



## How can Cooperative Learning Strategies Support A4L, Group Work & Social Interaction?

Gill Maitland and Diane Murphy  
The Duchess's Community High School, Northumberland

### Project aims

Our aim was to investigate how cooperative learning impacts on the development of assessment for learning, group work and social interaction in Design and Technology, in order to encourage reflective practice and inter-dependent thinking. In addition we wanted to develop a pedagogy of peer and self assessment and sharing success criteria, creating responsibility for learning through the improved impact of group work. As an added bonus to this we aimed for development of teacher pedagogy and professional development.

### Dimensions of the study

The initial interest and enthusiasm from two members of staff from Food Technology led them to become involved in the Campaign for Learning action research programme. The focus group for this project was a top set Year 10 Food Technology group of 22 students. Learning to Learn strategies were developed and introduced as the project evolved.

### Summary of findings

- The use of cooperative learning and group work strategies has proved to be a valuable and worth while exercise.
- By using a variety of research tools the students have developed metacognitive skills and thinking skills..
- Both staff and students viewed the cooperative learning strategies as useful and practical.
- Student feedback about the cooperative and group work strategies was positive. Comments included 'you learned more working as a team'. Greater collaborative working and social interaction was requested in the lessons.
- Teachers also found that in order to structure cooperative learning effectively they need to learn how to promote interaction, develop the use of social skills and process group learning situations.

### PROJECT FOCUS

Learning relationships and interactions in the classroom

### 5 R FOCUS

RESPONSIBILITY



READINESS



RESOURCEFULNESS



RESILIENCE



REFLECTIVENESS



## CONTEXT

### The School

The Duchess's Community High School is a successful 13-18 mixed fully comprehensive Specialist School situated in Alnwick, Northumberland. It has 1,150 on roll with over 300 students in the sixth form. Recently Ofsted described the school as 'good and improving with outstanding features'. Attainment on entry for the Year 9 cohort indicates that our students arrive with above average numeracy skills but with only average literacy skills. Boys in particular seem to have lower than average scores in writing. In 2007 the average point score for all core subjects was 36.4. This is an improving and significantly positive trend. KS3 and KS4 average point scores (APS) have risen every year since 2004. At KS5 the 2007 results were exceptionally good with an average points score per student of 730.5.

The school's catchment is an extremely varied one in terms of family aspirations and socio-economic well being. Recent parent and pupil consultations suggest that both are happy with the school due to good community spirit and high expectations.

Involvement in Learning to Learn began through the Northumberland Thinking for Learning project. As a school we have participated in various projects including Assessment for Learning, Philosophy for Children, Mantle of the Expert, Narrative Enquiry, Coaching, Student Voice, Leading in Thinking and Creating a Learning and Teaching Community. In addition, the growth of related learning and teaching action research activities across the school and a focusing on 'classroom experience' in the school

improvement plan made the lead into L2L seamless.

### Personnel involved in the project

Personnel involved in the project are Diane Murphy, Head of Design and Technology Faculty and Gill Maitland, Assistant Head Teacher responsibility for Learning and Teaching and CPD. Both members of staff have an avid interest in developing Learning and Teaching and are active members of the L&T group. Diane has been teaching for six years and Gill for 32 years.

### The students

It was decided that we would use one group of Year 10 Food Technology students as a starting point for this research. There are 25 students in the group, ranging in ability from a KS3 APS of 47 through to 27, although the majority of these students are above 37. The group is all girls who are a real mixture of personalities from lively and outgoing to shy and extremely quiet. They all have base line targets of between A\*-C (base line targets are determined from their average KS3 point scores) and want to do well. They were new to the strategies that we introduced but have a very positive attitude towards Learning to Learn and being involved in the action research.

## THE PROJECT

### Developing this rationale

The school chose to develop the pedagogical links of cooperative learning and Assessment for Learning as the main focus for its Learning to Learn Phase 4 project because it mirrored the whole school developments of



AfL as a tool to develop personalised learning aligned with the Every Child Matters agenda. Recent Leadership Team lesson observations had suggested that group work was undertaken in lessons but often students were not participating, therefore spending time off task, being unproductive and not learning.

The learning and teaching group had done a significant amount of work around developing best practice for AfL, which included the production of 'At a Glance Booklets' (see Appendix 1) for staff outlining how the principles of Learning Objectives, Rich Questioning, Success Criteria and Effective Feedback could translate into an effective classroom experience for students and staff. The implementation of AfL departmental policies focusing on Teachers helping Students, Students helping Students, Students helping Teachers and Students helping Themselves allowed approaches to learning to be tested and measured.

This focus allowed us to pay attention to the learners, their knowledge, skills, understanding, attitudes and attributes. The '2020 Vision Gilbert review' suggests that to realise personalised learning, schools and teachers have to ensure that assessment practices continue to improve learning and teaching. The research of Black and Wiliam since 1998 has demonstrated that AfL impacts on students national scores, as well as their metacognitive skills, including their capacity to learn.

Cooperative learning has emerged as a leading new approach to classroom instruction (see Appendix 2 for examples). One important reason for its advocacy is the wide range of research studies in very diverse school settings and across a wide range of content areas. These



*The project has allowed us to focus on learning*

have revealed that students completing cooperative learning group tasks tend to have higher academic scores, higher self esteem, greater numbers of positive social skills and greater comprehension of the content and skills they are studying. Working cooperatively in groups is not the same as learning cooperatively in groups. (Johnson, Johnson, and Holubec, 1993) claim that merely because students work in small groups does not mean they are cooperating to ensure their own learning and the learning of all others in their group. The cooperative learning frame work is a tool which uses a number of essential elements which ensure students use the group to learn so enhancing their capacity to learn, so actively supporting the AfL framework allowing students to support each other during peer/group assessment, for example.



Cooperative learning structures are based on four principles,

- positive independence,
- individual accountability,
- equal participation,
- simultaneous interaction.

Following further research it was decided to use the following 'Kagan' tools initially with the research group.

- The Quiet Signal:
- Numbered heads together
- Rally Robin
- Sage and Scribe.

It will become evident through the case study that these developed and further activities initiated as a result of these techniques. In addition it was envisaged that the development of these strategies would allow staff to develop teaching strategies which would embrace many of the 'soft skills' as identified by Gillbert, in particular:

- Being able to communicate orally to a high level
- Reliability
- Knowing how to work with others in a team
- Knowing how to evaluate information critically
- Taking responsibility for and being able to manage, one's own learning and develop the habits of effective learning

- Knowing how to work independently without close supervision
- Being confident and able to investigate problems and find solutions
- Being resilient
- Being creative, inventive and enterprising.

Research from the Spring Project indicates that if the relationships between group size, interaction type and learning tasks in groups are planned strategically the learning experiences will be more effective. Social interaction is therefore a variable for effective learning. If group work remains unplanned then the social pedagogy potential of classroom learning is therefore unrealised.

In order to develop the social classroom experience we decided to use pupil view templates which would allow us to look more carefully at what, how and why the students are learning, and then to ask 'so what' how could we structure the learning and teaching activities for the students. These combined with the use of structured cooperative group work would, we hoped impact on the learning and the motivation of the student. Design and Technology proved to be the ideal areas as it allowed all aspects to be developed, including the social context which could then be identified in terms of the nature of the group/paired and individual learning tasks undertaken.

### Key Objectives

Our objectives were to assist the students to become more reflective about learning practices, more resourceful and ready to use their group rather than rely on their teachers.



This would give the student more responsibility for their development and progress.

The combined elements of the strategies used in this project should develop highly motivated students

As research indicates that the 'social pedagogic' potential of the classroom learning is often unrealised, it is hoped that this research will identify how the key features of classroom learning (AfL) can be reinforced by sensitive cooperative group work.

From an institutional perspective we want to develop the idea of the 'good classroom experience'. Colleagues needed training and coaching in new strategies before and during the research.

### Research Question

How will cooperative learning combine to impact on the development of Assessment for Learning, group work and social interaction in Design and Technology?

## RESEARCH PROCESS

### Teachers' choices

Given that this was the first opportunity to become involved in the Campaign for Learning it was decided that we would start with a small cohort of students. Although the direction and ambition of our action research is whole school, the practicalities of staff training restricted the scale. We expect to extend the work in Year two and three throughout the department and disseminate to other areas of the school.

We chose Year ten food as the focus cohort, with one group being involved in the action research and the other three groups being taught 'as normal'.

Year one of research ran between in July 07 (with staff training) and June 08. Initial enthusiasm started with colleagues attending a training session and them sharing the information with staff back at school. It was very important to involve staff to avoid the 'great ideas from INSET' factor which can create hostility to innovation. The project was discussed in detail and strategies to use identified as well as a plan drawn up on which to base the research. We decided to use Dr Spencer Kagan's quiet signal and a selection of his cooperative learning techniques and the University of Newcastle's Pupil View Response Proformas (Wall and Higgins, 2008) as well as a range of other techniques for collecting data.

The staff involved were committed to improving their practice and were interested in the project for a variety of reasons including how by using these techniques students would work more efficiently as a group, each taking responsibility and contributing to the learning. They recognised the potential of these techniques in developing the social interactions between the students by mixing the dispositions within the groupings.

Similarly, staff valued the fact that they would be part of an ongoing project throughout the year and the impact this would have on their own professional development. It was decided that we would start small and introduce the different strategies at a pace that both staff and students were comfortable with, reflecting and modifying as necessary.



We began the research in September 08 at the first lesson for the Year 10 food technology GCSE. All four groups completed a questionnaire on how they liked to work. There was no input from teachers to avoid influence of the responses. The research was then introduced to the group of students that were going to be involved and their part in it explained. Also how this work run alongside their GCSE Food Technology Curriculum. The students and teacher then decided on the Quiet Signal we would use. Groups of students each suggested one and then the students voted. One group suggested I rub my tummy and pat my head – thankfully this was not voted as the most popular choice! It was decided I would put my hand up in a 'How' gesture (palm up at shoulder level facing the class). To begin with this has had a mixed response – during paper work activities it works well, however during a practical session it is less effective as students are busy and buzzing making their products. As a result of this it was decided that if attention was needed during practical sessions the teacher would raise their hand up into the air and say 'stop'. This proved more effective in gaining an immediate response.

Discussion on cooperative learning strategies with students was valuable because it developed their understanding of PIES – Positive interaction, Individual accountability, Equal participation and Simultaneous interaction. Each table would work as a team (however this was subject to change at various points in the year so teams did change) each member taking responsibility for the team to work together effectively to complete a task. Each student had equal participation using the rules for speaking or listening to each other. This would allow

individuals the safety, and allow them to speak on behalf of the team so the response was from the team not the individual. Students would become aware of how they learned as well as what they learned.

Opportunities would be created for them to operate their student voice both as a critical friend during peer assessment and discussions on the success criteria as well as the chance to ask their team's opinion during self assessment activities. In order for this to work we decided on a set of ground rules relating to the cooperative strategy/activity being used - hence the introduction of Dr Kagan. The first strategy we used was the 'Numbered Heads Together'. This was a good one to start with from the point of view of the teacher as to gain answers to the question posed you ask a certain number (not name) from the team to respond. As it was the first lesson, names were not yet attached to faces so it was a good way for the teacher to learn their names.

Then the various Food projects and at times various strategies were employed to gather data. For example pupil views templates were used to gather data on what students thought about how they worked/learned when working in groups, pairs and as individuals after certain activities. We moved on to use a range of Dr Kagan's cooperative learning strategies including sage-n-scribe, all write robin, rally robin, timed round robin and various other versions of round robin. Each time the rules were explained to the students and reinforced during the activities. Sometimes strategies linked to the research were explicitly explained other times the students were unaware of how what they were doing linked onto the research project.



As well as using specific cooperative learning strategies to collect data we used the AfL activities which were already in place. The front covers of the D&T project booklets are designed to collect attainment data and written targets, the inside cover has success criteria clearly set out and opportunities for self and peer assessment. Some evaluations required students to think about how they could transfer skills to other areas including out side school. PMI (plus minus interesting) evaluations were a very good tool to collect students thinking.



*A range of AfL activities were used to collect data*

During the year this group also had a student teacher teaching them. We were careful to ensure that the cooperative learning strategies and guidelines set out were incorporated into her lesson plans so that students continued to think about how they were learning and continuing to build on the social interactions they had been working on. As many of the activities were time controlled, it allowed the student to organise and pace the lesson effectively. They were used as starters and plenaries



*Example of a 5R mind map*

In March of the year we took a lesson out of the curriculum to focus on the 5Rs. The lesson was introduced with each team having the R word in front of them and then mind mapping any thing they could think of that related to it. We then shared these thoughts as a whole group so each member had a chance to hear and reflect on each of the Rs, adding to the mind map as we went.



The main activity was to create a poster on each team's R using the mind map as inspiration and words/pictures from magazines. Dictionaries were out and students were engrossed in the task. To complete the exercise students carried out a block pyramid on their word. It contained: 1 = definition of the word, 2= things they learnt from that lesson, 3 = examples of what this work meant in terms of their learning. To round up the lesson each group displayed and explained their poster, the others voted on the 'best' (following success criteria they had determined) and prizes were issued. The discussion generated was extremely positive and informed. It acted as an awareness raising activity for the 5Rs and also a consolidation exercise developing a wider understanding of the strategies used and why.

Comments from students included:

*"Responsibility to do your best in subjects"*

*"Responsibility for everyone to work in team work"*

*"Resourcefulness is when you use different ways to get the problem solved"*

*"Resourcefulness is learning from others and letting others learn from you"*

*"Resilience = practice makes perfect"*

*"Resilience means don't give up"*

*"Readiness is being prepared, being organised"*

*"Reflectiveness is when you remember things you have previously done and applying them to the present task"*

*"Reflectiveness is assessing our work and noticing what we have done well and areas for improvement"*

The students chose to produce a newsletter on learning to learn. Working collaboratively each group chose a topic to report about from the following; cooperative learning, pupil view response sheets, 5Rs, quiet signal and PMI, peer and self assessment and cooperative activities. Each group were very professional in their approach and the collation of their efforts produced a coherent package and an exceptional newsletter. This activity demonstrated how the students had taken responsibility and reflected on their learning and how they learn. Below is one of the articles that students wrote for the newsletter.



## Co-operative Learning

By Kirsty, Amy, Rebecca & Rhona

Co-operative learning is working in a team/group, giving students an equal opportunity to speak and be involved. PIES demonstrates the different aspects of co-operative learning.

### Positive Interaction

If one person is successful the whole team is but everyone has to contribute to achieve this.

### Individual Accountability

Students have to work to the best of their ability.

### Equal participation

Students share work to help others see different points of view

### Simultaneous Interaction

100% of students are on task.

*Everyone has an ability to work in a team and there are many benefits achieved from co-operative learning.*

*Co-operative learning is an activity that should be encouraged.*

To finalise the research the questionnaire was replicated with all of the four groups.

## Evidence collected

The research evidence included data from students, staff and lesson observations. This was collected in the form of questionnaires, pupil view templates, PMI evaluations, front covers, and success criteria in project work, spread sheet of student KS3, baseline and aspirational grades, lesson observations by teacher and third parties. The rationale for the data collection was firstly to assess whether cooperative learning did combine to impact on the development of assessment for learning, group work and social interaction in Design and Technology, and whether it did encourage reflective practise and interdependent thinking. Furthermore it allowed us to develop pedagogy of peer and self assessment and the sharing of success criteria, creating responsibility for learning through the improved impact of group work.

The hypothesis for the student research was to assess how developing group work strategies, behaviour for learning and social interaction would improve students ability to become more reflective independent learners. Specifically whether there would be any sustainable change in practice, creating transferable skills for students.

To provide evidence to assess this, students completed an initial questionnaire. This focused on 3 main areas; working in groups, pairs and as individuals. This was replicated later in the year to ascertain any impact the using of cooperative learning strategies, also had their perceptions to learning changed.



An example of the questions included:

How I Like To Work:

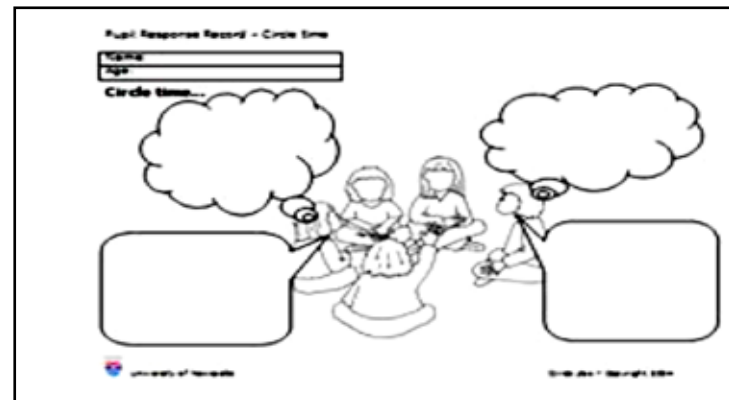
	Most of the time	Sometimes	Rarely	Never
I prefer working in a group				
I prefer working in a pair				
I prefer working on my own				

Complete the table below, giving your opinions on these ways of working.

Advantages		Disadvantages
	Working in a group	
	Working in a pair	
	Working alone	

This evidence was collated with the pupil views templates which also focused on working in groups, pairs and as individuals.

### Pupil Views Templates



Examples of pupil views templates

Some of the comments from students included:

#### Individual work –

*"It's quite good working individually but we all helped in the end. It was good because I could get on and do my own thing and get it done."*

*"It was nice working independently today. I had confidence because I know what I was doing though it was good to have a friend next to me to talk to"*

## In Pairs:

*"It was easier to gather information"*

*"Not all the pressure on you"*

*"We both contributed to a different part of the sheet than shared each others answers"*

## Group Work:

*"I learnt more working in a team as I could see the different way people worked"*

*"I learnt lots working in a team because we help each other and learn from each other."*

*"I learnt how to work together but having an individual role to do."*

Evidence from lesson observations came from a teacher observing how the students worked throughout the year and noticing the subtle changes in how students worked and a third party who observed the group periodically throughout the year. They focused on the following:

- Engagement
- Challenge
- Evidence of the 5R's (especially responsibility)
- Assessment for learning

## DISCUSSION OF RESULTS

### Findings

The students revealed a positive response to the project. Their considered and reflective responses will be used to inform future planning for the development of this research.

### Evidence from the Pupil Views Templates

The following themes emerged from the pupil view templates when reviewing the ways students preferred to work:

**Way of working:** Individual

Questions	Theme/s emerging	Times mentioned	Examples
What would you tell people that you felt about working individually?	Control	6	Didn't have to share out the responsibilities Good because didn't have to compromise
What new skills did you achieve when working on your own?	Independence	7	Accomplished something myself To take responsibility for my work
What did you learn about how you learn?	'Learn Better'	11	I work better individually... I learn better on my own...



**Way of working:** Pairs

Questions	Theme/s emerging	Times mentioned	Examples
What was good about sharing the work load?	Sharing	7	I could concentrate better when we shared the work  It was good to share the work load

**Way of working:** Group work

Questions	Theme/s emerging	Times mentioned	Examples
What did you learn about how you learn	Speed	8	That things get done quicker in a group  Helping each other
	Co-operation	14	
What was not so good about working in a group?	Personal relationships	10	Some people don't listen  Some people did more than others
When working with other people, did you learn anything new?	Speed	4	...get the job done faster  How to share responsibility
	Co-operation	14	

**Evidence from the Questionnaire**

Comparisons between the themes emerging in the pupil view templates and the questionnaire that was carried out in Sept 07 (This data was from a larger data set (i.e. all 4 Year 10 food technology groups =79 pupils) found the following themes to be consistent:

**Individually:**

	Theme emerging	Times mentioned	Examples
Advantages	Control	4	It will be exactly how you like it
	Independence	39	Independent, you don't have to do things like other people
	Learn better	7	Get on better

Students like the control and autonomy of working individually but don't like the fact that this meant working alone. A disadvantage recognised by the majority of students is that by working individually they could get 'stuck' and have no one to share ideas with. Also that it is boring and lonely working alone. There is a definite lack of enjoyment coming through in the comments of working alone.

	Theme emerging	Times mentioned	Examples
Advantages	Sharing	40	To brains working together  Share and compare



The vast majority of students see a disadvantage of working together in a pair that you 'might not get on'. The emphasis in the comments made by students focused on the social interaction with others. Specifically the negative fact they might not get on with their partner.

Group work:

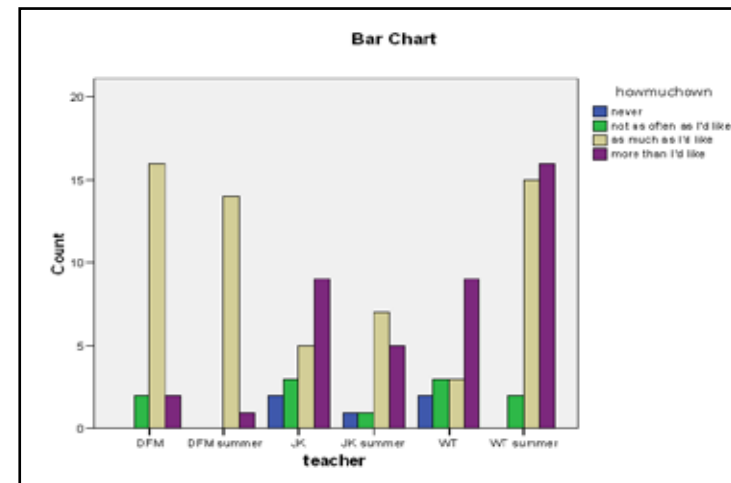
	Theme emerging	Times mentioned	Examples
Advantages	Co-operation	24	If you get stuck someone can help you
	Speed	13	As the work is done quicker
	Ideas	26	More ideas

Advantages – the two themes emerge of co-operation and speed. However there was also the overwhelming theme of gaining more ideas. The vast majority of the disadvantages of working in a group focused around personal relationships. The uncertainty of what to expect e.g. may not get on, could mess around. Where as in the advantages the language was much more positive and confident e.g. you will, you can. There was also a concern that their individual voice may be lost and ideas not used. On occasion what was perceived as an advantage also had a disadvantage for example while it was thought that working with others was a positive the flip side could be that students then became distracted. There was also a concern of equity – some may do more work than others, tasks not being shared out evenly within the group or each pulling an equal weight within the group.

When working both in pairs and groups the dominant

theme was linked to personal relationships and the social interaction necessary to work successfully in a group/pair. The language is may, might, could, may not, might not. Hypotheses that this is about the fear of the unknown – who will I be working with, what if I don't get on with them. This is more apparent in the pairs than the groups, as the perception is that in a group the positive and negative might even out as more people are involved. The catastrophising while working in pairs is greater, this could be due to the one on one nature of working in pairs. However it is important for students to still experience this way of working and hopefully to take away some of the fear and even if the experience was a negative one students have survived it and can do it.

### Evidence from lesson observations:



Graph showing findings from the lesson observations

Further lesson observation substantiated the views of the teacher. There was evidence of greater pace, involvement



and independent work. In discussion with students they were confident and clear of group expectations and aware of their responsibility to their group and to the whole class.

The questionnaire that was repeated at the end of the year did not show any significant shifts. Nevertheless this graph indicates students are working on their own as much as they would like to. However due to the increased pair and group work they are actually working less on their own now than they were at the beginning of the year.

## Extensions and changes to method

While the project progressed we decided to create an action research newsletter to share our learning with the rest of the school. The students produced this newsletter reflecting on the work we had done so far this year. The effects of this was a consolidation of the strategies we had used throughout the year to establish and encourage co-operative learning within the group. By reflecting on the process students realised not only what they had learned over the year but also gained a greater understanding of how they had learned. Awareness became apparent for the need to be more explicit in discussion the Learning to Learn 5Rs with the students. This resulted on the one off lesson focusing on the 5Rs.

Creating the newsletter has had an influence on the project in raising awareness to the students on how they can transfer the skills they have learnt in Food Technology to other areas of the curriculum. A science teacher commented on the fact that some of the students had

asked why they couldn't work cooperatively in Science as they had in Food Technology.

## CONCLUSIONS

This project presented significant challenges and learning opportunities for the teacher and students involved. A conscious effort had to be made by the teacher to incorporate the various strategies within the scheme of work and subsequent lessons. While the activities took time out of the Food Curriculum both the students and teacher have benefited from their incorporating into lessons. From the comments made by students throughout this report it is evident that students have gained a significant amount of insight into how they are learning not just what they are learning.

As a school we have a focus on Assessment for Learning and are developing strategies within the classroom to that effect. Part of our aim for the project was to investigate how cooperative learning would combine to impact on the development of Assessment for Learning. Above are extracts from the newsletter detailing students thinking on self and peer assessment.

As part of the class work students peer assessed each others working practice and products. This proved very effective, during self evaluations students discussed the processes they had used and how these could be adapted to improve the quality of their product further. The quality of subject specific terminology students used was generally high and the depth of their evaluations was increasingly detailed.



### Self and peer assessment

by Kirsty, Rhona, Kirsten & Sophie

#### Self Assessment

What is self assessment?

Looking at and evaluating your own work to improve it.

Self assessment helps us to show where we went wrong and how we can improve on it next time.

When evaluating the final product that you have produced so that you can develop other ways to do it.

#### Quote from Hannah Year 10

"I think my product analysis are very detailed and I have included lots of information. I think I covered all aspects"

#### Peer Assessment

What is peer assessment?

Evaluating a partners work in order to help them improve, they would also assess your work to help you, as well as setting targets.

We use peer assessment during practical's to help us as a team

During design work when we are working and marking each others work so we can see things from different perspectives.

Using it during sensory testing, so you can feedback a variety of opinions to help you develop your product.

Peer assessment helps us by giving us another opinion on our work while we're marking them and showing how we could improve.

#### Quote from Hannah & Sam Year 10

"Other students could benefit from how to work effectively as a team as it teaches us how to be patient and understand things from different perspectives and gives us different view as everyone has their own opinions. Working in a group should only happen sometimes, as you need to learn how to develop your own ideas"

Extract from school newsletter

Peers praised each other on their work in a considered and thoughtful manner, offering constructive feedback where necessary. A teacher observed that

"Attitudes to speaking and listening to peers has become a much more positive aspect of the classroom. Student confidence has grown as a result of their opinion being valued as well as knowing that they can speak out in a safe environment"

Lauren, Alex and Aimee comments on using the co-operative learning activities

*"The Co-operative Learning activities that we have completed are:*

*Sage-N-Scribe*

*Round-robin variations*

*Numbered Heads together*

*Timed round-robin*

*We used these in various food lessons in groups.*

*Working with others can help your learning as you are communicating with other people and sharing ideas.*

*We discovered about how we learn through working in a group, people tell you new things and you learn from them. This can help your learning because you get more confidence and it helps you with your self-esteem. You can learn by talking and sharing information.*



*"I think we all learn from talking in school, learning new things by people telling you."*

*"People can benefit from knowing how to work effectively as a team / in groups as some people will have more knowledge and you can learn from other people. This could make them more confident in their learning; it is also more fun working in groups than working on your own."*

Concentration levels have gone up with students working effectively on task.

Students Helen, Aimee and Sam comments on using the Pupil View Templates:

*"We use them to reflect on how we worked that day e.g. individually or in groups."*

*"Here are some of the quotes from pupils that have found their favourite way of learning."*

*"I learn more in a team because you can gain more knowledge from each other"*

*"I prefer to work in a team because the jobs get shared out, and working with people means you get skills like correcting people"*

*"I liked working individually the best as you didn't have to share out the responsibilities and work out if someone did less than their fair share"*

*"We think that it is useful to improve your learning because it gives you different options of working and shows you how you work best, this benefits everyone because you will naturally work better in your preferred way."*

The students have discovered that autonomy in the classroom comes with rules and responsibilities.

As a result of our aim to investigate how cooperative learning combines to impact on the development of assessment for learning, group work and social interaction, students are asking questions about learning and enquiring into the learning process. This has resulted in the need for opening up opportunities for dialogue.

Our project has resulted in the need to open up opportunities for dialogue.



## The role of Learning to Learn

From a Learning to Learn perspective through the group work and the strategies we have used students have reflected on their learning. They have gathered evidence of learning in action through dialogue with each other and the teacher.

The findings suggest the strategies utilised have significantly helped the students to reflect on their learning, become more resourcefully by working as a pair or a group and have their for become more responsible for their own and others learning.

This provided evidence that as a result the teachers pedagogy should expand to incorporate a combination of cooperative learning and assessment for learning strategies into their teaching

Allowing use of cooperative learning strategies to better facilitate assessment for learning because students are gaining the confidence through the cooperative learning strategies e.g. pair share which they are then using in peer assessment, success criteria and group work activities. These strategies should become part of the teacher's tool kit. This feeds back in to the school philosophy of teachers helping students, students helping students, students helping themselves & students helping teachers.

Teachers approach to Group work should/can be much more than an adaptation to the demands of maintaining pupil attention and classroom control. The findings support the view of Blaines, Blatchford & Kutnick who claim that teachers have little faith in students' ability to work in groups. This attitude is mutually reinforcing, in

that students have little opportunity to work effectively in groups and are not prepared efficiently for it.

Our research suggests that group work can not only develop greater self awareness, confidence and impact on the social cohesion of the classroom environment but only if staff and students are trained in the cooperative strategies needed.



### Summary

In summary the following are the three most important findings:-

Firstly evidence would support the views of Wall and Higgins, for example:-

- Using Pupil Views Templates as a pragmatic tool helped students to frame and justify their work.
- Classroom observation and newsletter identified greater student involvement in the L2L process. An example of developing thinking in metacognition was when the students were in other subject areas they requested the use of these L2L strategies and thinking tools from colleagues. This would not have been evident if it not for the use of the pupil views templates.
- The use of the pupil view templates has allowed us to identify what the students are thinking and gain a better understanding on how groups work well together. As well as how they cooperative learning process has helped.

Secondly, for group work to be effective, pupils and teachers must be adaptable to normal classroom conditions, creating the positive classroom experience involves building confidence through sensitive cooperative strategies. This allows the student to see the relevance to their learning linking the effective familiar pedagogy of AfL to the development of metacognitive skills.

The third most important impact of this project was the fact that the students were involved in the research from the very beginning. It was explained to them at the

beginning of the project and strategies were made explicit throughout. As a result of this they took responsibility for their learning. We feel that as a consequence of the level of involvement of the students we were also able to identify that they were becoming more resourceful and reflective due to their internalisation of the process.

The impact on the school has been significant in that we have now decided, not as a direct result of this research but through the teaching and learning group to develop a learning to learn department were all students now have L2L and thinking skills as a timetabled part of their curriculum.

L2L has had a profound impact on the teacher involved in incorporating these strategies into her teaching and realising the significance of students having a greater understanding of how they learn not just what they learn. This will allow Diane to develop these skills in the new Year 9 L2L curriculum.

Next steps:

- Taking this Year 10 group into Year 11, further developing the skills of the students in L2L. Also involving another Food Technology group in Year 11.
- Developing a Year 9 L2L curriculum
- Involving another department to further develop group work and cooperative learning



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## APPENDIX 1

### Information Sharing Structures: Kagan, S. Cooperative learning.

**Roundrobin:** Student take turns stating answers of ideas without recording them. Roundrobin can be used when participation is preferred rather than a product of the discussion.

**Rally Robin:** Students form pairs within a team and take turns with their partner sharing ideas back and forth. Afterwards, the pairs discuss which ideas came up in both pairs and which ideas were unique to one or the other pair (allows for total involvement in group work activities it is brain friendly helps students to clarify thinking, helping to store in long term memory and engage fully in the task.) Timed Rally Robin each member of the group will respond orally for a predetermined amount of time.

**Numbered heads Together:** Group of Students are given a number, group is given a problem and time to think. Students privately write down their answers. Students stand and show answer to each other. Teacher will call out a number when each student has to explain their answer to the group. When all have explained and everyone know the answer task is complete.

**Sage-n-Scribe:** Students are in pairs. Student A is the Sage, B is the Scribe. Students fold a sheet of paper in half and each write his/her name on one half. The sage gives the scribe step by step instructions how to perform a task or solve a problem. The scribe records the Sage's solution step by step in writing. Coaching if necessary. The scribe always praises the sage. Students switch roles for the next problem or task.



