities.

With this evidence in mind, the **GREAT Discussions** intervention attempts to encourage and embed exploratory talk through providing scaffolding to pupils through use of sentence stems. Teacher CPD and support will be a feature both prior to and throughout the intervention.

Rationale for Current Study

Recent educational reform in Wales highlighted the Welsh Government's aim to ensure that all children and young people receive a high-quality, relevant education which not only equips them with the ability to overcome complex challenges, but helps them to thrive as citizens in the 21st Century. In *Successful Futures: An Independent Review of Curriculum and Assessment Arrangements in Wales*, Professor Graham Donaldson highlights the perceived "shortcomings" of the national curriculum and emphasises the importance of moving away from the "prescriptive" and "pressurised" nature of it. Professor Donaldson recommends for a more innovative, creative, engaging and ambitious approach to education; an education that is more reflective of, and responsive to, pupils' needs in a technologically advancing world.

Olchfa School was awarded curriculum Pioneer School status in 2015 - charged with the responsibility to lead on the design and development of the new curriculum for Wales. With the drive to realise the full potential of Donaldson's Review, Olchfa's senior leaders set out by changing the school management structures. Subject specialisms converged to create 6 Learning Areas and paved the way for the school's management structure to reflect Donaldson's broader Areas of Learning and Experience.

With the management structure in place, teachers at Olchfa were given the creative freedom and autonomy to plan collaboratively and reimagine a new curriculum. The iLearn curriculum at Olchfa has been purposefully and carefully designed to deliver Donaldson's Four Purposes and it affords all pupils with opportunities to develop as ambitious, capable learners; enterprising, creative contributors; ethical informed citizens and healthy confident individuals.

Olchfa's Research Team - which was appointed in September 2017 - recently carried out an in-depth audit of the iLearn curriculum, evaluating to what extent the 12 features of good teaching highlighted in Donaldson's report (NB: otherwise known as the 12 Pedagogical Principles) have been embedded within each Learning Area. The Research Team's findings suggest that one of the

challenges teachers face in implementing the iLearn curriculum is the proliferation of **collaborative learning** and stronger emphasis on pupils participating in group discussion within lessons.

“Group discussions are a common way of working in iThink with pupils aware of the skills that group discussion can help them to develop.”

iLearn Evaluation, Olchfa School

“I enjoy them (group discussions) because we get to discuss our opinions which we can’t do when the teacher is talking.”

Pupil, Olchfa School

A common feature of teachers’ feedback in relation to collaborative learning was their frustration at some of the group discussions that they were observing or conducting in their classrooms, for example:

*“The ability of the pupils to do the group work independently would be a bit of a **lottery** and it would require a lot of monitoring and sanctions.”*

Teacher, Olchfa School

Not very organised, awkward silences, in some group work, some pupils would dominate. The tendency was also to go off topic.”

Teacher, Olchfa School

The iLearn Evaluation identified curriculum strengths and challenges which would need to be addressed moving forward. The following challenge was identified:

All pupils need to be able to work effectively as part of a team. There is evidence from lesson observations and staff feedback that, even when pupils are grouped, they are working as individuals and are not benefitting from the opportunity to work collaboratively.

(C25: iLearn Evaluation 2018)

In response to this challenge, the following research question was formulated:

“How does the explicit teaching of group discussion skills impact participation and the quality of group discussion in year 8 iThink¹ lesson?”

Intervention

The **GREAT Discussion** intervention was a six week evidence informed intervention to enhance collaborative learning for which there were three strands:

1. Initial input of two stand alone lessons focussed on positive talk and developing exploratory talk. Lessons were created by the research team and delivered by humanities staff. Some activities and resources were based on the University of Cambridge *Thinking Together* resources for teachers.
2. Introduction of and continued use of ‘Sentence Stems’ and ‘What makes a **GREAT** discussion” mats in lessons to support pupil discussions. These resources were also displayed as classroom and corridor posters.
3. Staff training prior to, and throughout, the intervention.

Training and Support

1. CPD/Training Sessions

Teachers delivering the intervention received two hours of training, one on ‘positive talk’ in the classroom and another on promoting ‘exploratory’ talk. These training sessions were three weeks apart, the first one prior to the intervention starting, the second at the halfway point.

2. Teacher guidance

Teachers delivering the intervention received the following guidance

- ***Closing the gap between research and practice: Strategies for effective group discussion in the classroom*** A one page summary of the latest research on collaborative learning and group discussions.
- Detailed lesson plans to assist in the delivery of the intervention lessons.

¹ iThink :The humanities learning area - Humanities provides fascinating contexts for children and young people to learn about people, place, time and belief. iThink gives pupils an understanding of historical, geographical, political, economic and societal factors and provides opportunities to engage in **informed discussions** about ethics, beliefs, religion and spirituality.

3. Research Team Support

Teachers delivering the intervention received ongoing support and guidance from the Research Team.

Project Team

Research Lead

- Kathryn Wall

Research Team

- Gayle Quick
- Thomas Powell
- Daniel Hughes
- Suzanne Jabarian
- Kathryn Scordino

Intervention Teachers

- Peter Llewelyn
- Megan Nightingale
- Claire Toulcher
- Jen Thompson

Ethical Review

Following the BERA (2011) guidelines, the Research Team created a document entitled: 'Ethical Considerations for Teacher-researchers at Olchfa' This document clearly addresses a range of ethical considerations that are most pertinent to the context of Olchfa. Most importantly, it is clearly communicated that all teacher-researchers aim to enforce the principle of active informed consent. As well as addressing the issue of consent, the document also outlines ethical considerations relating to: anonymity and confidentiality; research methods; reliability and validity and data management. Following these guidelines ensured that the action-based research was ethically sound at all stages - from conception to implementation and through to the dissemination of our findings.

Ethical approval was granted by the Research and Ethics Committee of the School of Education, University of Wales Trinity Saint Davids in May 2018. Informed consent was obtained at the school level from headteachers and teachers. Written information and opt-out consent forms were sent home to parents of all pupils in the intervention lessons. Parents were also given the opportunity to contact the research team for further information. Pupils involved in the semi-structured focus group interviews completed an opt-in consent form prior to the interview.

Although pupils could not opt out of the iThink **lesson** and the teaching and learning that was occurring as this was normal practice for pupils in the class, all pupils were given a meaningful option to opt out of any data collection. Pupils were informed in advance of any data collection and were introduced to the research team members carrying out the data collection.

Methods

Trial Design

The intervention involved three mixed ability year 8 classes giving approximately 90 pupils in the study.

The study took a pre-experimental design: All three groups were observed and data collected prior to the intervention and again after a six week period. The intervention was conducted on all three groups with no group acting as a control. Whilst the questionnaire data and lesson observation data could be analysed with comparisons being made between pre and post intervention data, much of the analysis has taken a qualitative approach.

Triangulation of data came from pupil questionnaires, pupil interviews, lessons observations and interviews with teachers. Data collected was examined against the following behaviours. The behaviours were categorised based on what the evidence states to be qualities of effective group discussion.



Diagram 1.1

Participant Selection

Information regarding the research and details of the intervention were disseminated during a Learning Area (department) meeting. Teachers were then able to opt-in to the trial and the pupils of the self-selecting teachers became part of the study. Whilst all pupils were required to participate in the intervention lessons as these were considered a normal part of teaching and learning, pupils had the right to opt out from their data being used in the research. Three classes and four teachers were used as part of the study as one class was split with two teachers.

Timeline

Date	Activity
April 2018	Submission of ethics form to UWTSD
15th May 2018	Ethics approval granted from UWTSD Ethics Board
15th May 2018	Permission letters sent to parents / carers
18th May 2018	Pre-intervention questionnaires given to pupils
W/C May 21st 2018	Pre observation of the three classes to obtain baseline data
W/C June 4th 2018	Delivery of two intervention lessons
June 4th - July 6th 2018	Duration of intervention where teachers are using intervention resources
W/C 9th July 2018	Teacher interviews; post-intervention observations; post-intervention pupil questionnaires and interviews.
September 2018	Dissemination by presentation to Senior Leadership Team, Learning Managers (<i>Head of Areas of Learning</i>), TLR holders (<i>Deputies within Areas of Learning</i>) and Lead Practitioners (<i>CPD providers within Areas of Learning</i>) of the results of the project.

Pupil Questionnaire

A copy of the pupil questionnaire is in Appendix A. All pupils in all three classes were given a copy of the questionnaire during an iThink lesson both pre and post intervention. The aim of the questionnaire was to gain an overview of pupils views and opinions towards group discussion in iThink.

Semi-Structured interview with pupils

Pupil interviews were conducted both pre and post intervention. The pre and post interviews held a slightly different purpose. In the pre-intervention interview, pupils were interviewed in groups of three based on their responses from the questionnaire. They were grouped by either having a positive view or negative view towards group discussions. The purpose of these interviews was to try to explain the reasons behind pupils views towards group discussion. The purpose of the

post-intervention was to find out pupils' views towards the intervention lessons and their subsequent views towards group discussion.

All interviews were semi-structured. A copy of questions can be seen in Appendix B. A total of 12 students were interviewed. Pupils were interviewed during form time lasting approximately 10 minutes. Interviews were audio recorded and then transcribed for analysis.

Semi structured observation schedule

Lesson observations were undertaken both pre and post intervention. A lesson by each of the teachers in the study was observed prior to the intervention. The observer observed one group at a time recording the interactions between individual group members. Interactions were classified according to the behaviours for effective group work as previously shown in Diagram 1.1. The length of the discussion was recorded as well as each contribution by each individual pupil. See Appendix C for a copy of the observation recording sheet. Observation sheets reflected a scored discussion approach. Scored discussion is a method that allows interactions during group work to be measured. There are a number of different models, but essentially, all provide a scoring system to assign a numerical value either to an individual or a group and as with our example, can create a visual that represents the interactions between individuals (Zola 1992, Lander 2002).

Semi-structured interview with teachers

All four teachers were interviewed individually post intervention. The purpose of this was to ascertain their views on how the intervention had gone, whether it had affected their approaches towards teaching group discussion and if it would have an impact on their future practice. These interviews were semi-structured and a copy of the questions can be seen in Appendix D.

Results

This report aimed to answer the following research question;

“How does the explicit teaching of group discussion skills impact participation and the quality of group discussion in year 8 iThink lessons?”

Through an analysis of pre and post data collected during the **GREAT Discussion** intervention, we can assess the extent to which the explicit teaching of group discussion skills has impacted on:

1. Pupil perceptions of group discussion among Year 8 pupils,
2. Pupil participation rates in group discussions in Year 8 iThink lessons,
3. The quality of group discussion in Year 8 iThink lessons.

1. Pupil Perceptions of Group Discussion among Year 8 pupils

The results from the pupil questionnaires give an insight into how the pupils view group discussions within iThink. Pre-intervention pupil responses (n=85) gave a response rate of 93% across the three classes whilst post-intervention pupil responses (n=79) gave a response rate of 83%. Below are both the questionnaire statements and the responses given by pupils.

List of statements in the Pupil Questionnaire

1. I participate in group discussions in iThink.
2. I encourage others to share their ideas and opinions in group discussions in iThink.
3. I listen to others during group discussions in iThink.
4. I am confident to share my ideas in group discussions in iThink.
5. I am confident to challenge opinions I disagree with in group discussions in iThink.
6. I am confident to ask questions when I do not understand something in group discussions in iThink.
7. I enjoy group discussions in iThink.
8. I believe group discussions are important in iThink.
9. I feel that my contributions to group discussions are valued by other group members in iThink.
10. I feel that group discussions deepen my understanding in iThink.

Table 1.1 - Responses to pupil questionnaire

Pre-intervention Responses										
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Agree	75%	54%	89%	78%	64%	78%	61%	76%	69%	67%
Neutral	20%	33%	10%	16%	27%	16%	28%	15%	22%	22%
Disagree	5%	13%	1%	6%	9%	6%	11%	8%	8%	11%
Post-intervention Responses										
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Agree	80%	61%	90%	76%	73%	76%	65%	75%	70%	73%
Neutral	15%	29%	9%	16%	23%	15%	26%	21%	25%	18%
Disagree	5%	10%	1%	8%	4%	9%	9%	4%	5%	9%

Teachers when interviewed suggested that discussion is a feature of most, if not all, lessons. This was corroborated in the pre-intervention questionnaire data with 75% of pupils asked, agreeing with the statement - *I participate in group discussions in iThink*.

This evidence of frequent group work may go somewhere to explain the fact that pupils seemed to be very aware of the advantages of, and reasons for using group discussions in lessons. 76% of students asked agreed with the statement - *I believe group discussions are important in iThink*.

Within the pupils interviews, pupils were able to expand on this further, giving a range of advantages of using group discussions, and not surprisingly, they they were highlighting both academic and social advantages, for example:

Social Advantages	Academic Advantages
<p><i>"Communication and team building skills"</i></p> <p><i>"Stuff you need when you are older and get a job"</i></p>	<p><i>"Expanding and sharing knowledge"</i></p> <p><i>"Allows you to see the way other people think"</i></p> <p><i>"Taking other people's viewpoints into account"</i></p> <p><i>"Peer support to understand and clarify"</i></p> <p><i>"If you are stuck, you can ask for help"</i></p>
<p><i>Pupil responses during semi-structured interview</i></p>	

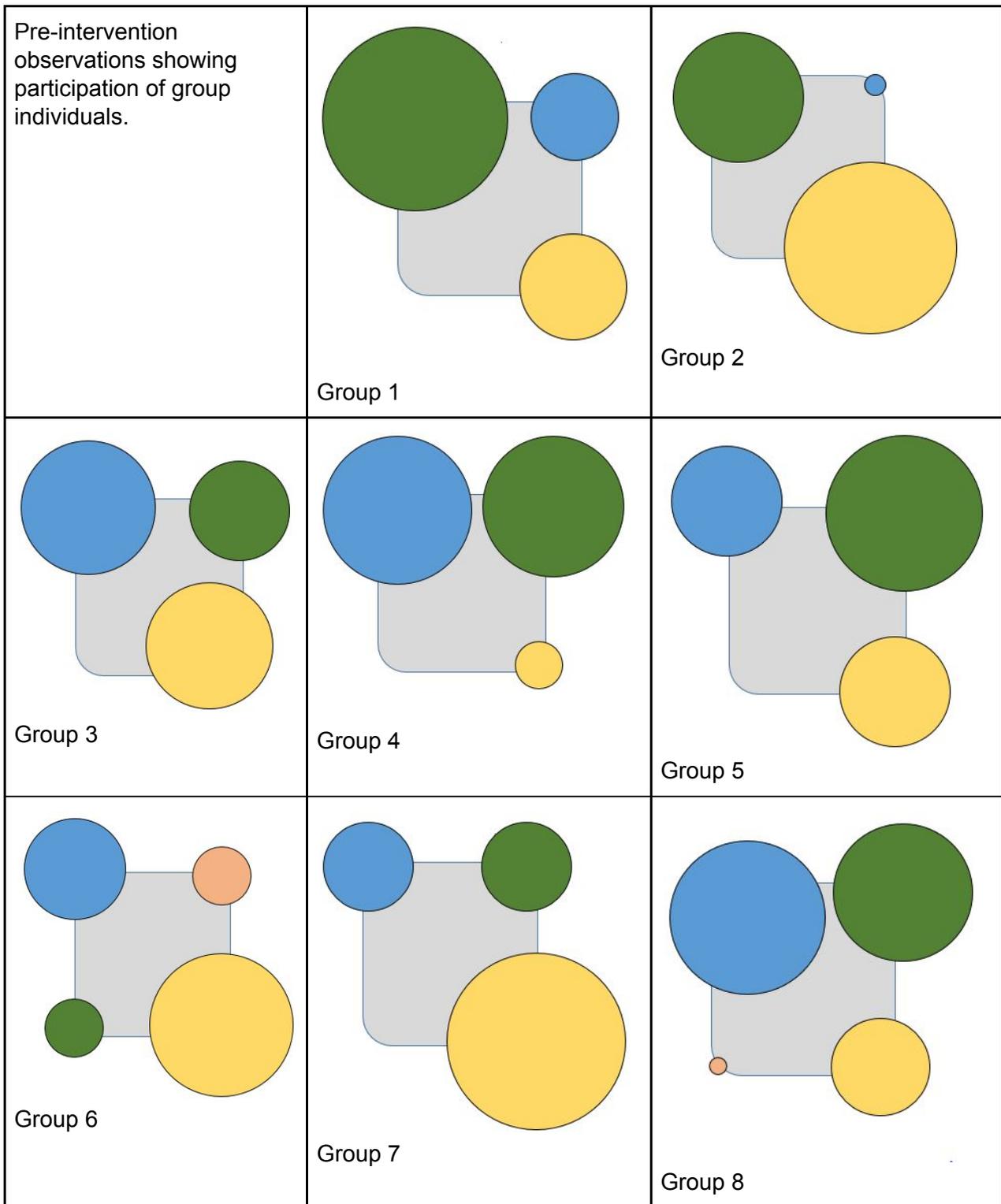
The data from the questionnaire and pupil interviews would suggest that there is little evidence that the intervention has caused pupils to think differently towards group discussions in iThink. However, as previously said, the questionnaire gives an insight as to what pupils think and this will not always represent the reality of the situation. It should also be mentioned that the new iThink curriculum is in its fourth year and the importance of group discussion has been made explicit by teachers throughout this period. Whilst, there was little change in the majority of the responses of the questionnaire, the original responses were already largely positive, reflecting the messages that teachers have been giving over the past few years. Details of some of the post-intervention responses will be drawn on when looking at the observation and interview data.

2. Pupil Participation Rate in Group Discussions in Year 8 iThink Lessons

The second strand of the research question was looking at participation rates amongst pupils. A snapshot of what group discussion looked like prior to the intervention was taken by;

1. Observation of group discussions within lessons,
2. Pupil Interviews,
3. Teacher Interviews.

The four intervention teachers were asked to describe what group discussion would typically look like prior to the intervention. Common themes were apparent in the responses that they gave. Issues such as pupils going off task were common and the idea that group could 'look a bit chaotic'. A number of teachers mentioned that some pupils responded to group tasks in a very different way. Some pupils would be very confident and could have a tendency to dominate the conversation, whilst others would rarely participate at all. These views of the teacher are supported by the observations undertaken by the researchers. The graphic below shows a visual representation of positive contributions made by individuals in group discussions. The area of each circle is proportional to the contributions made by that individual.



Whilst natural variation for participation should be expected during group discussions, it is clear in some incidences that pupils are not participating in the discussion. The small circles in group two and group eight represent a pupil who did not make a single positive contribution during the discussion, whilst group four looks very much like a pair discussion with minor input from the third

pupil. It should be noted that ‘active listening’ was recorded as a positive behaviour, meaning pupils can be shown as participating in a discussion even if they are not making verbal contributions. The data from the the observations corresponds with both responses given by teachers and pupils. Pupils were very adept at recognising what some of the disadvantages to group discussion were. The quotes below are by pupils prior to the intervention when asked the question. What are the disadvantages of using group discussions in iThink?

“Less confident people sit back while confident people talk a lot.”

“Some people can’t do any work because others won’t let them.”

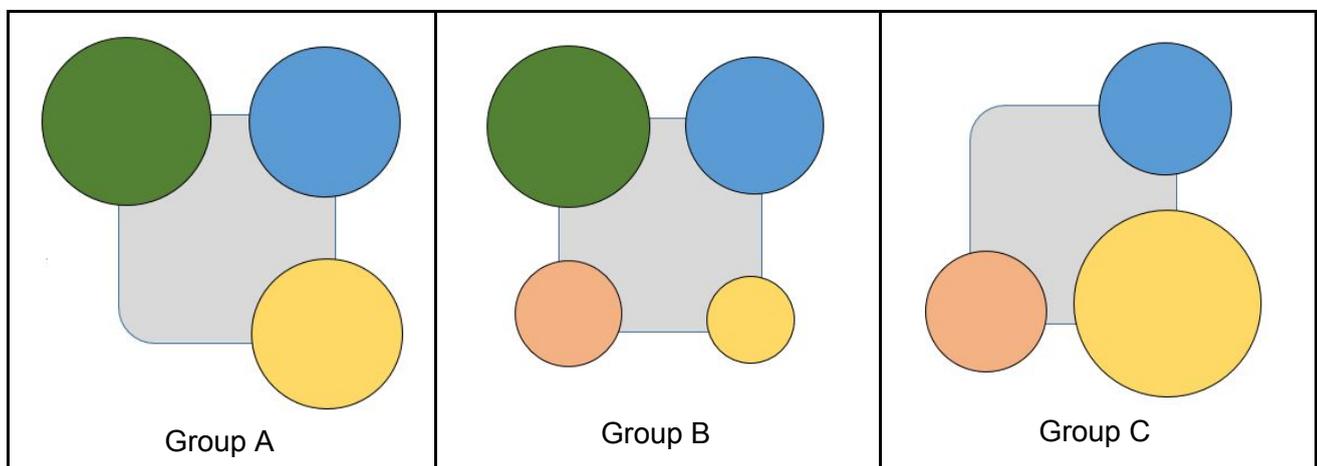
“Not everyone takes part - makes you fed up and annoyed.”

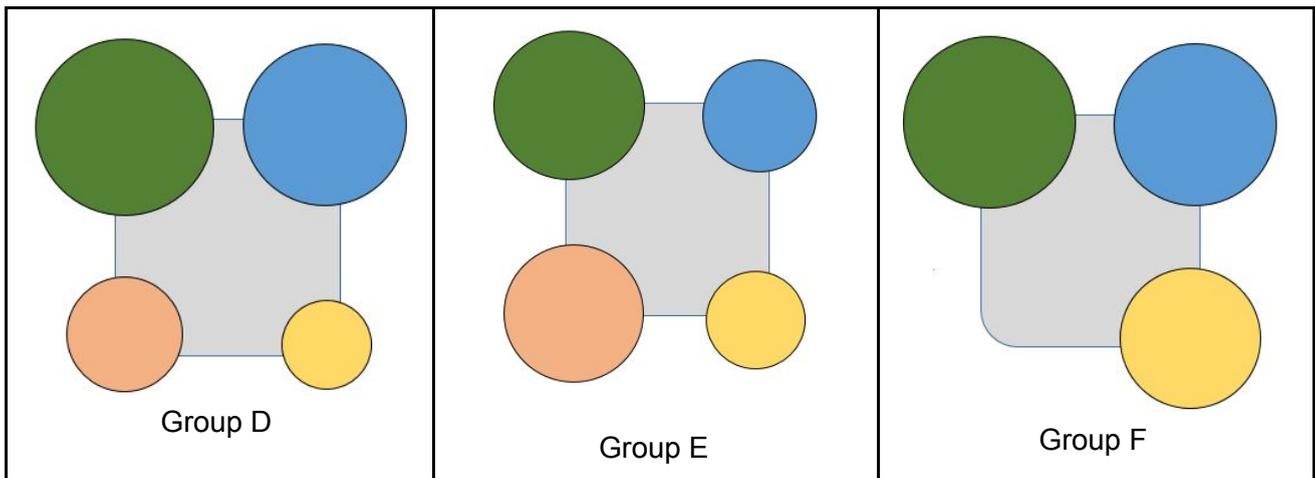
“Sometimes you have to do everything, or at other times, no-one listens to you at all.”

A clear feeling of frustration came across when interviewing pupils that group discussion allowed the opportunity for pupils either to sit back and not participate or alternatively gave some pupils a platform to dominate a discussion. This sense of frustration was also apparent with the responses given by teachers with very similar statements regarding participation also given by teachers.

Post-Intervention

The graphic below represents the observational data taken post-intervention. As before, each box represents one group discussion with each circle representing a single pupil. The groups are not the same as the groups in the pre-intervention data. They are a sample of the group discussions that took place.





Examining the participation circles above, it can be seen that participation is more equally distributed amongst group members. Whilst we are unable to quantify rates of participation, it can be seen that in the post-intervention observations that there are no incidences of a pupil not contributing towards the group discussion. Also, it would suggest that there are less occurrences of domination by a single group member. Care must be taken not to draw any strong conclusions as the sample size is small; however, by triangulating this with the data from pupil and teacher interviews, there is evidence to support possible changes in pupil behaviour.

The statements below are taken from post-intervention interviews with pupils:

“I think it (group discussion) has improved because normally the confident people take over and the quiet people sit in the corner and don’t say anything but now we have the stems, it helps them to get out of their shells and talk to people.”

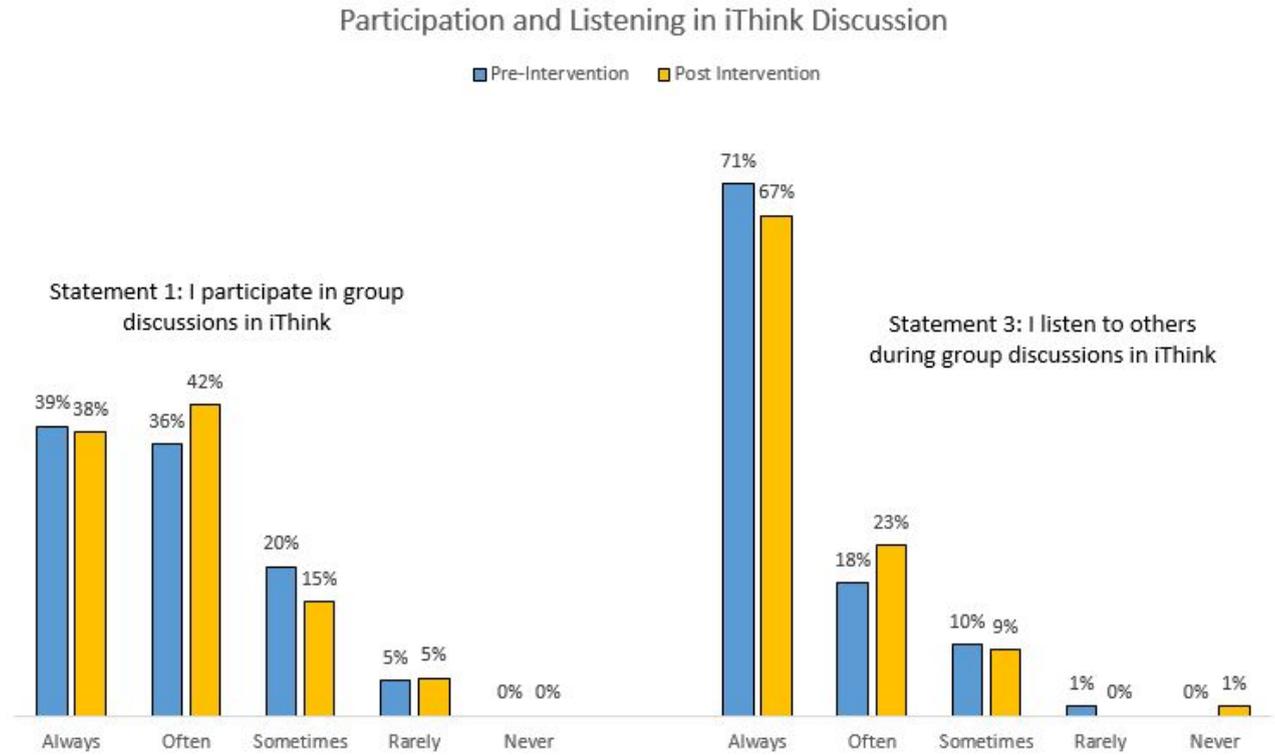
“I feel like people value your opinions more, and care more about what they say.”

A common theme from the teacher responses was that they felt something had changed but could not back that up with evidence. One teacher stated that she felt that they had ‘gelled more’ as a class. Although not quantifiable, it is important not to dismiss the feel that teachers have for their classroom. Teachers referred to the pupils who had not changed and were of the belief that some pupils have behaviours that were their ‘human nature’ and that any intervention would be difficult to alter these behaviours. That said, there were also references to more pupils getting involved and the sentence stems allowing pupils a way into conversations. This was corroborated with some of responses given by pupils in their interviews.

“There was also, if people we quiet in your group, sentence stems to get them involved, not just say to them ‘why aren’t you speaking, just say something’. You could say ‘Would you like to say

something now?’ and I think that is good as it doesn’t force them to do it, it gives them an option.”

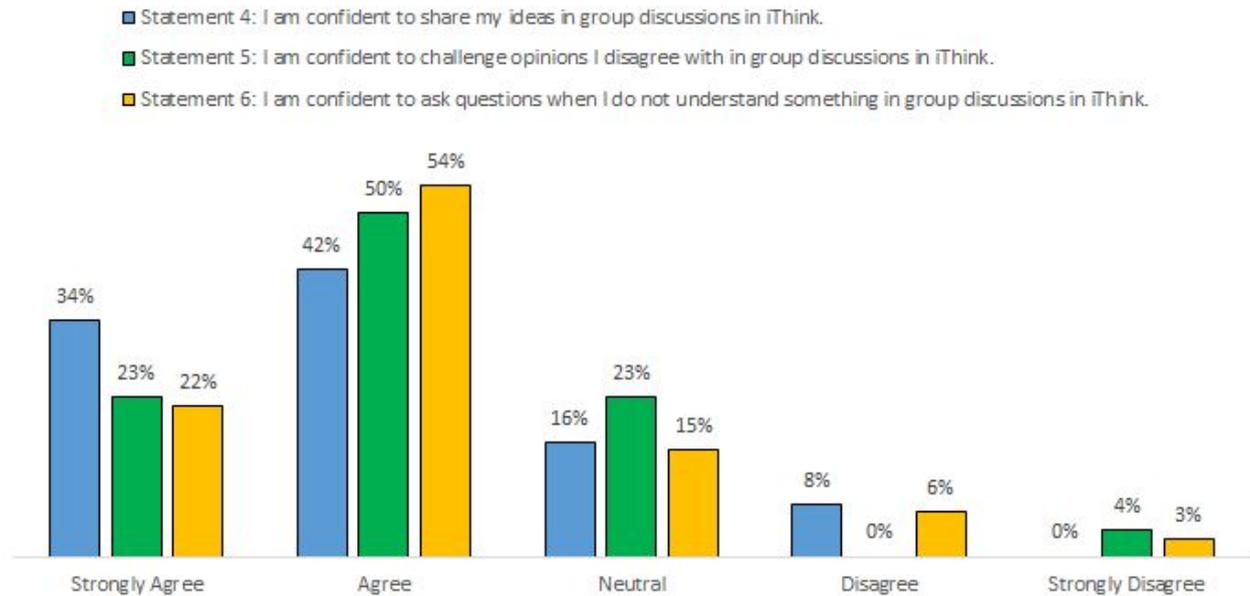
The chart below shows the responses to statement 1 and statement 3 in the pupil questionnaire.



Examining the chart above, there was no significant difference between pupil responses pre and post intervention. It can be seen that the vast majority of pupils are stating that they listen to their peers during group discussion. 80% of pupils are saying that they participate at least on a regular basis with only 5% saying that they rarely participate. The responses of the pupil questionnaire would appear corroborate what was said by teachers and what was seen in lessons in the post-intervention data. However, the data collected prior to the intervention does appear to contradict some of what pupils are saying. Prior to the intervention, there was evidence via both teacher interviews and observations that some pupils were not participating, although the responses to the questionnaire say that this is a significant minority. One problem may lie with the descriptions of how frequently pupils perceive themselves to be participating. What might seem like *often* to one pupil could well be *sometimes* or even *rarely* to a different pupil. This highlights the difficulty in collecting pupils’ views on something that can be very subjective.

Pupils views towards their confidence in group discussions from the post-intervention results are shown below.

Responses to Pupil Confidence Statements



Response to statements four, five and six were broadly similar. Statements four and six showed no significant difference from the pre-intervention results, as such, the graph is only showing pupils responses post intervention. Responses to statement five are further discussed below. Only 8% of pupils are saying that they are not confident to share ideas in group discussions. To put this into context, this would represent 1 - 2 pupils in a typical iThink class. This corresponds to the observation data that is suggesting an increase in participation amongst the pupils who had previously not been engaging. The area where the greatest change has been seen is the confidence pupils are having to challenge views they disagree with. Only 4% felt they did not have the confidence to challenge others compared to 9% in the pre-intervention responses. In addition to this, the number of pupils actively agreeing to having confidence to challenge increased from 64% to 73%. Evidence to support pupils' views having changed can be seen in the next section whereby lesson observations saw an increase in pupils challenges each others' views.

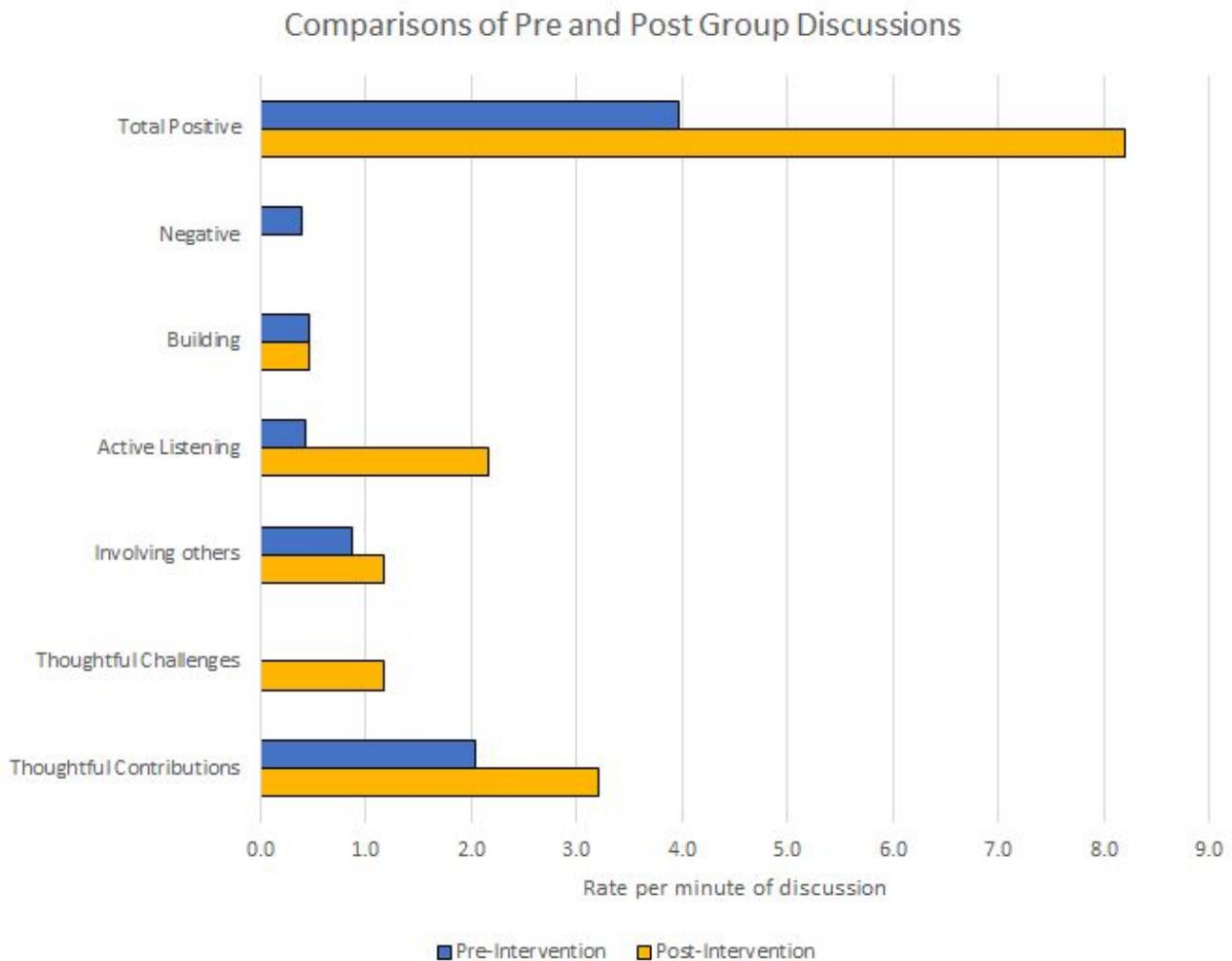
Pupils having the confidence to ask questions when they did not understand (statement 6) actually saw a slight decrease in pupils agreeing to this statement, 76% compared to 77%; however, this still represents a majority of pupils.

3. The Quality of Group Discussion in Year 8 iThink Lessons

The third strand of the research question looked at the quality of discussion amongst pupils. As previously discussed, the quality of the discussions taking place were determined by observations of the five identified behaviours for good group discussion.



The graph below shows the result of these pre and post observations;



Pre-Intervention

The semi-structured observation schedule allowed us to assess the quality of discussion, identifying the frequency each of the 5 behaviours was displayed. In the initial, pre-intervention data, positive contributions were occurring at a rate of around 4 per minute of discussion and although rare, negative contributions were occurring at a rate of less than 0.5 per minute of discussion. This suggests that discussion mainly involved positive contributions prior to the intervention. Of these positive contributions, it can be seen that the most common observation was of pupils making thoughtful contributions - this was occurring at a rate of about 2 per minute of discussion. All other behaviours were below the rate of one per minute, which may suggest that the

most likely type of talk occurring pre-intervention was cumulative talk. As suggested by Mercer (2004) cumulative talk would involve pupils sharing knowledge and accepting and agreeing with what other people say, this would occur in an uncritical, unevaluative way. Interestingly, the fact that thoughtful challenges were not observed in any of the pre-intervention observations corroborate that. This notion of a lack of challenges was explored further in the pupil interviews, participants were asked;

Do you find it difficult to challenge opinions you do not agree with in group discussions in iThink? Why?

The pupil responses reflected the observation data with the majority of pupils interviewed suggesting that they found it difficult to challenge opinions e.g.

"I would be too nervous to say anything."

"I would just say my opinion and not challenge the other person."

"I don't want to dishearten them."

"Not afraid to challenge, but just find it difficult."

However, it must be noted that this was not the case for all pupils interviewed, one pupil when asked the question replied with a sophisticated response;

"I use a rebuttal or challenge argument e.g. your idea is good but on the other hand Mine is better because...."

supporting the idea that in the questionnaire data 54% of pupils questioned did feel confident to challenge others during group discussions.

Lastly, even though involving others was the second most common behaviour observed, when looking at the questionnaire, it was surprising that only 54% of pupils interviewed agreed with the statement *I encourage others to share their ideas and opinions in group discussions in iThink.*

Post-Intervention

The graph shows differences between the pre and post intervention observations.

The first thing to note is that there is a reduction in the number of groups observed during the lessons (8 pre/ 6 post). This was due to the fact that the observed discussions were lasting longer, moving from discussions lasting around 2 minutes, to lasting up to 5 minutes post intervention.

When interviewed, pupils suggested that the use of the sentence stems was affecting the length of their discussions:

“...because it used to be that not everyone had a turn, people took the lead and wouldn’t give everyone else a go, but now that people know that it is good to hear other people’s opinions, they use the sheet to ask other people.”

“I think people talk more now as they can actually start of with something that is not wrong.”

“I think it has (increased in length) because normally the confident people take over and the quiet people sit in the corner and don’t say anything but now we have the stems, it helps them to get out of their shells and talk to people.”

We can assume that the sentence stems did serve as a scaffold, as intended, and it seems that this was particularly helpful for our quieter, less confident pupils. Extending a discussion allows more time for knowledge to be shared and jointly constructed: one of the aims of collaborative learning as suggested by Mercer (2004).

The frequency of total positive contributions increased compared to pre-intervention observations and encouragingly no negative contributions were identified in the observed group discussions post intervention. This was backed up in interviews with teachers when asked *Do you feel that there has been any change in pupils behaviours when conducting group discussions?* Replies included:

“Yes, I think there is less of them going off task because they are looking at what they can say next”

Yes, they are more focussed and there is less off task chatter.

We can hope that the reduction in off task, negative contributions allows the space for positive contributions and an improvement in the quality of discussion. Although we have no evidence to back this up, when asked *Do you feel that group discussion has allowed pupils to deepen their understanding?* One teacher replied;

“I’d hope so, I can’t back that up with anything, but the fact that the discussions are flowing better, they are all taking part and the fact that they are not off topics, tells me yes.”

Suggesting that the reduction in off-task behaviour *could* lead to better quality discussion and deepened understanding.

A large increase was seen in 'Active Listening', with the explicit teaching of this particular skill in the intervention lessons, this was something we anticipated we would see. We must however be mindful of the 'observer effect', it is likely that pupils were aware of being observed and this may have adjusted their behaviour. Even if this is the case, we can still see this as a success, pupils were able to demonstrate these behaviours during group discussions and through listening to others, they can jointly construct knowledge.

Pupils 'involving others' was seen to increase slightly in the observations, the questionnaire data also saw only a small increase from 54% to 61% of pupils agreeing with the statement *I encourage others to share their ideas and opinions in group discussions in iThink*. During the pupil interview one pupil highlighted the usefulness of the sentence stems in inviting others to the discussion

"There was also, if people were quiet in your group, sentence stems to get them involved, not just say to them 'why aren't you speaking, just say something'. You could say 'Would you like to say something now?' and I think that is good as it doesn't force them to do it, it gives them an option."

The most encouraging difference between the pre and post data was the increase in evidence of pupils challenging others during group discussions. From no challenges observed pre intervention, over 1 per minute of discussion was seen post intervention. An increase in pupils challenging could be seen to move the pupils from cumulative to exploratory talk. Engaging critically but constructively with other pupils' ideas is an important feature of exploratory talk (Mercer 2004). The pupil questionnaire data supports this. Examining statement five, *I am confident to challenge opinions I disagree with in group discussions in iThink* 9% more of the pupils agreed to being more confident post intervention to challenge opinions of others; when applying statistical tests² to this. There is evidence that this is significant at a 10% level. Again, the pupil interviews suggest that it was the intervention that gave pupils the confidence to challenge. When asked about what they had learnt during the intervention, one pupil replied:

*"I learnt that some people have ideas that you think are not good, but these lessons, helped you to get on with it, even though you thought it was a bad idea.
So do you feel like you could challenge it now?
Yes."*

When comparing pre- and post observations, there was no change in the frequency of '*Building Knowledge*' contributions; the frequency remained constant at around 0.5 per minute of discussion.

² Mann-Whitney Test for non-parametric data

Although teachers when interviewed suggested that knowledge was being built and understanding deepened, our observations did not corroborate this:

"I have observed pupils able to push each further to just question the ideas that they are coming up with. There is now less over-generalisations about things. In iThink we are looking at big world events like the syrian civil war. Prior to the intervention, they were like.. 'Right that's the reason why, let's move on now' now 'what's your evidence for that?' There are little things that they are doing now to challenge each other more that helps I think."

Conclusions

The conclusion will be broken down into participation rates and quality of pupil discussion. Conclusions are being based on the triangulation of all the sources of data. Due to the nature of the action research and it being more exploratory in nature as opposed to quasi-experimental, conclusions are based on the classrooms in which the research took place. This said, comparisons may be made to schools and classrooms that are situated in a similar context.

Participation

Examining the data as a whole, it can be concluded that the intervention has had a positive effect on pupil participation rates. Whilst the questionnaire data showed little change in pupils' views towards how often they participate, observations of group discussion, pupil interviews and teacher interviews suggested positive improvements. Most notably was the idea that pupils were using the scaffolding of the sentence stems to be able to involve others in the discussion. There was a recognition amongst pupils of the importance of involving others into a discussion if they were quiet. Pupils reflected on the sentence stems providing a way to give more support to less confident pupils. This was seen with the responses given in pupil interviews whereby pupils said that prior to the intervention they did not have a 'way in' into the discussion. As such the data is suggesting that there is now a more equal distribution of participation amongst pupils with pupils being more adept at showing that they are actively listening to each other.

Although there is evidence to show more equal participation, responses to pupil questionnaires contradict this. The responses indicated, even prior to the intervention, that pupils were regularly participating in group discussion. Interestingly, teachers were disputing this during their interviews. On reflection, this could be due to the fact that pupils' views do not necessarily reflect the reality of

the situation or the interpretation of the quantifiers *often*, *sometimes* and *rarely*. This might indicate that asking pupils how often they participate is something that is difficult for them to quantify and can give unreliable results.

Quality of Discussion

Examining the data as a whole, it can be concluded that the intervention has had a positive effect on the quality of discussion during Year 8 iThink lessons. Observations of group discussion, pupil interviews and teacher interviews suggested positive improvements in both the length and quality of the discussion. Observations showed an increase in the total positive behaviours observed and a decrease in negative behaviours.

The most notable change in terms of the quality of discussion was the idea that pupils were now more likely to make *thoughtful challenges* and to *involve others* during their group discussions suggesting a move from *cumulative* towards *exploratory talk*. Evidence for this was seen in observations of group discussions and the pupil questionnaire data. Through the analysis of interview data, we can start to conclude that these improvements may be attributed to the explicit teaching of discussion skills and the use of the sentence stems to scaffold and prompt pupils to demonstrate these behaviours.

With the evidence thus far suggesting that the intervention - through the explicit teaching of group discussion skills and sentence stems - is promoting exploratory talk, observing no change in the *Building Knowledge* contributions is surprising. Mercer (2004) suggests that pupils need to engage in ***exploratory talk*** to ensure that knowledge can be effectively jointly constructed. For the purpose of the observations, building knowledge was identified as:

- Asks questions to clarify understanding
- Concluding or summarising statements

There are two potential conclusions which can be drawn from these results. Firstly, it could be argued that our observational data may not have been the most appropriate for assessing the building of knowledge. Upon reflection, can we realistically observe pupils building knowledge during 5 minute discussion? Arguable not. It is possible to suggest that effective building of knowledge would have been better assessed using a written task for example, or assessing pupil's knowledge at the start and end of a lesson, or series of lessons. Secondly, the notion of building knowledge is a sophisticated idea, and for pupils to do this group discussion is just one component in a repertoire of strategies that need to be utilised effectively by the teacher to allow pupils to do

this. It could be argued that pupils need more than the support of sentence stems, such as:

- What did you mean when you said ...?
- Could you explain that again please?
- To summarise ...
- Could you give an example of ...?
- In conclusion ...

These can be viewed as a starting point and pupils would benefit from a plethora of strategies, for example;

- Direct instruction
- Dialogic teaching
- Questioning
- Metacognitive strategies such as a teacher modelling their own thinking.

To conclude, the **GREAT Discussions** intervention attempted to encourage and embed exploratory talk through providing scaffolding to pupils through use of sentence stems and the explicit teaching of group discussion skills. The evidence suggests that both participation rates and the quality of discussion in Year 8 iThink lessons in Olchfa School has improved and there has been a move towards more exploratory talk in classrooms. The challenge now is to build on success to further enhance the process of jointly constructing and building knowledge.

Staff Experience

Post-intervention staff interviews gave an insight into the experience for staff involved in the research. All four intervention teachers were interviewed. All staff were extremely positive about both the quality of the resources provided and the delivery of the training. Responses to '*What did you think of the resources provided?*' included;

"I thought the resources that were provided were really useful, for example, the sentence stems."

"I thought they were really good, the sentence stems were really useful."

"Resources were great, nice, clear, easy to use."

"I thought they were brilliant."

One member of staff commented that it was useful that the idea and theory behind the resources were also explained to them so they could understand why they were being used.

Staff were asked the question "*Having been involved in this intervention, will it affect the way that you approach group discussions in the future? If so how?*" All four members of staff responded with

a resounding “yes”. The sentence stems were identified as the most useful resource. This was not surprising in the fact that the sentence stems were a resource that can be easily used within a lesson. Whilst, one member of staff did mention that they liked that they were also given the theory behind the resources, the other three did not. This may suggest that what staff value are things that they can ‘take away’ and actually use in their own classroom. This should not underestimate the value of sharing research theory with staff but it should be in a way that staff are able to directly apply within their own classrooms.

It is hoped that with further dissemination of both the resources and the findings from this action based research that more staff, within and beyond the school, will start to use the resources to improve pupil discussion within their classrooms.

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Appendix A

Read the statements below and tick the box that most applies to you. Please answer honestly. There are no correct or incorrect answers. We are interested in what you genuinely think.

1. I participate in group discussions in iThink	Always Often Sometimes Rarely Never <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
2. I encourage others to share their ideas and opinions in group discussions in iThink	Always Often Sometimes Rarely Never <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
3. I listen to others during group discussions in iThink	Always Often Sometimes Rarely Never <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

4. I am confident to share my ideas in group discussions in iThink	Strongly Agree Agree Neither agree or disagree Disagree Strongly disagree <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
5. I am confident to challenge opinions I disagree with in group discussions in iThink	Strongly Agree Agree Neither agree or disagree Disagree Strongly disagree <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
6. I am confident to ask questions when I do not understand something in group discussions in iThink	Strongly Agree Agree Neither agree or disagree Disagree Strongly disagree <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
7. I enjoy group discussions in iThink	Strongly Agree Agree Neither agree or disagree Disagree Strongly disagree <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

8. I believe group discussions are important in iThink	Strongly Agree <input type="radio"/>	Agree <input type="radio"/>	Neither agree or disagree <input type="radio"/>	Disagree <input type="radio"/>	Strongly disagree <input type="radio"/>
9. I feel that my contributions to group discussions are valued by other group members in iThink	Strongly Agree <input type="radio"/>	Agree <input type="radio"/>	Neither agree or disagree <input type="radio"/>	Disagree <input type="radio"/>	Strongly disagree <input type="radio"/>
10. I feel that group discussions deepen my understanding in iThink	Strongly Agree <input type="radio"/>	Agree <input type="radio"/>	Neither agree or disagree <input type="radio"/>	Disagree <input type="radio"/>	Strongly disagree <input type="radio"/>

The purpose of this questionnaire has been explained to me and I am aware that I am not required to participate if I do not wish to. I can also withdraw my data from the research at any project if I so wish. The questionnaire is numbered so that your information can be withdrawn if requested. All information given will be held in strict confidentiality.

Signed

Date.....

Appendix B

Pre-Intervention Pupil Interview

Pupils have been grouped into 3's for the focus group. Group members will come from the same form so that they will be referring to the same experiences when discussing iThink. Also, there are logistic reasons to keep pupils in form group.

Pupils have also been grouped based on their responses to the pupil questionnaire. Pupils with a more positive view of group work have been put together and likewise pupil who have shown a more negative view towards group work on the pupil questionnaires.

Questions for focus group

1. Do you enjoy group discussions in iThink? Why?
2. What are the advantages of using group discussions in iThink? Can you give an example?
3. What are the disadvantages of using group discussions in iThink? Can you give an example?
4. Do you think group discussion help you understand topics in iThink? Why / Why not?
5. Do you find it difficult to challenge opinions you do not agree with in group discussions in iThink? Why?
6. Are there any other views you would like to share about group discussions in iThink?

Post-Intervention Pupil Interview

You are here to talk about group discussions within iThink. Your class has been involved in a trial of lessons to help with group discussions.

Questions

1. Do you know what was the purpose of the lessons about group discussions in iThink?
2. Did you enjoy the lessons that taught you about group discussion? (Remind pupils of the intervention lessons)
3. Tell me something that you learnt from these lessons?

Show pupils sentence stems and classroom poster

4. How often have you been using the sentence stems over the last half term?
5. How have you been using them in your iThink lessons?
6. Do you think that using sentence stems have affected group discussions in iThink?

Appendix C

Observation record sheet for group work

Each box represents a member in the group discussion. Please refer to guidance sheet for explanations of the code used and examples of coded conversations

Tallies should be made every time an example of a particular type of talk is heard.

		Total
Contributions		
Challenges		
Involving Others		
Active Listening		
Building Understanding		
Negative		

		Total
Contributions		
Challenges		
Involving Others		
Active Listening		
Building Understanding		
Negative		

		Total
Contributions		
Challenges		
Involving Others		
Active Listening		
Building Understanding		
Negative		

		Total
Contributions		
Challenges		
Involving Others		
Active Listening		
Building Understanding		
Negative		

Length of discussion:

Score Discussion: Guidance Sheet

The table below explains the behaviours to look for when carrying out a scored discussion for group situations

Ask Question (AQ)	The pupil asks a relevant question to the group as a whole
Response with Reason (RR)	The pupil responds to a question or a statement and gives a reason for their opinion
Response without reason (RWR)	The pupil responds to a question or a statement without giving a reason for their opinion
Inviting someone else to talk (I)	The pupil invites another pupil to give an opinion or comment on what has just been said
Challenged opinion (CO)	The pupil responds to another pupil but with a direct challenge to what that pupil has said
Making relevant comment (RC)	The pupil makes a relevant comment supported by evidence or facts
Summarises (SUM)	The pupil draws on a number of different facts to make a concluding or summarises statement
Interrupting (INT)	The pupil interrupts another pupil in a way that would be considered rude. Not allowing them to finish what they are saying.

More than one code can be used at a time if necessary. Please see example of coding below

Examples

"I think that phones should be allowed because at lunchtime, quite often I need to text my mum to let her know what I am doing after school...what do you think Tom?" [RR & I]

This response has given a reason (RR) and has then asked another pupil what they think (I)

"Well you don't need your phone for that because you could just use reception in an emergency and you should have planned with your mum before school what you were doing after school."

[CO]

The pupil has directly challenging something another pupil has said (CO)

"I agree with John that it could be useful to have phones to contact home, however, we must remember that this has caused problems on the field in the past with people taking photos and the school policy mentions this. Although sometimes I think it would be nice to use my phone, overall I think our safety and privacy is more important." [SUM]

This could refer to a number of codes; however the main feel of this is one of summarising and drawing together more than one fact to make a statement. Here we would use the single code SUM.

Interrupting

Interjecting when another person is talking is a normal part of group discussion when done in an acceptable manner. Tallies should only be counted as *interrupting* when it is clear and obvious that the other person has not finished what they are saying and wish to continue what they are saying.

Appendix D

Interview Questions for Teachers Post - Intervention

Hi All,

Here are the questions for the interview. Please don't feel that you need to prepare; however, if you would like to see what we will be asking, the questions are shown below. Remember, honesty and openness are the most important things about the responses, as we really want to find out how you felt this went and how we could improve next time around. Obviously all responses are kept confidential.

Once again thanks for being part of this process and supporting us by allowing us use of your valuable time.

1. Thinking back to before the intervention, can you describe what group work looked like in your classroom? (Follow up: How often would you use group discussions?)
2. What did you think of the resources provided and what was the reaction of the pupils? (Possible follow up: which resource did you find most useful e.g. sentence stems, classroom poster, lesson resources.)
3. Did you feel confident in delivering the intervention lessons? (Possible follow up: What extra support would have helped you with the implementation of these lessons)
4. Since the two original lessons, to what extent do you feel that you have embedded the messages and techniques of the two intervention lessons. (Possible follow up: How many times have you used the sentence stems mats?)
5. Do you feel that there has been any change in pupils behaviours when conducting group discussions?
6. Do you feel that group discussion has allowed pupils to deepen their understanding?
7. Do you feel that there are things that haven't changed? If so what are these?
8. Having been involved in this intervention, will it affect the way that you approach group discussions in the future? If so how?