

Using the Design Process to Enable Primary-aged Children with Severe Emotional and Behavioural Difficulties (EBD) to Communicate More Effectively

Abstract

While working at a special primary school for pupils with emotional and behavioural difficulties, I noticed that their ability to communicate effectively in both 'Circle Time' and more generally was consistently poor. As the pupils enjoyed design and technology lessons, I wondered whether or not the design process and the teaching of skills used in design could also be used as a means of improving more general communication skills. The article shows the relative effectiveness of using lessons in design as a way of improving the general communication skills of a group of disturbed and challenging pupils.

The focus of the study

After having worked for some years in a primary EBD setting it came to my attention through experience that while these pupils almost invariably enjoyed working in the field of design and technology¹, and particularly in the field of the making side of design and make assignments, they were almost equally and invariably 'switched off' from work on language skills.

The sources of this lack of enthusiasm for working on language skills and development were varied. The responses of some pupils tended to suggest that their apathy lay in past failure to thrive in this area, while others appeared to perceive it as a 'boring' academic area where they neither had the inclination nor the ability to succeed. Insofar as one can generalise from personal experience, the behaviour of my class in language lessons was frequently worse than their behaviour in design and technology classes, particularly if the pupils were involved in making something. The processes and results of making a useful and aesthetically pleasing object or tool often had the effect of raising the self-esteem of the pupils and the concrete nature of the finished result seemed to mean that they could visibly demonstrate achievement and success. Practitioners in the field of EBD special education will know how important feelings of achievement and success are for our pupils. Subsequently the design and technology curriculum at Key Stage 2 has always had a high priority in my classroom.

In a similar fashion, my experience of working with EBD students suggested also that it was really vital for our pupils to develop speaking and listening skills – since in my view it could be argued that it was often the inability of the damaged and disturbed pupils that I taught to articulate their feelings and experiences in an accurate and

appropriate manner, along with their incapacity to listen to others appropriately and sympathetically, that led to poor patterns of behaviour. I therefore wanted to investigate how design and technology at Key Stage 2 could assist EBD pupils with their language skills, and more specifically, how it could assist the pupils to develop and improve their speaking and listening skills in a group setting where they were required to reach a decision in collaboration with others.

The background research

Research on how groups of primary EBD pupils function in design and technology lessons is thin.² Key to my project focus was to look at the design component of design and technology lessons, since it was in this field that the use of speaking and listening skills was likely to be more prominent³ than in the making component of the design and making process. Many colleagues who were fellow design and technology co-ordinators in EBD schools had frequently said to me that the major problem for us lay in effective discussion and collaboration during the design process part of design and technology lessons. As a way into the field I decided to look at more general research into what constituted successful decision making group work. What qualities were required? What was the role of the leader?⁴ How did decision making groups stay on target? What part did the successful use of speaking and listening skills play in reaching a commonly agreed outcome? Did speaking and listening skills develop in individuals and within the group in the process of reaching a commonly agreed goal? How could these findings help my class of pupils develop their speaking, listening and design skills, and how could these enhanced skills impact on the wider curriculum and their general pattern of behaviour?

The work of Blanchard, Carew and Paris-Carew suggest that in order for a group to become a high-power team it must pass through four essential stages, all of which revolve around the pivotal position of the group leader. They suggest that the four central stages of group development towards effectiveness are:

1. orientation – leader is directive
2. dissatisfaction – leader coaches
3. resolution – leader is supportive
4. production – leader delegates

After looking at this more general work I consulted the work of Galton and Williamson and Ruth Conway, who have observed pupils working in groups in the primary classroom. Galton and Williamson suggested both definitions of group work and also identified

Bill O'Connor

*Middlesex University;
Larwood EBD School
Design and
Technology Study*

four types of grouping arrangements that appear in the primary classroom.

1. Seating group. Each group has a separate task, therefore each child produces a different outcome.
2. Working group. Each pupil has the same task, therefore although the outcome is the same, work is completed independently.
3. Co-operative group. Pupils work at the same task, but each has an individual assignment which is eventually put together to form a joint outcome.
4. Collaborative group. All the pupils work on the same task and contribute to a single outcome.

In the context of these definitions, collaborative work is generally thought of as team work.

I wanted to test these models to see which reflected most closely (if at all) the groups of EBD pupils working in my class, and which if any were likely to be effective in facilitating the pupils' overall use of good speaking and listening skills in such a way that they may also have an effect on their performance of such skills in other curriculum areas such as Personal Health and Social Education (PHSE) (Circle Time). I also wanted to consider ways in which I may be able to redirect the group (rather than directly intervene) in order to alter and perhaps fuse characteristics of Galton's model frameworks to further enhance the pupils' capacity to use and develop their speaking and listening skills through the design process within the context of design and make assignments in the primary EBD classroom. I also wanted to discover whether or not Galton's models fit particularly well into an EBD context.

The group

The group of pupils with which I was working was a fairly typical EBD Year 5 group, although of course one cannot really generalise about such groups. All of the pupils had been excluded from at least two schools. Four had been diagnosed with Attention Deficit Hyperactive Disorder (ADHD) and Attention Deficit Disorder (ADD). Two had been diagnosed with Asperger's Syndrome (an autistic spectrum disorder) and the other three had suffered either traumatic sexual and physical abuse or neglect. All the pupils were very egotistical and although I had been trying very hard for most of the academic year to help them to build relationships between themselves and to learn to help and support each other, they still had not gelled as a group, and no real friendships had developed among the pupils.

Their speaking and listening skills were generally quite poor and in the main hovering at levels 2–3 on the borderline between Key Stages 1 and 2, which is clearly way below their chronological level and in my view not uncommon among such pupils. For the purpose of effective classroom management all were sitting at individual desks while they were working on core curricular tasks. Circle Time sessions had improved during the year but one child was consistently disruptive. A significant group of pupils were silent throughout Circle Time or did not have the courage to participate effectively in the discussion. Another child who had suffered sexual abuse and who had subsequently undergone a considerable amount of psychotherapy tended to dominate the sessions, often using words and phrases that would not be out of place in a psychotherapist's handbook. Turn taking remained a constant problem. This was often frustrating for me and some of the pupils because I felt that many would benefit from Circle Time sessions but had inadequate speaking and listening skills and so were unable to do so.

I wanted therefore to try to use the design process in design and technology lessons to see if it could be used with my pupils to improve the situation.

The study

The class was split into two groups of four pupils. One group was working with the teacher while the other group worked with the learning support assistant.

The task that the pupils were set was for each group to design and make a space food container, i.e. a container that could be used to store food during a journey into space. It tied in loosely with work that we were doing in the literacy hour on stories about adventures in space. Each group were set the following limitations and instructions.

- The container had to fit the pocket of a space suit.
- It had to use a minimum of three different materials.
- The materials chosen had to be used safely in conjunction with food.
- The container could not be too heavy.
- It should be able to slide into the pocket easily.
- It shouldn't split or break open if it were dropped from a height of two metres.
- The materials chosen had to be cheap.

The teacher introduced the lesson and task and followed through with questioning. There were two specific sessions for each group in order to allow for one session where the teacher would have time and space to observe the proceedings and record information and one session where the teacher could redirect the pupils when they were off task or needed help with using speaking and listening skills.⁵ Each group was given some paper on which they could make informal drawings of their model. They were also asked to use three specific pieces of paper to draw a side, front and overhead view of the container.

My intention was to allow the pupils a bit of leeway first and then to redirect the group where and when required to facilitate better use of speaking and listening skills during discussions in the design process or when they were off task. I gave the same basic instructions to the learning support assistant so that she would follow the same basic guidelines as myself.

I wanted to avoid direct intervention unless absolutely necessary in order to prevent the pupils from allowing me or the learning support assistant to 'control' the group. From fairly early on it was clear that a 'leader' emerged within the group – but this was a child who rarely spoke in Circle Time. He was very keen to collate ideas and was uncharacteristically benign in the sense that he was actively encouraging the other pupils to suggest ideas and also asking questions of the others which served to focus the group on the set task.

As the discussion progressed, other group members became increasingly resentful of the pupil dominating the discussion and the tense situation needed to be calmed by the teacher. They co-operated with the leader but showed limited listening skills as their suggestions showed that they were not following the train of the discussion. A common purpose evolved however as the discussion developed further but the regular redirection of the teacher was required. The pupils showed good responses when they were asked to think of other ways of articulating ideas or suggestions for clarity.

Delegation took place within the group, often emerging out of offers of help from pupils with particular skills. For example, Michael, a skilled artist, undertook to complete the main drawing designs for the project and this was accepted by the group. Michael, however, found it difficult to collate the drawings of others so that the finished results would be a truly collective effort, but was willing after some discussion to undertake to complete this task. The group accepted that Ben, who was skilled with his hands, should be involved in

making the model prototype. The quality of the discussion rose and I felt that towards the end of the sessions, as agreement was reached about what materials to use and designs to follow, meaningful contributions were made by pupils who in other settings, e.g. Circle Time, made little contribution. After a period of 25 minutes the groups had reached agreement on what materials to use, what shape the model was going to be, what its general characteristics were and during this time they had all shown the ability to issue and follow fairly complex instructions without serious disruption or conflict.⁶ If we were to use Galton and Williamson's definitions of group types in primary schools then it could be argued that both groups could be classified as 'collaborative'. In my view one might argue that this is no underachievement for such a damaged and potentially disruptive group of pupils.

Long term effects? Personal learning

As the year has progressed significant improvements in the group have occurred and at last they are beginning to gel together. Their ability to communicate with each other in a meaningful and collaborative way has also improved. The design process (with an emphasis on class discussion and speaking/listening skills) has become an important aspect of my classroom practice, and in my judgement has played a significant role in developing the pupils' ability to use speaking and listening skills in an effective way.

Recommendations for further practice

As a result of my study I shall be recommending that the staff use the discussion groups in the design phase of the compulsory design and make assignments as a time when the pupils' communication skills should be used and assessed. Emphasis during these sessions should be on referring to the requirements of the speaking and listening component of the language curriculum. I will also be offering staff a range of ways in which connections between literacy work and design and technology assignments can be made, as for example in my study where the connection was made between space adventure stories⁷ and a design and make assignment.

Conclusions

As a result of my observations I would like to suggest that although generalisations are always difficult and risky there is a good case for arguing that the use of the design process with groups of primary EBD pupils as a vehicle for extending and developing speaking and listening skills is generally well worth trying. It ties in with a subject area which in comparative terms⁸ is both enjoyed by EBD

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Names of children	Use of Vocabulary and Syntax to Communicate Eng (Sp+List 1a)	Ability to gain and maintain interest/ response of audience (N.C. Sp and List 1b)	Identify gist/key points of discussion and evaluate what is heard (NC sp& List 2a)	Ask relevant questions to clarify, extend and follow up ideas (NC Sp&List 2b)	Identify features of language used to persuade and instruct (NC Sp & List 2d)	Ability to take turns NC KS 1) Sp&List 3a)
Hayley	Needed some help with vocabulary. Communication improved as discussion progressed.	Began in rather typical mode of using the language of the therapist. Gradually changed but needed redirection from teacher.	Improvement shown in identifying and evaluating what was heard as discussion about design progressed.	Hayley is the mistress of the irrelevant question and some progress was made but it was limited.	Hayley can be domineering and so needed no help here.	Problematic lack of patience curtailed by others as design process evolved.
Michael	Normally silent + withdrawn. Improvement shown when group discussed formal drawing of prototypes.	Gradually came out of shell as he became more involved in process and discussion.	Selective identification ≠ evaluation of what is heard. Some progress shown.	Usually silent asked limited questions as discussion evolved.	No real progress shown by very withdrawn boy.	Needed lots of help to take part.
Adam	Communication often immature (Asperger's Syndrome). Some sensible contributions made towards end of process as he became involved.	Great immaturity. No real evidence of progress shown.	Periodic evaluation of what he heard was shown.	Usually unable to ask sensible question in any context. One asked during process.	Was able to persuade some pupils during discussion. This was unusual for Adam.	Limited progress shown as lack of awareness of others is acute.
Gemma	Gemma showed some improvements in vocabulary and syntax from a very low base.	Useful remarks made during the process gained the attention of some children.	Some evaluation of what was heard – unusual for Gemma.	Two relevant questions were asked. Good, rarely takes part in group discussion.	Limited vocabulary and lack of confidence persisted during this study.	Needed prompting to take part in discussion.
Ben	Good general vocabulary and syntax along with confidence and initiative meant that Ben played a leadership role within his group.	Ben was able to generate a good level of interest and responses from the group.	He was able to evaluate and build upon what he heard.	He showed an ability to clarify and extend ideas constructively.	Able to persuade and instruct others well.	Limited ability in this field owing to his self ascribed role as organiser.
James	Poor vocab + disruptiveness impeded ability to communicate effectively.	Sometimes able to generate interest from others but engaged in attention seeking activities too often.	Able to effectively evaluate what he heard on occasions.	Rarely showed capacity to ask relevant questions in discussion.	Rarely used language purposefully during design process.	Found it to consistently take turns in debate.
Carly	Carly's use of vocab and syntax improved as discussion progressed.	Made some good suggestions to gain and maintain the interest of others.	Good and improving skills of identification and evaluation as process progressed.	Asked relevant imaginative questions throughout discussion.	Good purposeful language used throughout.	Good turn taking skills frequently shown.
Mark	Traumatised boy who usually communicates poorly showed good use of vocab, syntax – communication.	Showed some ability to gain and maintain interest and responses of others – esp. good for Mark.	Improved ability to identify and evaluate what he heard shown.	Some relevant questions asked – again good for Mark.	Some purposeful language used by Mark again this is rare and showed progress.	Mark was unusually good at taking turns in a calm way.

Note: The N.C. Sp.+List numbers refer to the points made in the Knowledge, Skills and Understanding part of the Speaking and Listening Section of the new National Curriculum document for English.

pupils and according to a recent review by Ofsted⁹ is an area where a high proportion of EBD pupils are making good progress. My observations also suggest that significant redirection may be needed by the teacher but that direct intervention should only be used as a last resort where a complete breakdown in the group dynamics is imminent. I would also like to suggest that my study shows that the range of definitions suggested by Galton and Williamson are appropriate for assessing the nature of group formations found in the primary EBD classroom. The use of groups for the design process in EBD primary schools may also be used to improve the quality of Circle Times, since they give the pupils the experience of operating in task orientated and decision making group settings. However it is also worth adding a note of caution. Success and progress was limited in those pupils with clinically diagnosed communication disorders e.g. autistic spectrum disorders such as Asperger's Syndrome.¹⁰ The progress made by the most disruptive pupil in the class, and coincidentally the school, was also limited.

The model developed by Blanchard, Carew and Paris-Carew for developing the effectiveness of groups engaged in problem solving tasks might be useful in the boardrooms of major companies, but the question for this study is whether or not it can provide the primary EBD classroom practitioner with any useful lessons on how to facilitate our pupils' capacity to develop their speaking and listening skills in the context of making design decisions as a group. In my opinion it could be argued that the answer to this question is both yes and no. On the one hand it passes back the responsibility for group guidance onto the teacher and serves as a useful framework for us to use to guard against anarchic structures which, particularly in an EBD context, could prove disastrous. On the other hand this model is rather over centralised and it could be argued that this too is something which the EBD primary practitioner should guard against, particularly when working with pupils who have spent much of their school careers resisting and rebelling against authority.

We may also need to ask whether the adoption of such a model might restrict the capacity to create the space for the pupils to develop independently their own speaking and listening skills.

Clearly this study has been confined to a relatively small area of both the design and technology curriculum and the subject area of language skills, the interrelationship between the two and this is perhaps more true since the

advent of the National Literacy Programme. It perhaps shows more than anything else that there is considerable scope for investigating, through observation and study, the relationship between design and technology and areas of the curriculum which are more explicitly concerned with literacy. How, for instance, can food technology be used imaginatively in fulfilling the requirement to study recipes in Year 3 of the National Literacy Project? How can we relate design and technology and literacy in our regular study of the vocabulary and characteristics of materials and tools? These are questions that any primary school that seeks to invigorate the way in which the relationship between design and technology and literacy can be taught might need to ask. For EBD practitioners, further exploration of how we can get our often damaged and inarticulate pupils to become better speakers and listeners remains in my view an area of prime importance.

Notes

1 There is evidence that this enjoyment is reflected by the relative success of design and technology in special schools. According to the latest findings of Ofsted in their review of special schools, pupils made satisfactory or good progress in eight out of ten schools in design and technology. (See the DATA website: www.data.org.uk/boardmain.html)

2 Although there is some useful research on how groups of mainstream Key Stage 2 pupils work in the design component of design and technology.

3 Although not necessarily more important than in the making component of design and technology.

4 This might be the teacher but not necessarily. Clearly the pupils might elect their own leader to guide the group. However, practitioners in primary EBD will know that such processes, e.g. the election of a group leader, are fraught with problems.

5 The observation sheet is attached.

6 With the exception of one boy in one group who made inappropriate and silly suggestions throughout the discussion. However, the remainder of the group sought to continue with the task in hand and handled the disruption posed by this boy in a non-confrontational manner.

7 See Year 3 Term 2 National Literacy Project.

8 In comparison, that is, with other curriculum areas.

9 See *Ofsted Special Education: A Review of Special Schools, Secure Units and Pupil Referral Units in England 1994-1998*.

10 Although there were no pupils in the group with Semantic Pragmatic Disorder, as a father of a child with this condition, I would like to suggest that we can cautiously infer that similar limitations on progress are likely to be evident in such pupils.

References

Blanchard, K., Carew, D. and Paris-Carew, E. (1992) *The One-Minute Manager: Building High Performance Teams*, London: HarperCollins Publishers

Conway, R. (1990) *An Investigative Study into Collaborative Learning*, WARN (Wessex Action Research Network)

Flynn, M. and Reynolds, C. (1994) 'Working as Groups in Design and Technology' *Primary Data*, Vol. 4 No. 1: 18-21

Galton, M. and Williamson, J. (1992) *Group Work in the Primary Classroom*, Routledge

Ofsted (1998) *Special Education: A Review of Special Schools, Secure Units and Pupil Referral Units in England 1994-1998*, Ofsted

Web sites

www.data.org.uk/boardmain.htm (The Design and Technology Association: Main Frame in Noticeboard)

www.nc.uk.net/servlets/NCFrame?subject=EN (National Curriculum on-line English Key Stage 2: Speaking and Listening Skills)

www.nc.uk.net/servlets/NCFrame?subject=D%26T (National Curriculum on-line design and technology Key Stage 2)

www.standards.dfes.gov.uk/schemes/designtech (QCA Schemes of Work on-line: Design and technology)