

Practical ways to promote the active involvement of young people with severe learning difficulties in their local living and learning community by developing effective post-school transition provision

**Dr Cathal Butler,
University of Bedfordshire**

Research funded by the Harpur Trust

Contents

Abstract.....	4
1. Introduction	5
1.1 National Policy and Code of Practice	5
1.2 Why is communication important?.....	6
1.3 How can Communication skills be taught?.....	7
1.4 TEACCH	10
1.5 Does the current curriculum support developing communication skills?	10
1.6 Staff Training and Expertise.....	12
1.7 Transition	12
1.8 Summary	13
2. Methodology.....	14
2.1 Sample	14
2.2 Instruments	15
2.2.1 Measuring Student Progress.....	16
2.2.2 Observations	16
2.2.3 Staff Observation	18
2.2.4 Interviews.....	18
2.3 Data Analysis	19
2.4 Ethical Considerations	19
3. Results:.....	21
3.1 Communicative competence prior to the study.....	21
3.1.1 P-Scale Scores.	21
3.1.2 IEP Targets.....	22
3.2. Teaching Methods used during the research	23
3.2.1 Adult lead approaches	24
3.2.2 Environmental manipulation approaches.....	25
3.2.3 Modelling approaches	26
3.2.4 Interaction Style.....	26
3.3. The impact of the research on the frequency and effectiveness of their communication skills.	27

3.3.1. Staff and researcher views on the types of communication skills observed.....	27
3.3.2 Frequency of Communication Types	28
3.3.3 Effectiveness of Communication Types	32
3.3.4 Examples of Communication	34
3.4. Evidence of changes in P-Scales & IEP Targets after the intervention	37
3.5. Parent Views	39
3.5.1 Communication Skills.....	39
3.5.2 Improvements in communication.....	40
3.5.3 The reasons for improvement	41
4. Discussion.....	43
4.1 Improvements in communication skills	43
4.2 Teaching Strategies	44
4.3 Future research.....	45
References	46
Appendices.....	51
Appendix 1. Observation Schedule	52
Appendix 2. Parental Interview Schedule	54
Appendix 3. Staff Consent form	55
Appendix 4. Parent Consent Form	56
Appendix 5. Student consent instructions.....	57

Abstract

Communication skills are of vital importance for students with Severe Learning Difficulties, in order to develop their abilities to live independent lives, and to take part in discussions where their futures are determined. Communication skills have been recognised as an important issue for these learners, as they are often passive, and do not have the skills or the opportunity to engage in communication. This research focuses on exploring the effectiveness of a TEACCH-based approach to developing communication skills of a group of 6 students with Severe Learning Difficulties, who were aged 16 and over. The particular focus was on spontaneous communication. A researcher carried out a set of 15 observations with this group, in the classroom, and in community settings, across the 2 years, focusing on the range of communication skills displayed by the students. In addition, staff data on the frequency and effectiveness of these communication skills was collected. This was further complemented by parental interviews. The major findings were that students showed marked developments in the frequency and effectiveness of many different types of spontaneous communication skills across the 2 years. These ranged from simple requests for help, requests for information, through to expressions of emotion and more conversational communication. These communication skills were demonstrated both in class and in the community. These increases weren't necessarily captured by the formal assessment tools used for learners with Severe Learning Difficulties however (i.e. P-Scales). The implications of these findings for development of assessment, and for future work to support this group of learners is discussed.

1. Introduction

The Salt report (2010) acts as a starting point for the current research, as it acknowledged that there has been a lack of focus on the needs of students with Severe Learning Difficulties. In this research, an attempt will be made to help to address this issue, by focusing on one major issue for this group – communication skills, in the context of recent changes to national policy.

A common starting point when discussing severe learning difficulties is to attempt to define it. MacKay (2009), amongst others have noted the ambiguous and diverse way in which this category has been described and defined. The SALT review's definition of Severe learning Difficulties highlights that these learners have significant intellectual or cognitive impairments, which mean that their ability to access the regular curriculum, across all subjects, without substantial support, is limited. Their self-help skills and ability to be independent are also limited. Further common complications can include mobility issues, perceptual issues, and communication issues. These learners are likely to be working below the level of Key Stage 1 of the national curriculum. In addition to this, Male & Rayner (2009) note that the population in special schools for learners with SLD (where a majority of learners with SLD are taught) are taking in an increasingly diverse population, with increases in numbers of learners with complex and challenging needs.

1.1 National Policy and Code of Practice

Recent changes to legislation mean that for learners with special educational needs, the education system is now charged with supporting them until the age of 25. This will have important implications for institutions educating learners with SEN going forward. It will in all likelihood continue to mean transition points for the 75% of students with severe learning difficulties attending special schools (Salt, 2010), unless these institutions can continue to provide educational opportunities for these learners.

Another important change highlighted in the new code is the desire for participation of the students in decision making – their voice needs to be heard, both generally, and in making important decisions in relation to education and placement, an example of which would be in transition from one institution to another.

For the current research, perhaps the most relevant change highlighted is that

“there is a greater focus on support that enables those with SEN to succeed in their education and make a successful transition to adulthood” (SEN Code of Practice, 2015, p. 14).

This research will highlight the importance of developing communication skills for learners with severe learning difficulties, and its importance in ensuring that these learners are able to participate and increase the likelihood of successful transitions.

1.2 Why is communication important?

Communication is a fundamental skill, but it is also a complex one. Powell (2008) states that communication involves a combination of cognitive, linguistic, and motor processes. Learners with SLD can present with a whole continuum of difficulties in relation to these different processes, which can hinder their ability to communicate or be understood. Further to this, Martin et al (2010) state that communication difficulties can arise for multiple reasons – the cognitive limitations of the learning difficulty, speech that is difficult to understand, physical disabilities, or the person’s capacity to understand, process, and express messages. In all likelihood, communication difficulties are likely to arise from a combination of these factors. This complex interplay of very broad factors makes it very difficult to attempt to create a theoretical framework in relation to communication difficulties faced by this group of learners.

Whilst it is difficult to make any broad claims that apply homogeneously to learners classified as having a severe learning difficulty, the SALT review highlights that communication difficulties are a common issue. Johnson et al (2010) noted that individuals with severe intellectual disabilities often present with very complex communication challenges. Feiler & Watson (2010) state that children with severe learning or physical disabilities and communication difficulties tend to experience marked problems expressing their desires and needs. Learners with severe learning difficulties may or may not be able to communicate verbally. It is common for some of these learners to rely on Alternative Augmentative Communication methods (AAC), such as PECS, or computer-based programmes (Goldbart & Caton, 2010, Beukelman & Mirenda, 2005).

It has already been noted above that communication issues can be difficult to separate from learning difficulties, but there are some important consequences that issues around communication can have for this group of learners. For example, Bayes et al (2013) highlight the importance of communication skills for autonomy. If these learners are not able to express themselves to others clearly, they will remain dependent on others who are able to anticipate their needs. Goldbart & Caton's (2010) report for MENCAP captures this point well by stating that communication with people with the most complex needs is most successful with familiar, responsive partners who care about the person they are communicating with. Cascella (2005) notes that these learners may frequently depend on nonverbal forms of communication (for example gestures, body orientation, facial expressions, eye gaze, and vocalisation), which may not be noticed by those not very familiar with the learner. Johnson et al (2012) highlight the importance of communication skills to developing relationships, and how the lack of skills can inhibit the development of relationships, leading to isolation. Grove et al (1999) also state that this group are dependent on others interpreting their attempts to make themselves understood, as well as having a low level of their own intentions, a limited ability to use formal communication, and a tendency to passively acquiesce to suggestions made by others. Markova et al (1992) for example highlighted the paucity of communication and interaction opportunities for adults with Severe Learning Difficulties, who may well end up in dependent settings such as hospitals and hostels, with limited opportunity to interact with individuals capable of recognising their attempts to communicate.

Another reason for the importance of communication skills for these learners is that their ability to engage with their education, and in decision making around this, depends on their ability to communicate their views. Rose (1999) noted that earlier versions of the SEN Code of practice have always focused on involving students in decisions making processes wherever possible, recording their views, and involving them in implementing plans. Feiler & Watson (2010) note that initiatives such as Every Child Matters has also placed a strong emphasis on paying attention to the opinions and views of learners with learning difficulties, though this is not without its problems, as Lewis & Porter (2004) state that providing children with learning difficulties an opportunity for their voice to be heard has proven difficult.

1.3 How can Communication skills be taught?

One of the major debates in special educational research over the last 15 years is the status of teaching learners with special educational needs, and whether it really differs from what is expected in mainstream classes. Norwich and Lewis (2001, see also Lewis & Norwich,

2005) argue that there is no convincing evidence that a separate form of teaching is needed for learners with special educational needs, rather what works best is along a continuum of strategies/approaches/pedagogies that a mainstream teacher could use. While one might expect that when teaching skills or topics deemed to be below the first stage of the national curriculum would require different approaches to teaching, this does not seem to be the case. Indeed, it has been noted that behavioural approaches have dominated in this area (Ouvry & Saunders, 1996, Farrell, 1997, Ogletree et al, 2011). More interactive approaches have also been promoted (e.g. Hewett & Nind, 1992). However, Lindsay et al (2008), in a broad review in relation to speech, language and communication difficulties, noted that there was little research evidence to support any particular intervention for developing language and communication skills.

Taking this into account, the next step is to look at what research has told us about the current picture of communication skills, and the effectiveness of interventions being used to address communication needs for learners with Severe Learning Difficulties. It is worth noting however that this section will focus only on general approaches, rather than specific forms such as PECS (Sulzer-Azaroff, Hoffman, Horton, Bondy and Frost, 2009) or talking mats (Bell and Cameron, 2003), which, although they can address specific communicative issues, would not necessarily provide a programmatic underpinning to support a larger group of learners, with diverse needs.

Before this topic is covered however, it is worth mentioning an important concern raised by Stephenson (2004) – the regular use in schools of teaching practices or strategies for which there is no research evidence to support their use. Her research showed that this occurs regularly in special schools in Australia. Jacobson, Mulick, & Schwartz (1995) for example highlight issues around the use of a technique called “facilitated communication”, which appears to have allowed for a striking over-estimation of communicative abilities of learners with Severe Learning Difficulties. This is a major concern, and highlights the need for this literature review to provide a basis for any intervention that will be implemented in the school.

Within the literature, the first major issue to be addressed is the consistent finding that learners with severe learning difficulties are often passive – waiting for others to instigate an interaction. In a piece of research conducted by Bunning et al (2011) looking at interactions between staff and students in a special school found that teachers dominated the interactions, and were the main initiators. This continues a theme identified by Ware and Evans (1986), who found that adults frequently did not respond to the attempts of pupils with

severe learning difficulty to communicate. Similarly, Farrell (1997), in a review of the literature, noted that when learners with Severe Learning difficulties were included in mainstream settings, communication between these learners and their peers tended to be limited and one-way in nature. For Anderson (2006), this can be explained in part by the issues presented by learners with SLD; for the preverbal communication can be brief, infrequent or overlooked; communication signals may be specific to an individual and difficult to interpret; some behaviours may appear random and it is difficult to identify which behaviours have communicative value. Johnson et al (2010) focused on the interactions between adults with severe intellectual disabilities and members of their social networks. The main findings again served to highlight that people with severe intellectual disabilities often interact in idiosyncratic ways, which may not be understood by everyone, or match the normal expected patterns for social interaction. This meant that for members in the social networks of adults with severe intellectual difficulties, communication can be very challenging.

In a literature review focusing on the interaction between intellectual disability nurses and adults with intellectual disabilities by Martin, O'Connor-Fenelon, & Lyons (2010), two key themes were highlighted: mismatch of communication ability, and knowledge of communication. The theme of mismatch is most striking, with Martin et al (2010) noting the frequency with which staff failed to adjust their communication level to match the abilities of patients, failing to use non-verbal communication, or indeed simply not paying attention to attempts to communicate nonverbally from the patients.

Much of the research discussed in this section so far has served to highlight the difficulties faced in relation to teaching communication skills. However, there have been reports of successes. Nind, Kellett & Hopkins (2001) for example focus on the positives of using intensive interaction (derived from the nurturing style found in caregiver-infant interaction), and how it can improve the quality and quantity of learner's communication. Downing (2005) also found that students with severe cognitive disabilities benefit from inclusive educational opportunities at the high school level and can acquire critical communication skills, given the necessary support. They do note however the critical importance of providing opportunities for these students to communicate, and the need for responsive communication partners, to be able to engage these learners. To come back to a point made by Martin et al (2010), communicating involving learners with severe learning difficulties is based on care, creativity and innovation, often having to take into account both verbal and non-verbal communication methods. Farrell (1997) noted that the role of support staff is key – carefully planned and supported individual programmes are needed to help learners develop basic communication skills.

1.4 TEACCH

In this section, the focus will be on one particular approach, TEACCH. TEACCH is a general approach, originally developed in the 1970s, with a focus on autistic learners. TEACCH stands for Treatment and Education of Autistics and related Communication Handicapped Children. The inclusion of communication in the title serves to justify the focus on this particular approach. Siegel (2000) notes that TEACCH is an approach which requires a clear understanding of a learner's needs in order to be able to teach them effectively. In addition to this, it uses continuous structured interventions, environmental adaptations, and alternative communication approaches, as necessary (Schopler, 1994). Perhaps most importantly, Mesibov & Shea (2010, p. 572) note that one of 4 key components in TEACCH is "supporting self-initiated use of meaningful communication". Although TEACCH is mainly directed at those who are specifically diagnosed as being autistic, there is some research that focuses on those with severe learning difficulties (though in most cases these learners would have co-morbidity of autistic spectrum disorders and severe learning difficulties). Kontu & Pirttimaa (2009) note that a TEACCH-like approach is regarded as one of the most frequently used teaching methods used by teachers of the severely intellectually disabled. Walton and Ingersoll's (2013) literature review suggests that the TEACCH program can be effective in increasing social contact and socialisation. Kossyvaki, Jones & Guldberg (2012) conducted a piece of research looking at how to increase and improve spontaneous communication in autistic children. The research was conducted in a class where a range of teaching methods, including TEACCH, and in particular Intensive Interaction were employed. The research focused on the adults' interactive style, and whether training focusing on how the adults in the classroom interacted with each child. This training was found to improve child-initiated communication in the classroom. Therefore, there is some evidence that this particular approach may be effective, but more work is still needed.

1.5 Does the current curriculum support developing communication skills?

The P-Scales currently forms the basis of much of the work done to support students with severe learning difficulties, most of whom, as have been noted already, attend special schools. The P-scales are a set of 8 groups of attainment targets for pupils with special educational needs, who are operating below the national curriculum. It is conventionally

noted that P 1 to P3 captures learners with profound and multiple learning difficulties, while P 4 to P8 captures learners with Severe Learning difficulties (Imray, 2013, Salt Review, 2010). Table 1 sets out the p-scale targets for speaking and listening which would apply to many learners with severe learning difficulties. While Imray & Hinchcliffe (2012) have noted that these scales are helpful in providing a national reference point for the academic capabilities of a child, the scale, which implies a linear developmental trajectory, and presumes that progress will occur on a regular basis (particularly with the addition of subscales of progress within these scales) is less than helpful. The use of P-scales as a formal assessment of student progress has proven a barrier to the use of teaching styles that are not easily matched to the targets and language of the p-scales (Nind & Hewett, 2006), as teachers in special schools, up to the end of key stage 4, are expected to be working to these targets, for English, and for other subjects (e.g. Art & Design, Computing, Design & Technology, Geography, History, Mathematics, Music, Languages, Physical Education, PSHE and Citizenship, Science, and Religious Education, Department for Education, 2014).

Table 1. P-Scale targets for speaking and listening (from, Department for Education, 2014)

	Speaking	Listening
P4	Pupils repeat, copy and imitate between 10 and 50 single words, signs or phrases or use a repertoire of objects of reference or symbols	Pupils demonstrate an understanding of at least 50 words, including the names of familiar objects
P5	Pupils combine two key ideas or concepts	Pupils respond appropriately to questions about familiar or immediate events or experiences
P6	Pupils initiate and maintain short conversations using their preferred medium of communication	Pupils respond to others in group situations
P7	Pupils use phrases with up to three key words, signs or symbols to communicate simple ideas, events or stories to others	Pupils listen, attend to and follow stories for short stretches of time
P8	They link up to four key words, signs or symbols in communicating about their own experiences or in telling familiar stories, both in groups and one-to-one	Pupils take part in role play with confidence

1.6 Staff Training and Expertise

Previous sections have already served to highlight the need for dedicated professional staff to support the needs of learners with severe learning difficulties. The Salt review highlighted a number of problems – both immediate in terms of the current low level of expertise currently supporting these learners, and for the future, with the projected loss of expert staff through retirement. Interestingly, Jones & West (2009) note similar issues in the USA in relation to teacher shortages, and specialist qualifications. Male & Rayner (2009) found that the number of teachers with additional specific qualifications in special schools for SLD is decreasing. The finding of the Salt review that these schools are not attracting new staff is not surprising, as Anderson (2011) highlighted the general lack of confidence of teachers in working with students with communication needs and learning difficulties, and noted the lack of support in Initial Teacher Education to prepare teachers to work with these students.

Male & May (1997) highlight stressful elements of working in a special school for severe learning difficulties – particularly in relation to dealing with severe challenging behaviour. Aird (2000) notes that communication issues may contribute to this challenging behaviour. In order to deal with these issues, Aird highlights the general need for specialist training for those working with this group of learners., with a particular focus on Learning Support Assistants, who often play key role in special schools, particularly given the increased numbers of this type of worker in special schools (Male & Rayner, 2009).

1.7 Transition

With the new code of practice emphasises that learners with special educational needs have the right to an education until the age of 25, it is likely that there will be a developing focus on provision for learners post-18. Plans to link services together through an education, health and care plan should help to alleviate the major discontinuity that learners with special needs can experience at the end of the period of formal education, when the learner's support is likely to involve input from education and social services, as well as child and adult services.

Research so far has uncovered a number of issues for learners at this particular crossroads in life. Research has suggested that young adults with learning difficulties are less likely to be employed, and to live independently of their parents (Smyth & McConkey, 2003). They are also thought to have more restricted social lives, which are reliant on family (Smyth & McConkey, 2003).

Most of the research in relation to transition has unfortunately highlighted negatives; Lundy, Byrne, and McKeown (2012) expressed a high level concern about transition when leaving school, as the options available can be very limited, in Northern Ireland. Ineichen (1993) highlights issues around short-term residential care at the point of transition, while Quine & Pahl (1992) focus on the lack of opportunities to move to non-sheltered environments. Giving learners an opportunity to voice their own opinion in making life choices has been highlighted, but research has unfortunately shown that often they are given little or no say in transition meetings (Smart, 2004, Carnaby et al, 2003, Cameron & Murphy, 2002). Indeed, it was noted by De Matteo et al (2002) that students (in this instance those with autism) may not be given the support to be able to engage with transition meetings, as a majority of the focus for teaching social and communication skills tends to occur in early years and primary settings, and seems to be relatively neglected for adolescents and young adults.

Looking at potential settings that students may transition into, Wright (2006) provided a very critical overview of Further Education provision for this group of learners. She highlighted the often poorly structured and repetitive nature of the courses and opportunities provided, which she noted often lead to outcomes of dependence, unemployment, and social isolation. The role of parents at these times of transition is also key. A study in Northern Ireland (Smyth & McConkey, 2003) noted that while fostering independence was an important issue, many parents expected their children to stay with them. This is said to be at least in part due to the availability of services that could allow them to live elsewhere.

1.8 Summary

In summary, this review has served to highlight a number of concerns. It is clear that communication skills are very important for learners with Severe Learning Difficulties. The teaching of communication skills is very important to enable these learners the opportunity to live as independently as possible. However, there are a range of barriers that have limited their opportunities to learn these fundamental skills. In this research, the focus will be on one particular approach to teaching, based on the TEACCH approach.

2. Methodology

The primary aim of the current piece of research is to explore whether the programme of teaching, focusing on specific elements of communication, was effective in increasing communicative competence for students with Severe Learning Difficulties. Porter and Lacey (2005) note that a common approach to research on teaching strategies or interventions in relation to learning difficulties is to adopt a quasi-experimental approach. Issues around the size of the group and the lack of ability to use a control group limit the ability to use a more powerful experimental approach for this particular group of learners. Robson (2011), notes that the pre-test post-test single group design (see table 1 for measures used in this design) is not without its problems. Kellett & Nind (2001) prefer a multiple baseline interrupted time-series design. However, the nature of the intervention being used in this research, which could not be selectively applied to a select group within the class, alongside the lack of access to a comparable control group, means that the pre-test post-test single group design was the least problematic design available.

Table 1. Data Collection measures, pre, post, and during the intervention

Pre-test Measures	Measures during interventions	Post-Test Measures
P-Scale Data, IEP Targets, School Records	Researcher Observation Data, Staff Observation Data	P-Scale Data, IEP Targets, School Records Parental Interviews

2.1 Sample

A total of 6 students were engaged in the research (see table 2). The group comprised of 5 females, and 1 male, all of whom were over the age of 16 at the start of the project. There had initially been 7 students in the class, but one of these students left during the first year. The pupils taking part in this research have been grouped together by the school, because they had particular communication needs. This was a sample selected by key members of staff at the school, on the basis that they could benefit from the intervention, and that the students did not have major behavioural or other issues that would otherwise interfere with the work occurring in the classroom. The sample consisted of five girls and one boy. The sample covered a range of ethnic backgrounds, and were all aged 16 or over at the start of

the research. Due to their age, they were in the “further education” section of the special school, and were not subject to following the structure of the national curriculum, as they are in the primary and secondary phases of the special school.

Table 2. Characteristics of the sample

Initials	Gender
JW	Female
KC	Female
KH	Male
NS	Female
NT	Female
TM	Female

The staff taking part in the research included was led by a Speech and Language Therapist who has had recent experience of classroom practice. The Speech and language Therapist was supported by a graduate teacher, in addition to a small number of teaching assistants (a total of 4 were used across the 2 years of the research). The attendance level of staff was markedly high, with only 1 member of staff missing more than 5 days per year across the 2 years. Similarly, none of the students taking part in the research missed more than 5 days a year across the 2 years, indicating a very high level of consistency in attendance.

Beyond the observations, parents were also approached to participate in interviews at 2 key points in the research (1 year in, and at the end of the 2 years), to give their views on any changes in the communication skills of their children. All 6 sets of parents were contacted. However, due to a range of circumstances, only 4 interviews (3 at a year in, and 1 more at the end of the research) were conducted. Whilst it was not possible to interview all parents, the information that they were able to provide was invaluable in providing an indication of whether or not children were expanding their communication outside the school environment.

2.2 Instruments

For the current research, a range of instruments are used (see table 1) at different phases of the research process. School data was used to provide a baseline, which would also be available as a post-test measure. School data included annual progress reports, statements,

IEPs, and speech and language therapy reports, which provided rich details about the abilities and needs of the students. In addition to this, additional data would be collected while the intervention was being run.

2.2.1 Measuring Student Progress

The literature review has already highlighted the issues that arise in relation to evidence on the most effective teaching approaches for students with severe learning difficulties. There are few if any appropriate scales for measuring the progress of this group of learners. A look at the literature shows that there are assessment scales that focus on behaviour (e.g. De Bildt et al, 2005) that have been applied to this group of learners. However, the only scale that has any relevance to communication skills is the Vineland Adaptive Behaviour Scale (De Bildt et al, 2005, McLeod, Morrison, Swanston, & Lindsay, 2002). As this particular measure is based solely on parental interview data, its relevance to the current research is limited.

In England, P-Scales are the basic framework used for students in schools who are operating below key stage one of the national curriculum. Imray (2013) has noted that P-scales are a less than ideal manner for assessing the progress made by learners with SLD. However, in the absence of other measures, the P-scales do at least have the benefit of being a measure that is regularly used in relation to this sample, and for which data and evaluations have been made on an annual basis for these learners. The only other common element which is regularly updated across students is IEP targets, which are generally reviewed once or twice a year. While these measures remain problematic, they can at least provide a baseline for the current targets the students are working towards, and which will be regularly updated across the 2 years during which the research will be conducted.

2.2.2 Observations

Cohen, Manion, and Morrison (2011) note that observations are a powerful and direct way of collecting data in natural social situations. In particular, it allows one to focus on everyday behaviour (such as particular forms of communication) that might otherwise go unnoticed or be taken for granted. This should capture the relatively simple forms of communication that are being focused on in this research, and the extent to which they are produced spontaneously by the students. As a research instrument, it is noted that an observation has

high ecological validity, as it gives the researcher an unfiltered view of the student's abilities to communicate, both in the classroom, and outside. Given that the aim of the observations was to capture and classify communications, when used, a structured observation form was most appropriate. Appendix 1 includes a copy of the observation form. This sets out the types of communication identified. These were based on the forms of communication set out within the teaching manual, and that were the main focus of the staff.

Table 3. Variables measured during observation

Variable	Details
Student Name	Initials
Target of communication	Initials (staff, student, or other)
Initiator	Student or staff member
Communication Type	See appendix 1 for list
Communication Format	Verbal / Nonverbal
Communication length	Single word / Sign / Gesture, sentence, multiple sentences
Description	Details of the communication, and its purpose

Originally, it was intended to focus on each of the 6 students for two sets of 10 minutes within each observation session. During piloting, this proved unsuccessful in capturing the communication that was occurring in the classroom, as it was not allowing the research to react and follow communication where it was happening. Due to the shorthand nature of the information being collected, it was decided that the observation sessions should follow a simple event sampling structure, that focused on communication as it occurred in the classroom, rather than focusing on any one particular student at any one point in time.

Where students were separated from each other for particular activities (e.g. outings), efforts were made to ensure that all students were observed for a part of the session; indeed, across all sessions, communications were observed for all students present during these sessions.

In total, 15 observations, each of which lasted 2 hours, were conducted. This included observations in the classroom, varying across day of the week, time of day, and lessons/subjects being covered. In addition to observations in the classroom, the observer was present for:

- 3 trips to a local supermarket, where students were encouraged to independently search for, find, and buy food.
- 1 trip to a charity store, where 3 of the students did volunteer work sorting donations
- 1 trip to the local Further Education College, where 3 students attended a drama session
- 1 trip by a student to a horse riding centre

This provided a wealth of opportunities to observe students interacting and communicating outside the classroom. They had opportunities to interact with adults, and indeed to interact amongst themselves.

2.2.3 Staff Observation

In addition to research observations, the research fed into regular staff meetings for those involved with the classroom. During these staff meetings, the focus would be on the same forms of communication that the researcher was focusing on. They would discuss and rate the frequency and effectiveness of these different forms of communication across the 2 years of the research. A total of 5 meetings occurred across the 2 years, giving an opportunity to view changes over time for the 6 students involved in the research.

An important element in the current research was to compare the views of the researcher and the staff, as this triangulation would serve to validate the two sets of data. The extent of agreement from both sets of data about whether the students demonstrated particular forms of communication, in specific sessions for the researcher, and in general for the staff will be a very important element in ensuring the validity of the data.

2.2.4 Interviews

In addition to observing students in the school, an important element in this research was to explore whether the students were demonstrating any changes in their communication skills in other settings. In order to do this, semi-structured interviews were carried out with parents. The semi-structured approach is ideal in this instance as it allows for a general structure across interviews, while still allowing the opportunity to explore in detail any particular issues

raised by individual parents. For example, where parents mentioned in passing changes in their children’s communication over the 2 years, these could be followed up in detail.

Before the research commenced, consent letters were sent out to the parents giving details about the research being conducted. This letter discussed both the observation to be conducted in the class, and interviews to be held with parents. In addition to this, specific letters focusing on the parental interviews were sent out at the end of the first and second years, requesting that they take part in an interview. A copy of the interview schedule was included with these letters, to ensure that parents were aware of the types of questions being asked. In total, 4 interviews were conducted; 3 at the end of the first year, and one at the end of the second year. The interviews were all recorded and transcribed.

2.3 Data Analysis

At the end of the data collection project, 4 sets of data were available for analysis (see table 4). Quantitative data was entered into excel or SPSS as appropriate, in order to produce descriptive and inferential findings. Following transcription, parental interviews were subject to thematic analysis (Robson, 2012), to identify and interpret key themes.

Table 4. Data collected

Data Type	Location
Baseline Data from school record (e.g. P scales, IEP targets)	Collated by the researcher in an excel file
Researcher observation data	Collated by the researcher in spss
Staff observation data	Collated by staff in an excel file
Parental interviews	Transcribed by the research in word documents for thematic analysis

2.4 Ethical Considerations

When collecting data with vulnerable groups, as students with severe learning difficulties are generally classified, a number of precautions need to be taken to ensure that the research is conducted in an ethical and transparent manner. The staff had a number of discussions at before selecting the students who would be part of this research, to ensure that their participation was, in their judgement, in the students’ best interests. The students in this research are over the legal age of consent (16), and therefore, reasonable attempts have to

be made to inform them of the nature of the research, in order to be able to ensure that they are happy for the research to be conducted. In order to do this, the researcher worked with the staff at the school to prepare a clearly worded statement, indicating what would be involved in the research, and telling the students about their right not to take part if they did not wish to. This was read out to students who it was felt would be able to understand, and give consent. In addition to this, all parents were sent consent letters, informing them of the nature of the research, and asking for their consent.

Confidentiality and anonymity were addressed through the anonymisation of data at all stages in the research, and through the secure storage of all data. In addition, observation files, both staff and researcher, as well as interview records were kept in locked cabinets, or in the case of electronic data, in password-protected folders. The proposed research was also subject to ethical scrutiny by an appropriate panel within the University prior to the research commencing.

3. Results:

This results section will cover: 1. Children's level of communicative competence prior to the study. 2. The teaching methods used during the study. 3. The impact of the research on the frequency and effectiveness of their communication skills. 4. Evidence of changes in P-Scales & IEP Targets after the intervention. 5. Parental views of progress.

3.1 Communicative competence prior to the study

Two key measures of communicative competence which can be stated as being commonly used, despite issues with their reliability and validity, are students' P scales, and targets specifically focusing on communication within the students IEPs. Staff measurements of their communicative competence using the categories drawn from TEACCH will also be touched upon in section 3.

3.1.1 P-Scale Scores.

The p-scales are used for students who are operating below the national curriculum levels. It is worth noting however that some of the students are working at early levels within the national curriculum (these figures are italicised) While there are major issues around the use of this as a way to measure student's progress, as discussed in the literature review, its widespread use in this manner, and a lack of other general assessment tools to measure progress means that this has to be used.

Two patterns emerge from table 5. First, this group is quite heterogeneous, with students being assessed at very different levels across the p scales. Ability varies in speaking from p 3 ii: "Pupil uses emerging conventional communication", to p 7 "Pupil uses phrases with up to three key words, signs or symbols to communicate simple ideas, events or stories to others, e.g. 'I want a big chocolate muffin'. There are even students whose abilities in relation to speaking and listening are beyond the levels measured by P-Scales, and are assessed against early key stage criteria (e.g. TM). A similar variety also holds true for listening skills.

Table 5. P-Levels prior to the start of the intervention

Student	Speaking		Listening	
	2011	2012	2011	2012
JW	4	4.2	5.4	5.8
KC	5.2	5.2	7.2	7.2
KH	3i.6	3ii.6	3i.6	3ii.6
NS	5.8	6	5.2	6.4
NT	7.2	7.4	8.2	8.2
TM	2C.6	2C.6	2C.6	2C.6

The second pattern to emerge from table 5 is the consistency shown by students across time, with stability from year to year, or at most (particularly for those at the lower end of the p scales), small incremental increases at the end of the school year.

3.1.2 IEP Targets

Table 6 shows examples of IEP targets in relation to communication for the 6 students taking part in the study. Many of the IEP targets focus on relatively simple communication targets, such as making requests, gaining attention, with a particular focus on students being able to use these skills spontaneously, rather than having to be prompted. The range of IEP targets compliments the range of communication skills set out in relation to p-scales in table 5. The continuity of IEP targets across time indicates the very slow and incremental nature of progress for this group of learners, with a typical focus of IEP targets not necessarily focusing on introducing a new skill, but rather developing that skill further, or generalising it and being able to apply it consistently in multiple situations.

Table 6: Sample IEP Targets prior to the intervention

	Sample targets in 2011	Sample targets in 2012
JW	Ask for more	Request a motivator in sight but not held by the adult
KC	Spontaneous requests using symbols, Use the help symbol, Follow instructions given using communication book,	Request using symbols from the communication book spontaneously , Ask for help using symbols,
KH	Request a visible item using a symbol	Spontaneously request a motivator for an item out of sight
NS	When looking at pictures, the student will comment, Give information to an adult in response to a list of symbol choices for an activity,	Comment on pictures using 2 elements – e.g. verb and noun, Give information to an adult in response to a symbol list of activities to choose from; verbally, pointing, or by handing symbol,
NT	Volunteer information about a picture book or magazine Follow a 3 step written instruction list	Find and ask an employee a question in the market, Follow hand written list of tasks, and then let adult know it is finished,
TM	Gaining attention, Approach a teacher and make a request	Predicting what will happen next in a picture,

3.2. Teaching Methods used during the research

This section will look at the range of strategies used in the classroom, based on the teaching documents produced by the staff, with commentary based on observation. One of the key factors influencing the teaching methods and strategies used in the classroom is that the students are all 16 years or over. This means that the subject-focus of the national curriculum does not apply to them. Rather, the school recognises four categories which are termed Areas of Learning and Development, one of which is called CLL - Communication Language and Literacy. For the purposes of the current research, this area of development is clearly key.

An important element of the approach to teaching and learning in the classroom is that the day is broken into a series of events rather than 'lessons'. In practice this means that there can be:

- A greater emphasis on activities of daily living and classroom tasks, not only in terms of learning to do the task but as an opportunity for functional maths, literacy and communication skills.
- Less emphasis on completion of worksheets.

- An increase in one to one teaching.
- An increase in adults using 'lists' to communicate the stages of tasks in order to support students to complete activities independently.
- Activities described and symbolised using 'real world' language rather than subjects e.g. 'shopping' or 'trip' rather than 'Community Access.'
- A reduction in specific activities taking place at the same time each week

This has implications for general classroom setup. There are a number of ways in which the classroom is set up which vary from a standard classroom. First, the setup is informal, with no timetables on the wall, and no "designated teacher seat". Students sit around one central group of tables, with no whiteboard used. The tables were regularly moved out of the way to create a large space, for example during periods of physical exercise. In both years, the teaching space included an additional small room with a window, visible from the main room, that could be used for withdrawal work or private conversations. This allowed for students to easily access opportunities for individual work.

In the room being used in the second year of the project, the classroom space was L-shaped, and included a kitchen area and table for lunch, as well as a more informal area with sofas, and an open carpet area which could be used for recreational purposes. This often allowed for students to go and sit on the sofa, again to create a less formal learning environment. The L-shape also allowed for a space for individual work in a relatively distraction free environment (where for example individual exercises or physical therapy could be done) within one room. The environment afforded a range of opportunities to easily provide for a range of learning environments and opportunities, at a group level, and at an individual level.

Another notable element was the lack of formal timetables on the wall; rather, each student had their own individualised planners, which they used every morning to set out the activities they would be doing for the day.

The manual used by the staff in the classroom draws on three main approaches. For staff, an approach differs from a strategy in that it is not an action another person can observe, it is the thinking behind the decision to use a particular strategy. The three main approaches that the team will use to develop the students expressive communication skills are as follows:

3.2.1 Adult lead approaches

These are the approaches where the adult is actively directing the student in some way. The idea is that the student does not have the skill to express the function or does not have the skill to use a

particular means and will benefit from being made consciously aware of the actions that they need to take. This awareness will help recall of these actions at a later time in a similar situation. Specific strategies that fit into this include: Demonstration, Rehearsal, Role Play, Repetition, Fading Physical/Language/gestural/attention prompts. These may be considered the more simplistic, behavioural approaches, which play a role in the initial development of skills, but which have less of a role to play in trying to promote spontaneous communication. While these approaches are important, they were only used when necessary, as the main intention was to encourage students to instigate communication wherever possible.

3.2.2 Environmental manipulation approaches

The strategies in this approach are more difficult to observe as they consist of the adults changing the environment without making the students aware that they are doing so. Changing the environment includes the adults changing what they are doing as well as physical changes to the room or outside area. The rationale is that the student does have the skill but lacks the motivation to communicate. The change in environment ideally acts as a motivator for the student to request something that they can normally access. This range of approaches was the most relevant in terms of trying to develop spontaneous communication. Some in-depth examples can be given here.

Vignette 1. Bowling

Student KH frequently chose to play a game of bowling by himself. He would produce the symbol for bowling, and be given the ball and a set of pins. He would set up the pins, move away, and throw the ball at them to try and knock them down. This activity allowed KH to self-occupy, and it did not provide many opportunities for spontaneous communication. He was capable of playing bowling with other children/adults, and taking turns, but it was far more common for him to play on his own. This meant that sabotage was needed – removing elements, or hiding things when the student was not looking. This was done in an escalating manner. First, the adult would hold the ball behind their back and expect KH to draw their attention by touching their shoulder; then he would be expected to ask for the “ball”. This proved successful, as he would quickly go to the nearest adult to draw attention and then request “ball” (verbally, or sign for “help”). The next step would be to hide the ball elsewhere, so that KH would have to look around, and then ask an adult for help to find the ball. The student found this an interesting experience, and seemed to enjoy this as an additional element of the activity. He would look at the nearby adult when playing, often with the beginnings of a smile

on his face, to check where they were, and if they were likely to take the ball while he was occupied resetting the pins.

Vignette 2. Listening to Music

Student JW had a strong preference for listening to music on her own. To start with, she would use a single symbol to ask for music. In this instance, a step of sabotage would be to not have a cd in the stereo, to not have the plug for the CD player or similar. Over time this led to the student providing a more complex and specific chain of requests, asking for music, but also for the stereo, and for the quiet room (where she prefers to listen to music). The student would make requests using 3 sets of symbols rather than just one. This allows for a more complex level of communication, and a possible avenue for more specific requests (e.g. possibly wanting a different cd).

3.2.3 Modelling approaches

The strategies in this approach could be described as a combination of adult lead and environmental approaches. Although the adult is not directing the student it is assumed that the student may not have the skill. The rationale behind these is that the students do not have the skill but do have a tendency to copy in the way that typically developing children copy care givers or other people they are motivated by. The clearest example of this would be in physical exercise lessons where specific physical activities are modelled, and copied by students. The physical exercise lessons often involved paired work, which provided directed opportunities for the students to interact with their peers in a purposive manner.

3.2.4 Interaction Style

The final element in relation to teaching is the principles that were used to underpin how staff were expected to interact with the students. The general aims were to try to maintain and increase student self-esteem and self-confidence. A key term used in the manual provided to staff was that staff should demonstrate “unconditional positive regard” to students, both verbally and nonverbally. This broad, humanist concept is further supported by a range of more specific elements:

- Giving specific praise, using encouragement
- No shouting, no telling students off in front of others
- Listening fully to opinion even if you do not agree with them
- Communicate with individuals rather than as a group

These would, it was hoped, contribute to a positive learning environment, where learners would feel supported and encouraged in their attempts to communicate their needs, and develop these communication skills.

It is very possible to link the concepts captured in this interaction style to approaches like intensive interaction. These elements were seen time and again during observations – the teaching staff showed great sensitivity and receptiveness to the student’s attempts to communicate, and were always making themselves available for communication, whilst still giving the students enough space and independence to allow for them to initiate contact.

3.3. The impact of the research on the frequency and effectiveness of their communication skills.

This section will look at: 1. Staff and researcher agreement on the incidence of different forms of communication for the different students. 2. The frequency of communication types. 3. The effectiveness of these communication skills. 4. Communication skills observed in other environments

3.3.1. Staff and researcher views on the types of communication skills observed.

Table 7 shows the extent to which both staff and the researcher agreed whether the 6 students demonstrated the different types of communicative skills that were the focus of this research. There was an 88% agreement (53 of 60), with most of these indicating forms of communication observed both by staff and by the researcher. This particular finding is important in and of itself in documenting what the students were capable of, as well as indicating the validity of the views provided by staff, based on the fact that there was agreement about what students were and were not capable of.

Table 7. Incidence of different communicative skills across the two years (a Y indicates communication seen by the researcher and the staff, a – indicates communication seen by staff but not the researcher, and a blank indicates communication not observed by staff or the researcher)

	JW	KC	KH	NS	NT	TM
Drawing Attention	Y	Y	Y	Y	Y	Y
Getting Attention	Y	Y	Y	Y	Y	Y
Requesting	Y	Y	Y	Y	Y	Y
Rejecting	-	-	-	-	-	-
Seeking Help	Y	Y	Y	Y	Y	Y
Seeking Information		-		Y	Y	Y
Expressing Feelings		Y		Y	Y	Y
Volunteering Information		Y	Y	Y	Y	Y
Commenting		Y		Y		Y
Greeting & Taking Leave	Y	-		Y	Y	Y

It is likely that some of the discrepancies, which involved staff seeing particular types of communication, which the researcher did not (particularly in relation to rejection) was simply due to the researcher not having had opportunities to observe students in situations where they might reject. Looking beyond simple ability to communicate, it is important to look at both how often they use these different types of communication, and how effective they are deemed to be.

3.3.2 Frequency of Communication Types

In this section, the focus will move beyond looking at whether students were capable of different forms of communication to focus on the frequency of different communication types, as judged by members of staff. Figure 1 shows the frequency of simple request communications, which were either nonverbal (e.g. through offering or pointing to a symbol) or verbal. Increases in this form of communication were observed for all but one student across the 2 years.

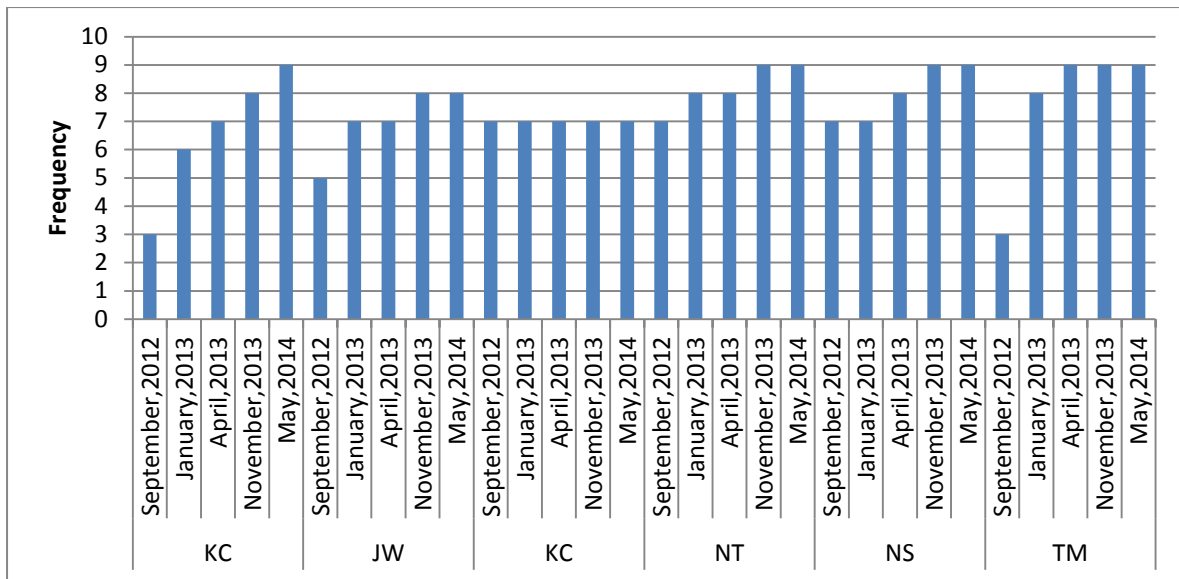


Figure 1. Frequency of requesting communications

Figure 2 shows the frequency of communications where students asked for help. Again, this could either be nonverbal (e.g. using a “help” symbol or sign), or verbally asking for help. There were increases in frequency for this for all but one student, who was doing this consistently from the start. Students like NS, NT, and NS did this from the start, but students like KH and TM (whose profiles are otherwise markedly different) showed increasing frequency of this form of communication type from the second point at which a measure of taken.

It is worth noting that for student TM, this form of communication could be considered a notable gap, as the information in table 5 indicates that this student already showed a capability for more “complex” forms of communication. This type of internal inconsistency is another form of variability that can be seen in children classified as having severe learning difficulties.

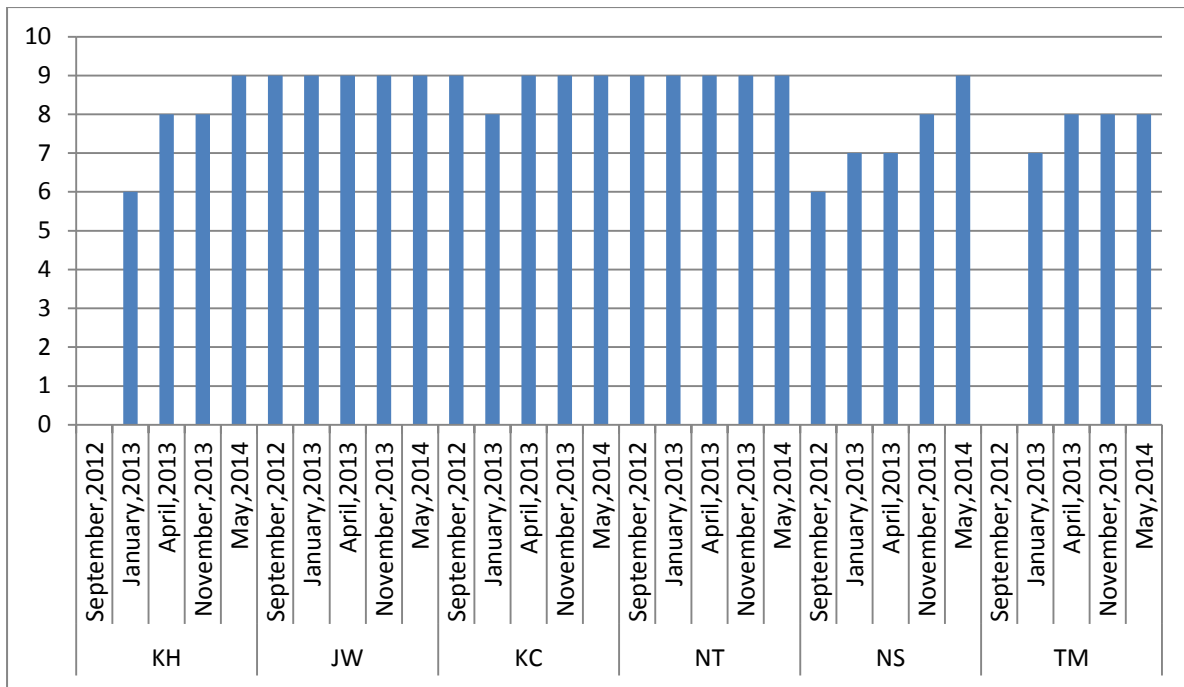


Figure 2. Frequency of communications involving seeking help

In contrast with figure 2, the frequency of communication that involved seeking information (figure 3) was much less frequent, with high levels of frequency for this form of communication only seen consistently by 2 of the students across the 2 years.

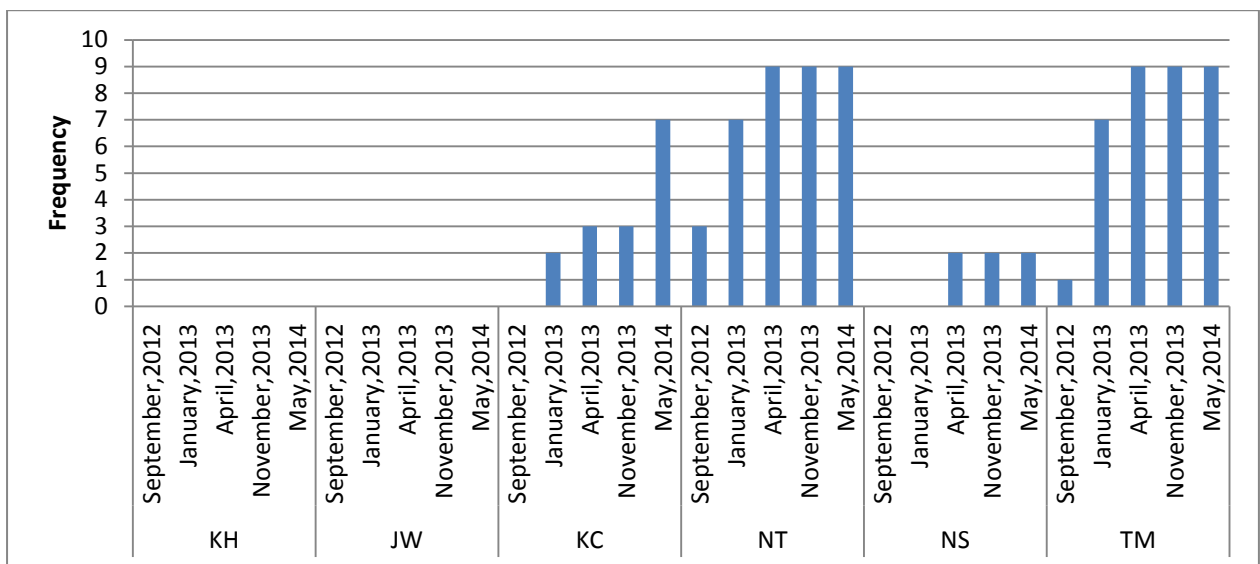


Figure 3. Frequency of information seeking information

The ability to verbally communicate feelings (figure 4) was similarly infrequent, with only 3 of the students frequently expressing feelings by the end of the 2 years.

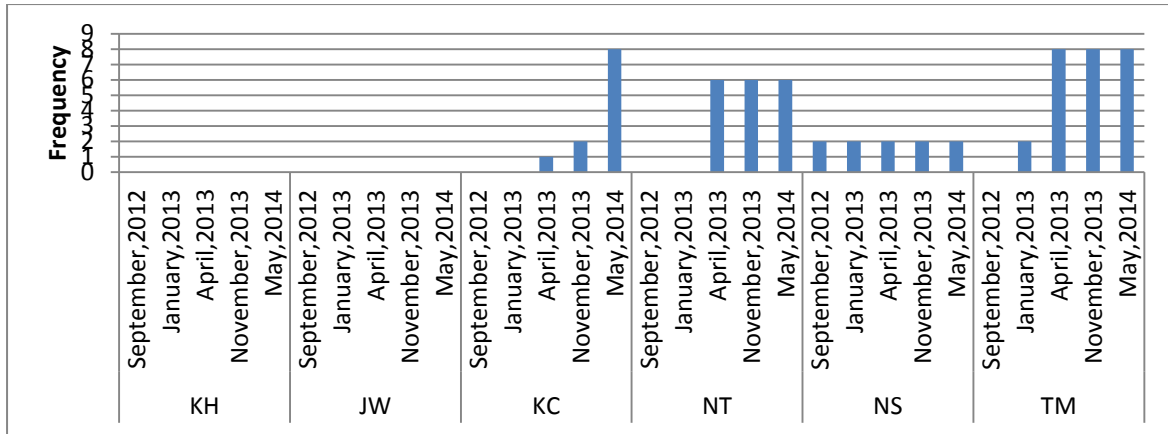


Figure 4. Frequency of communication which expresses feelings

In relation to volunteering information, these are again seen most frequently in those who were already operating at a high level (e.g. based on the data in table 5).

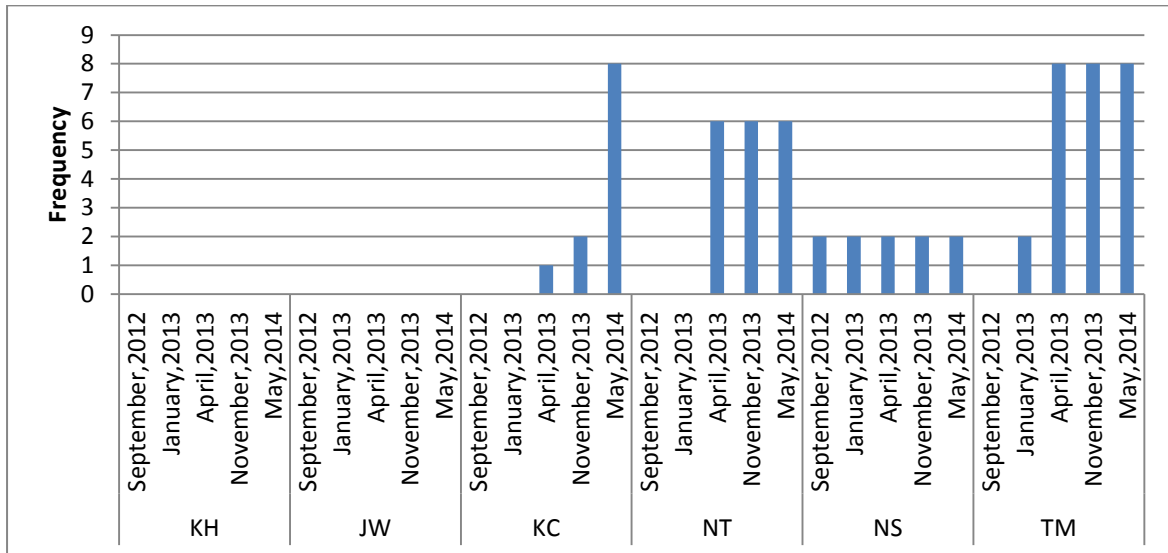


Figure 5. Frequency of communication which volunteered information

3.3.3 Effectiveness of Communication Types

Having looked at the frequency of different forms of communication, the next stage is to try to assess the extent to which these attempts to communicate were deemed effective by members of staff. The effectiveness is an important measure, as it highlights the extent to which the communication would be understandable by people who weren't very familiar with the student. Figure 6 shows a good level of consistency in the effectiveness of ability to communicate a request which could be nonverbal (using a symbol), or verbal ("crisps", or "I would like some orange please")

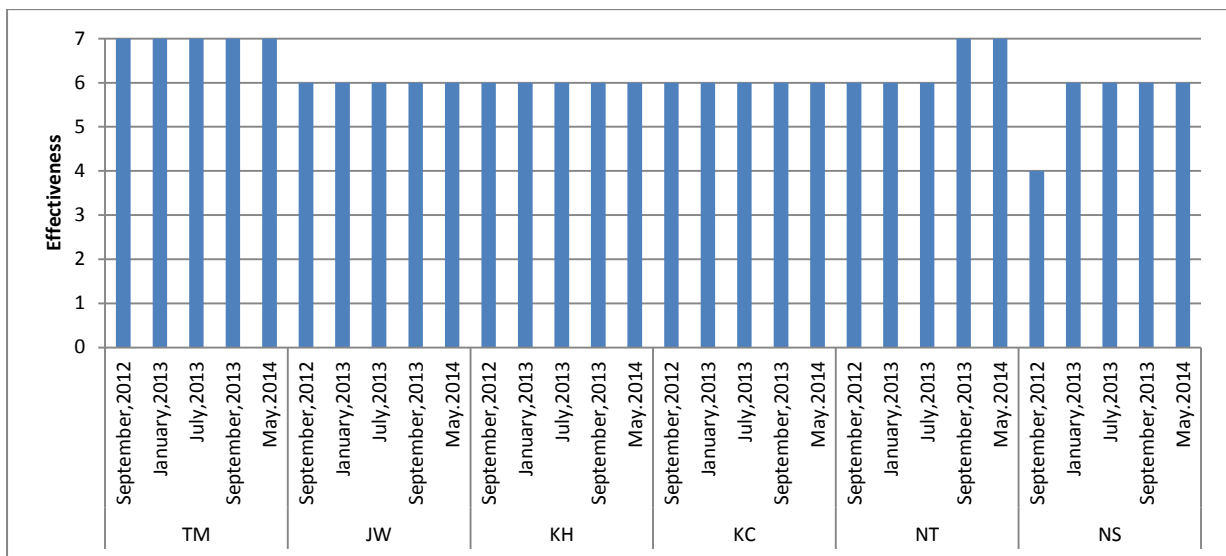


Figure 6. Effectiveness of requesting communication

Differences between individuals begin to emerge when looking at students' ability to seek information (figure 7). This type of communication is markedly absent in 2 students. It is important to note that these 2 students are the least verbal of the students, though it is not appropriate to say that all nonverbal students do not demonstrate this type of communication. Student KC showed a marked increase in effectiveness to seek information across the 2 years of the study, with student NS showing a similar, though more modest increase.

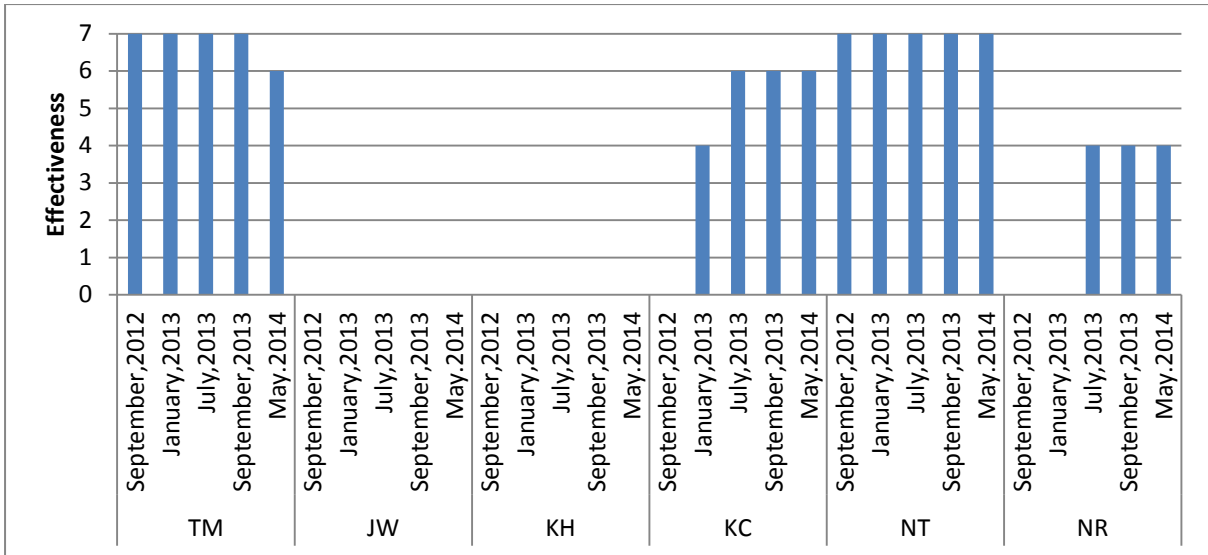


Figure 7. Effectiveness of communication that involves seeking information

Similarly, figure 8 shows strong increases in the effectiveness of communication which expressed feelings for 3 students.

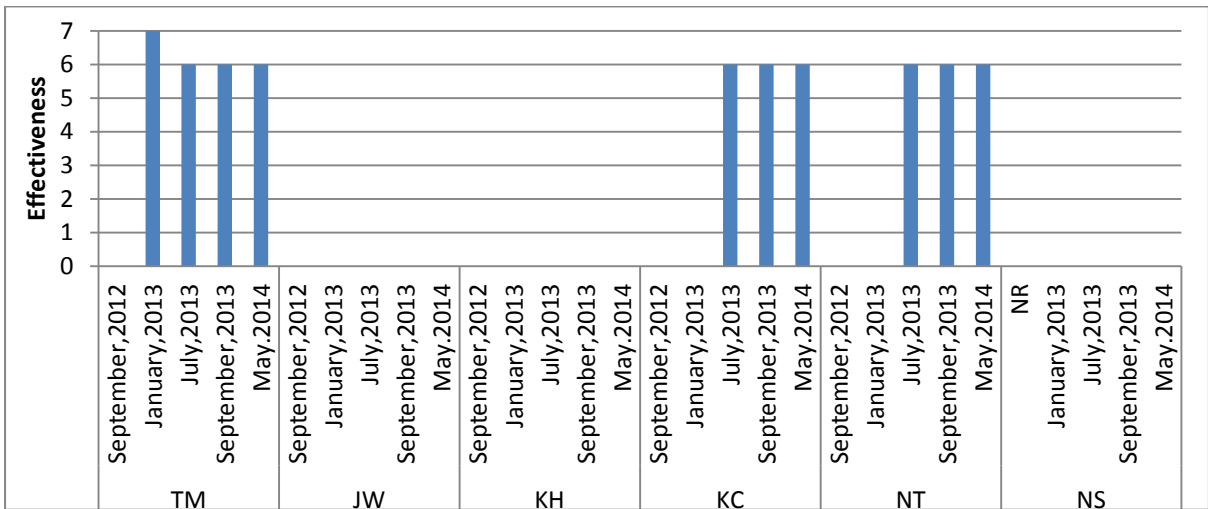


Figure 8. Effectiveness of emotionally expressive communication

Figure 9 shows that once they began, communication which attempted to volunteer information was effective.

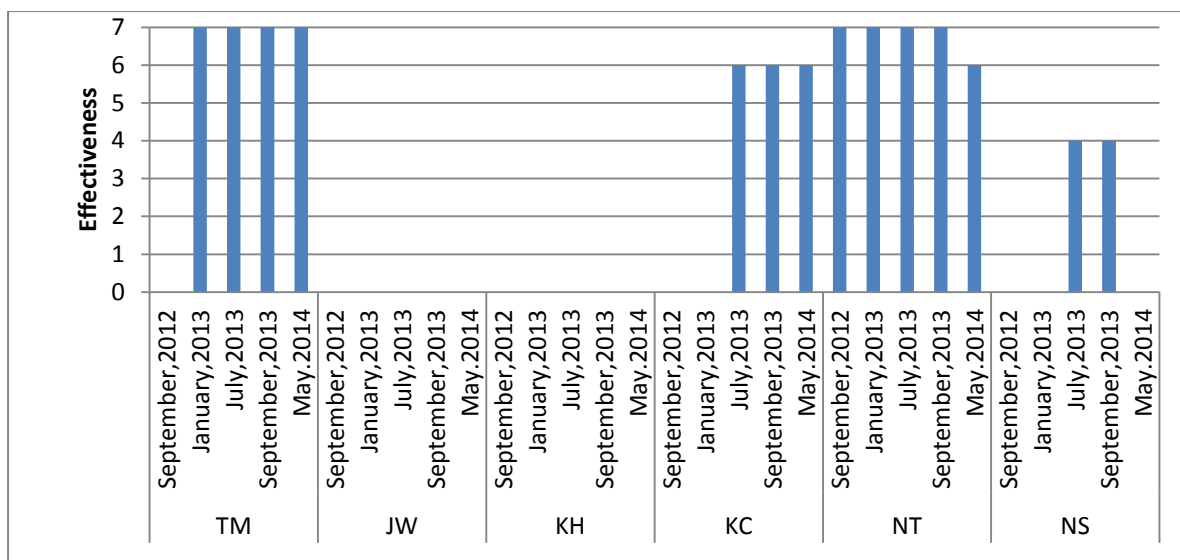


Figure 9. Effectiveness of communication which volunteered information

3.3.4 Examples of Communication

Table 8 shows a range of different examples of communication used by the students involved in the research. These include examples of communication that are very idiosyncratic, and only clear to those who have experience of working with the student (e.g. KH's nose twitching). Communication could be informal, through body language, or facial expression/hand gesture, or formal through verbal language or nonverbal equivalent (e.g. PECS, sign language). The language used was often age-appropriate (for example in expressing feelings), and the tone used often helped to convey meaning. A few vignettes capture broader developments throughout the two years of the research project.

Vignette 3. Using a Computer programme to communicate

KC, a non-verbal student, began using a symbol-based computer programme towards the end of the second year of the project. The symbols used were similar to those used in PECS (which she also uses), capturing individuals, actions, locations, emotions, etc., which could be used to create complex and syntactically appropriate sentences. Symbols could also be individualised to suit the student (e.g. symbols for different buildings in the school).

Using this programme, KC would describe outings she had with her parent, or things she is looking forward to, in detail. She would for example be able to express what she is going to do after school, and specify a programme she was going to watch that evening (including stating what the programme was, and what time it was on). These sentences would include other individuals – for example, she described a particular outing that she enjoyed. She mentioned that it made her happy, but was able to say that her father, who went with her, was bored/asleep. A relatively simple programme allowed KC to communicate complex stories in a way that due to her condition may have been difficult for her to communicate through sign language, or a simple PECS symbol book. KC in particular seemed to enjoy the fact that the programme could be used to verbally recite the symbols. It is important to note that when familiar with the programme, KC could produce appropriate sentences unsupported, and seemed to enjoy and exploring and engaging with this communication tool, potentially expanding her ability to communicate.

Vignette 4. Visits to the shopping centre

As has been noted previously, a large part of the work in the classroom has been directed towards social skills that can be used in the community. To this end activities in the community were a frequent part of the curriculum. Three trips to shopping centres to buy goods, which would then be used to cook lunch/dinner in the classroom, were observed. The visits also involved stops at a café where students would go up to the staff at the counter and ask for a drink. These trips were important in reaching IEP aims for some students. They were also an important opportunity for students to interact with other adults. As a part of the shopping trips, students were given shopping lists, and asked to find these items. For some students, the goals were limited – for example, KH was expected to count out the number of potatoes needed. For other students, such as KC, TM, NT, they were expected to approach and ask members of staff for help in finding particular items. This interaction was witnessed by the researcher, with the students occasionally being shy or reluctant, but demonstrating an ability to communicate with adults, and make themselves understood. During the visits to the shops, students would often go in groups, and would often look to their peers for help – for example in choosing which type of can of beans to get. Similarly, when sitting in the café, they would also sit together in groups, and chat, for example about a newspaper that had been left at their table.

Table 8. Examples of Communication skills and commentary

Drawing Attention	KH - Moves to people rather than just being reliant on people being close by especially when having knocked all skittles over. Nose wrinkling and saying Ssss – though this behaviour might not be salient to those not familiar with the student.
Getting Attention	JW - touching a person's arm and occasional formal spoken language 'tap tap' NS – will call out a person by name. This is normally but not always easily comprehensible – she is more inclined to get up and gain attention by proximity
Requesting	KH- Can use simple spoken language 'bor' (ball) when asking for the return of a ball that is hidden during a game
Rejecting	JW– Uses Informal flapping to indicate she doesn't want/like something. Challenging behaviour, e.g. screeching and tantrums occurs less frequently but still occurring. KC – is very capable at demonstrating dislike through facial expression, gesture, body language, vocalising. Also capable of formal rejection through sign language
Seeking Help	KC – attempts to sign and then gesture to what she needs help with. NT - Formal spoken language 'Will you help me please' if for example when bottle tops are too tight TM - When the computer was sabotaged she said 'Hey we need some help over here'
Seeking Information	TM - mostly directed at peers – do you like swimming at Butlins, attempts to use signs and writing as well as spoken language, depending on who she is talking to.
Expressing feelings	KC –very capable of informally expressing feelings: if excited she smiles, or makes gestures for being excited or bored. The student can clearly express when she thinks a person is talking too much NT - Formal spoken language combined with excited body language 'I'm happy about New York' – feelings can be detected both in the language used and the tone TM – She has not been heard to use word happy spontaneously but expresses happiness intentionally 'whoo hoo – awesome!', using generally age appropriate language
Volunteering Information	KH - example of non existence – taking an empty bag that should have contained snack and opening it to show 'nothingness' NT - will let know if and when students from other class are absent or late e.g. 'X is not here today'. 'There's the blue bus.' TM - Formal spoken language Look I've made bingo cards – approached staff and pulled down bottom lip then no bottom brace.
Commenting	KC– Informal most frequent – chatting gesture to excessive talking and pointing towards person and laughing at mistakes e.g. if staff drop and object and roll their eyes she will laugh and point to the object on the floor. NT - comments have been categorised as volunteering information – she does not seem to recognise the knowledge of another person and they do not seem to have a 'social' element to them and sometimes appear to be a monologue to support herself as the language is not directed to anyone – e.g. There's the bus, the bus is here.
Greeting & taking Leave	JW– occasionally says morning spontaneously when sitting down next to Louisa to begin planner as well as with diary – doesn't say 'morming at any other point in the day. Language not particularly clear 'mohni' KC - increasingly frequent wave at end of day particularly to peers but not everyday – sometimes makes a joke of trying to get out without waving – groans when called back

3.4. Evidence of changes in P-Scales & IEP Targets after the intervention

The evidence in tables 9 and 10 below provide an interesting contrast from the data in section 3. The p-scales and national curriculum levels are fairly broad, meaning that they do not necessarily capture any fine-grained changes in frequency or effectiveness of communication. Gains in assessed ability to speak and listen, where apparent, are modest. There are also examples of decreases in level (for example MR in table 9, and JW in table 10). Whether this represents a real decrease, or simply a different assessment of ability from the staff who had been assessing these students prior to 2012-13 is open to interpretation, although concerns have previously been raised about consistency in assessment of p-scales, (Department for Children, Education, Lifelong Learning and Skills, 2008, Ndaji & Tymms, 2009, QCA, 2007).

Table 9. Changes in P-level for Speaking

Student	Speaking			
	2011	2012	2013	2014
JW	4	4.2	4.4	4.6
KC	5.2	5.2	5.8	5.8
KH	3i.6	3ii.6	3ii.8	3ii.8
NS	5.8	6	5.6	5.6
NT	7.2	8.2	1C.0	1C.4
TM	2C.6	2C.6	2C.6	2C.6

Table 10. Changes in P-Level for Listening

Student	Listening			
	2011	2012	2013	2014
JW	5.4	5.8	4.4	4.4
KC	7.2	7.2	7.6	7.6
KH	3i.6	3ii.6	4	4.4
NS	5.2	6.4	6.4	6.4
NT	8.2	8.2	1C.0	1C.4
TM	2C.6	2C.6	2C.6	2C.6

Table 11 below shows the IEP targets from the 2 years prior to the current project in relation to communication, alongside the IEP targets during the 2 years of the research project. Again, these targets vary greatly from student to student. All student show progress in their IEP targets – though this varies from generalising skills, to moving on to new skills.

Table 11: Sample IEP Targets prior to the intervention

	Sample targets in 2011	Sample targets in 2012	Sample targets in 2013	Sample targets in 2014
JW	Ask for more	Request a motivator in sight	Spontaneously request a motivator that is not in sight	Spontaneously request motivators other than the stereo
KC	Use the help symbol, Follow instructions given using communication book, Give a person an item,	Request using symbols from the communication book spontaneously, Ask for help using symbols	Attracting attention and asking for information in public (supermarket)	If KC has not found an item on her shopping list within a limited time, when prompted with 'ask' KC will find an employee, gain their attention if necessary then then point to the 'where' symbol in her communication book followed by the item on her list.
KH	Request a visible item using a symbol,	Spontaneously request a motivator for an item out of sight,	In his main classroom KH will spontaneously request a motivator that is not in sight, using his communication book and placing a picture in an adult's hand when they are sitting within arm's reach.	KH to request 2 different motivators in one day while also encouraging him to get up and walk to an adult to make the request.
NS	When looking at pictures, the student will comment, Give information to an adult in response to a list of symbol choices for an activity.	Comment on pictures using 2 elements – eg verb and noun Give information to an adult in response to a symbol list of activities to choose from.	During choose time when an adult is sat beside her and her closed communication book is in front of her, NS will open her book, turn pages and point to a picture when an adult says 'What do you want to do?'	NS will request an activity from a staff member in her class team by: Gaining the attention by calling name or tapping on shoulder AND Showing them the appropriate picture in her communication book
NT	Volunteer information about a picture book or magazine, Follow a 3 step written instruction list,	Find and ask an employee a question in the market, Follow hand written list of tasks, and then let adult know it is finished	When an adult has requested NT to ask a supermarket employee the location of an item on her shopping list, NT will locate an employee, gain their attention and ask a question using the word 'Where'. With no further adult prompts.	When sitting at a table with peers working on different tasks NT will complete three tasks given to her in a hand written list format. One task will require her to get move to a different place in the room. NT will then gain the attention of a named adult to inform them she has finished.
TM	Gaining attention, Approach a teacher and make a request	Predicting what will happen next in a picture,	Verbal opportunities for TM to talk about things that she doesn't enjoy to be given in conversation during the day particularly during the final meeting of the day	Extend TM to a verbal explanation of why she doesn't want to do something.

3.5. Parent Views

In this last section, the focus will be on the views provided by parents. Three important themes that were covered in the interviews with parents were: communication skills, improvements in communication, and the reasons for improvement.

3.5.1 Communication Skills

Each student had different communication skills, and parents differed in the area of communication that they considered the most important. – For example, NTs’ parents focused on her being able to interact with others in regular situations, such as in supermarkets. TM’s parents were also keen for her to socialise, but noted that this did not seem to be in her nature. KC’s father on the other hand was more wary when discussing the prospect of KC talking to other people - *“when I’m out with her she expects me to do it, and to be quite honest I’m quite nervous about her going up to strangers anyway”* (KC’s parent)

The parents were able to give very specific details on what their children were, and were not able to do. For example, KC’s father noted

“Everything is sign or pictures, she’s got different levels of being able to call me, an urgent AHh, or a sort of come here, ah, that’s about the sounds she makes, but at different levels trying to denote the meaning if possible... There are times when I don’t know what she means, but most of the time I think I understand what she was referring to or what she wants, but it takes years to do that kind of thing. To most newcomers, she wouldn’t do that kind of thing at all” (KC’s parent)

The parents of TM on the other hand focused on her ability to express herself

“sometimes she will have an idea, and you can sort of sense she’s trying to ask a question, she’s got a question she’s trying to ask, but it comes out in a different way. So if you answer what she’s asking, it wouldn’t mean anything to her, but you have to try and work out what she’s trying to ask first.” (TM’s father)

An underlying issue in the 2 sets of quotes set out above is the need to understand the child in order to be able to decipher what they are trying to communicate.

3.5.2 Improvements in communication

It was heartening to hear from parents that they had noticed changes in their children's communication skills over the course of the research project. TM's parents for example stated that she had become more "chatty", although qualifying this by saying that one still could not describe her as being very chatty. They also noted that she had demonstrated an increased interest in other people, and was more frequently asking questions about their lives;

"She will ask questions like whens dinner now, which is unusual, and she didn't before. She'll ask questions what are we doing tomorrow what are we doing next week, about the weekend, what's the weekend after that, or about my birthday – she does it at six months before her birthday."

(TM's father)

It is interesting to note that her communication at homes seems rather age appropriate:

"at home, she's probably more demanding than she is at school, she will say what she wants, mm, so she's more likely to do things that are against the rules at home, and says things, and answer back, so she does communicate differently, I don't think she answers back at school"

(TM's mother)

And saying things like:

"No I'm a teenager, I want to do that, I can decide for myself" (TM's mother)

The parents of NT note an increased self-confidence, so that she does not have to be reliant on her parents:

"if there's a problem she will say it, instead of come home and tell me, and I have to refer to the teacher. I tell MS, if there's a problem, you have to tell the teacher." (NT's mother)

Another focus clearly links to the main aims of the current research, on having students be more spontaneous in engaging others in conversation:

"well she's quite fluent. I think the biggest step for NT, her communication levels are good, it's a question of interacting more in social, and adults. Knowing when to speak and when to be quiet. She can initiate more, the conversation – her conversation is very good, even though it might only

be short phrases, she can get by anywhere . It's a question of if she needs someone, just start spontaneously..." (NT's mother)

For KC's father, an important change has been KCs' increasing ability to communicate, through sign language and other ways. He has however noted that she is a bit more confident, and will talk about things that she anticipates, and will check the calendar in relation to them (for example going to concerts). KC's father tells a particularly interesting tale about KC's dislike of horse riding:

"For instance she now has the confidence to tell the school what she doesn't want. For instance in the early years of school she just went along with what everyone did. She came home once with lots of horse riding medals and lots of things for running and sport and stuff like that. Since we have been able to determine that she doesn't understand what people tell her, we've determined that she is petrified of horses, doesn't like swimming, and doesn't like sports. But nobody .. she just went along because that's what the class did. But she went on a horse, and she was petrified her." (KC's Father)

3.5.3 The reasons for improvement

Where improvements were noted, a number of different reasons were given. MS' parents note a number of potential reasons for changes in MS' communication skills. One important element noted was how important it was to have a good teacher. They also focused on the impact of a separate intervention, music therapy, which coincided with the first year of the current research. Parents also noted the importance of the students in the class with her:

"NT needs to mix with children with more good abilities, so she can copy their good behaviour, so they listened to me actually, and the classroom with more able children, I've seen more improvement, because I think if she hasn't got the stimulation for the children and the staff, I think a child will find it difficult to move on." (NT's father)

They also note that some of the changes might be simple maturation – they feel that NT has matured a fair amount in the last two years.

For TM's parents, the opportunities to practice are a very important element:

“I think what helps TM is practicing things a bit like rote learning or a bit parrotlike, as the initiating conversation thing, she’s only got better at that because we are half making her, but now she is doing it more voluntarily, so, practice practice practice sort of thing with that. I think at the beginning she wasn’t bothered how your day was, but she seems to have more meaning now, so hopefully practice the next stages of things where she starts you know, in a safe way, talking to people she doesn’t know and things, you know, because at the moment she will only communicate with people she knows, and that’s very well.” (TM’s mother)

A variety of elements have been highlighted as important elements in contributing to their children’s improvements in communication.

4. Discussion

In the discussion we will focus on the improvements in communication skills over the 2 years of the project, the importance of the different teaching strategies used, and implications for future research.

4.1 Improvements in communication skills

The issue of how communication skills can be measured for this group of learners was focused on in detail in the literature review. Given the issues raised around the use of the p-scales generally, it is not surprising that this particular measure did not highlight any significant learning across the 2 years. Indeed, there were notable “declines” in p level during the first year for some students, in line with previous commentary on variance in how p-scales are applied by staff (Department for Children, Education, Lifelong Learning and Skills, 2008, Ndaji & Tymms, 2009, QCA, 2007). Similarly, IEP targets, although capturing general progress made, focus on very broad targets, so do not necessarily capture changes that occur outside of these broad targets.

To illustrate at least in part why no major increases were found using these sets of data, it is worth noting that P scales 1-3, which are generally thought to cover the range of abilities of learners with Profound and Multiple Learning Difficulties, are broken down into 43 learning milestones in Quest for Learning (Northern Ireland Curriculum, 2011) and Routes for Learning (Qualifications and Curriculum Group, 2006) assessment materials. It is highly likely that a similar approach to identifying more specific learning milestones for those with Severe Learning Difficulties would be helpful. Routes for Learning & Quest for Learning represent a heterogeneous range of pathways of development, along which children with PMLD may develop. Consideration could be given to looking at what a “route for learning” for children with Severe Learning Difficulties, in relation to cognitive and communicative abilities might look like. Having said that, the issue raised by Imray & Hinchcliffe (2012) would still stand – general assessment scales like this do not necessarily provide the basis for a curriculum.

The most striking measures of progress came from staff and researcher views of which types of communication the students were capable of linked to measures of the frequency and effectiveness of these forms of communication. These measures, which occurred at multiple points across the 2 years for observation, and once per term for staff data, provide a powerful microscopic view of changes in the pattern of communication that these students were employing. Importantly, this captures not just what the learners were capable of, but also whether they demonstrated these forms of communication regularly, and whether they were deemed effective, and therefore likely to be understood by adults not familiar with the learners. It is important that these communication skills have been used consistently in a variety of settings outside the classroom as part of the research. The improved skills, particularly in relation to seeking information, and expressing feelings, should play an important part in the learners’ ability to take part in discussions about their future.

The views of parents on changes in communication skill, where available, were difficult to interpret. While all parents interviewed noticed changes in their children, they attributed these changes to a number of different factors – maturation, different forms of therapy, etc. However, all were very happy with how their children were being supported in the class, and were complimentary about the staff. Whether these students are yet at a point where they could meaningfully contribute in formal meetings where their future provision is being discussed is questionable.

Having raised the issue of where these students will go next, the variation in parents' aspiration when talking about their children was striking, echoing the findings of Smyth & McConkey (2003). Hopes were raised in relation to being able to lead independent lives, and being able to communicate with adults. However, the worries of KC's father was notable – he was both worried about whether KC would be able to communicate in an intelligible manner, and also was reluctant to give her opportunities to be fully independent in the community, due to fears for her safety. The issue of safety is of paramount importance, as regardless of any improvements in communication skills, these remain a vulnerable group.

4.2 Teaching Strategies

This research has provided some further evidence that TEACCH may be helpful for children whose diagnosed condition is not primarily one of autism. This is not to imply that none of the students in the class had a diagnosis that included autism, or did not have autistic tendencies, but there was certainly evidence to suggest that the approach was successful. The general TEACCH approach, including a focus on the environment, seems to be effective in creating opportunities for learning. However, it is important to note that perhaps the largest strength of the TEACCH approach as seen in the current research is its flexibility. Rather than there being a universal curriculum that every student should try and fit onto, TEACCH provides a range of approaches. This feeds into the debate, highlighted by Imray & Hinchcliffe (2012) on whether distinct pedagogies and curricula are required. They state:

“Pupils with severe learning difficulties are high unlikely to learn to think and problem solve ... unless 'distinct kinds of teaching' are used.” (p. 151).

Section 3.2 highlights the importance of indirect teaching approaches, as they were used during the course of the research, as opposed to the more traditional adult-led approaches. Environmental manipulation approaches and modelling seemed to be successful in eliciting spontaneous communication from the students. These approaches to teaching are necessarily idiosyncratic, and dependent on the students' abilities and interests. They also seem to depend on the staff having a very good level of knowledge of the students, something which clearly was built up over the course of the two years. It was also apparent that the classroom benefitted greatly from not having to fit into the normal lessons and subjects that would have to be covered in the National Curriculum, allowing a greater focus on community-related activities, and broader social skills.

Looking to the previous literature, an important element of this research is to look at the extent to which issues raised by previous researchers have been addressed. Ware & Evans (1986), amongst others, note that students with Severe Learning Difficulties are often passive, and are not

encouraged, or not able to communicate their preferences. The current research certainly indicates that the approach used in this research was successful, with over 600 instances of spontaneous communication across 15 sessions, boiling down to roughly 1 instance of spontaneous communication every 3 minutes from one of the 6 students involved. This perhaps provides the clearest indication of how the classroom environment differed across the 2 years – the staff in the school were encouraging, and responsive to students’ attempts to communicate. There is no doubt that the “unconditional positive regard” that was mentioned in relation to teaching approaches was very important in creating an environment which allowed this to happen. There is likely an important overlap here with some of the concepts underlying intensive interaction (Nind & Hewett, 2012), which should be explored further.

4.3 Future research

Looking to the future, the current research suggests a number of possibilities for future research. First, more empirical research is needed in relation to TEACCH, across a wider range of needs, taking into account that the students taking part in this research were selected by the school, implying that the TEACCH approach may only be helpful for a select group of learners with severe learning difficulties. In addition, the current research was hindered by the lack of valid scales for the assessment of educational and communicative competence in learners with Severe Learning Difficulties. While this issue exists, it is unlikely that compelling quantitative evidence will be produced to support the use of any particular teaching approach for this group of learners.

Moving away from these limitations, other pathways for research emerging from the current piece of work is a potential follow-up, looking at where the students who took part in this work are, 1, 2, and 5 years later, to see if their communicative competence has been maintained or developed further, in other educational contexts, and in the community. Part of the current research looked at students communicating with adults in the community – it would be interesting to look in more depth at how educators can best support this, as access and community activities seem to be an important element in how special schools can support students in the post-16 phase.

References

- Aird, R. (2000) 'The case for specialist training for learning support assistants employed in schools for children with severe, profound and multiple learning difficulties', *Support for Learning*, 15 (3), pp.106.
- Anderson, C. (2011) 'Developing professional learning for staff working with children with speech, language and communication needs combined with moderate-to-severe learning difficulties', *British Journal of Special Education*, 38 (1), pp.9-18.
- Anderson, C. (2006) 'Early communication strategies: Using video analysis to support teachers working with preverbal pupils', *British Journal of Special Education*, 33 (3), pp.114-120.
- Bayes, D.A., Heath, A.K., Williams, C. & Ganz, J.B. (2013) 'Pardon the interruption', *Teaching Exceptional Children*, 45 (3), pp.64-70.
- Beukelman, D. & Mirenda P. 2005. *Augmentative and alternative communication: Supporting children and adults with complex communication needs* (3rd ed.). Baltimore: Paul H. Brookes Publishing Co.
- Bell, D.M. & Cameron, L. (2003) 'The assessment of the sexual knowledge of a person with a severe learning disability and a severe communication disorder', *British Journal of Learning Disabilities*, 31 (3), pp.123-129.
- Bunning, K., Smith, C., Kennedy, P. & Greenham, C. (2013) 'Examination of the communication interface between students with severe to profound and multiple intellectual disability and educational staff during structured teaching sessions', *Journal of Intellectual Disability Research*, 57 (1), pp.39-52.
- Cameron, L. & Murphy, J. (2002) 'Enabling young people with a learning disability to make choices at a time of transition', *British Journal of Learning Disabilities*, 30 (3), pp.105-112.
- Carnaby, S., Lewis, P., Di Martin, P., Naylor, J. & Stewart, D. (2003) 'Participation in transition review meetings: A case study of young people with learning disabilities leaving a special school', *British Journal of Special Education*, 30 (4), pp.187-193.
- Cascella, P.W. (2005) 'Expressive communication strengths of adults with severe to profound intellectual disabilities as reported by group home staff', *Communication Disorders Quarterly*, 26 (3), pp.156.
- de Bildt, A., Sytema, S., Kraijer, D., Sparrow, S. & Minderaa, R. (2005) 'Adaptive functioning and behaviour problems in relation to level of education in children and adolescents with intellectual disability', *Journal of Intellectual Disability Research*, 49 pp.672-681.
- DeMatteo, F.J., Arter, P.S., Sworen-Parise, C., Fasciana, M. & Paulhamus, M.A. (2012) 'Social skills training for young adults with autism spectrum disorder: Overview and implications for practice', *National Teacher Education Journal*, 5 (4), pp.57-65.
- Department for Children, Education, Lifelong Learning and Skills (2008). *Ensuring consistency in teacher assessment. Guidance for Key Stages 2 and 3*. Cardiff: DCELLS.
- Department for Children, Schools, and Families (2010). *The Salt Review, an Independent review of Teacher Supply for pupils with Severe, Profound and Multiple Learning Difficulties*. Nottingham: DCSF Publications.

Department for Education (2014a) *Special educational needs and disability code of practice: 0 to 25 years*. London: Department for Education.

Department for Education (2014b). *Performance - P Scale - attainment targets for pupils with special educational needs*. London: Department for Education.

Downing, J.E. (2005) 'Inclusive education for high school students with severe intellectual disabilities: Supporting communication', *AAC: Augmentative & Alternative Communication*, 21 (2), pp.132-148.

Farrell, P. (1997) '*Teaching Pupils with Severe Learning Difficulties: Strategies and Solutions*'. London: Cassell

Feiler, A. & Watson, D. (2011) 'Involving children with learning and communication difficulties: The perspectives of teachers, speech and language therapists and teaching assistants', *British Journal of Learning Disabilities*, 39 (2), pp.113-120.

Goldbart, J., and Caton, S. (2010) "*Communication and People with the Most Complex Needs: What works and why this is essential*", Mencap, London. <http://www.mencap.org.uk/all-about-learning-disability/information-professionals/communication> .

Grove, N.(1.), Bunning, K.(1.), Porter, J.(2.) & Olsson, C.(3.). (1999) 'See what I mean: Interpreting the meaning of communication by people with severe and profound intellectual disabilities', *Journal of Applied Research in Intellectual Disabilities*, 12 (3), pp.190-203.

Hewett, D. & Nind, M. (1992) 'Returning to the Basics: A Curriculum at Harperbury Hospital School', in: Booth, T. et al, *Curricula for Diversity in Education*. London: Open University Press/Routledge

Imray, P. (2013) *Can the P scales give a sufficient and accurate assessment of progress for pupils and students with severe or profound and multiple learning difficulties?* The SLD Experience. 66: 17-25.

Imray, P. & Hinchcliffe, V. (2012) 'Not fit for purpose: A call for separate and distinct pedagogies as part of a national framework for those with severe and profound learning difficulties', *Support for Learning*, 27 (4), pp.150-157.

Ineichen, B. (1993) 'Service use among school leavers with severe learning difficulties: The views of carers', *Journal of Intellectual Disability Research*, 37 (1), pp.53-63.

Jacobson, J.W., Mulick, J.A.(A., 1948- & Schwartz, A.A. (1995) 'A history of facilitated communication: Science, pseudoscience, and antiscience', *American Psychologist*, 50 pp.750-765.

Johnson, H., Douglas, J., Bigby, C. & Iacono, T. (2010) 'The pearl in the middle: A case study of social interactions in an individual with a severe intellectual disability', *Journal of Intellectual & Developmental Disability*, 35 (3), pp.175-186.

Johnson, H., Douglas, J., Bigby, C. & Iacono, T. (2012) 'Social interaction with adults with severe intellectual disability: Having fun and hanging out', *Journal of Applied Research in Intellectual Disabilities*, 25 (4), pp.329-341.

- Jones, P. & West, E. (2009) 'Reflections upon teacher education in severe difficulties in the USA: Shared concerns about quantity and quality', *British Journal of Special Education*, 36 (2), pp.69-75.
- Kellett, M. & Nind, M. (2001) 'Ethics in quasi-experimental research on people with severe learning disabilities: Dilemmas and compromises', *British Journal of Learning Disabilities*, 29 (2), pp.51-55.
- Kontu, E.K. & Pirttimaa, R.A. (2010) 'Teaching methods and curriculum models used in finland in the education of students diagnosed with having severe/profound intellectual disabilities', *British Journal of Learning Disabilities*, 38 (3), pp.175-179.
- Kossyvaki, L., Jones, G. & Guldberg, K. (2012) 'The effect of adult interactive style on the spontaneous communication of young children with autism at school', *British Journal of Special Education*, 39 (4), pp.173-184.
- Lewis, A., & Norwich, B. (eds) (2005) *Special teaching for special children? pedagogies for inclusion*. Maidenhead: Open University Press
- Lewis, A. & Porter, J. (2004) 'Interviewing children and young people with learning disabilities', *British Journal of Learning Disabilities*, 32 (4), pp.191-197.
- Lindsay G., Desfores M., Dockrell J., Law J., Peacey N. et al. (2008) *Effective and efficient use of resources in services for children and young people with speech, language and communication needs*. Nottingham, DCSF Publications.
- Lundy, L., B. Byrne, and P. McKeown. 2012. Review of Transitions to Adult Services for Young People with Learning Disabilities. Belfast: The Northern Ireland Commissioner for Children and Young People.
- MacKay, T. (2009) 'Severe and complex learning difficulties: Issues of definition, classification and prevalence', *Educational & Child Psychology*, 26 (4), pp.9-18.
- Macleod, F.J., Morrison, F., Swanston, M. & Lindsay, W. (2002) 'Effects of relocation on the communication and challenging behaviours of four people with severe learning disabilities', *British Journal of Learning Disabilities*, 30 (1), pp.32-37.
- Male, D.B. & May, D.S. (1997) 'Burnout and workload in teachers of children with severe learning difficulties', *British Journal of Learning Disabilities*, 25 (3), pp.117-121.
- Male, D.B. & Rayner, M. (2009) 'Who goes to SLD schools in england? A follow-up study', *Educational & Child Psychology*, 26 (4), pp.19-30.
- Male, D.B. & Rayner, M. (2007) 'Who goes to SLD schools? aspects of policy and provision for pupils with profound and multiple learning difficulties who attend special schools in england', *Support for Learning*, 22 (3), pp.145-152.
- Markova, I., Jahoda, A., Cattermole, M. & Woodward, D. (1992) 'Living in hospital and hostel: The pattern of interactions of people with learning difficulties', *Journal of Intellectual Disability Research*, 36 (2), pp.115-127.
- Martin, A.-(.1.), O'Connor-Fenelon, M. (2) & Lyons, R.(.2.). (2012) 'Non-verbal communication between registered nurses intellectual disability and people with an intellectual disability: An exploratory study of the nurse's experiences. part 2', *Journal of Intellectual Disabilities*, 16 (2), pp.97-108.

- Mesibov, G.B. & Shea, V. (2010) 'The TEACCH program in the era of evidence-based practice', *Journal of Autism & Developmental Disorders*, 40 (5), pp.570-579.
- Ndaji, F., & Tymms, P. (2009). P scales: the state of SEN assessment. *SEN Magazine*, 46 pp 72-73
- Nind, M., Kellett, M. & Hopkins, V. (2001) 'Teachers' talk styles: Communicating with learners with severe and complex learning difficulties', *Child Language Teaching & Therapy*, 17 (2), pp.143-159.
- Nind, M. & Hewett, D. (2012) *Access to communication : Developing the basics of communication with people with severe learning difficulties through intensive interaction*. Hoboken: Routledge.
- Norwich, B. & Lewis, A. (2001) 'Mapping a pedagogy for special educational needs', *British Educational Research Journal*, 27 (3), pp.313-329.
- Northern Ireland Curriculum (2011). *Quest for Learning. Guidance and Assessment Materials. Profound and Multiple Learning Difficulties*. Belfast: CCEA.
- Ogletree, B.T., Bruce, S.M., Finch, A., Fahey, R. & McLean, L. (2011) 'Recommended communication-based interventions for individuals with severe intellectual disabilities', *Communication Disorders Quarterly*, 32 (3), pp.164-175.
- Ouvry, C. & Saunders, S. (1996) Pupils with profound and multiple learning difficulties, in: B.CARPENTER, R. ASHDOWN & K. BOVAIR (Eds) *Enabling Access: effective teaching and learning for pupils with learning difficulties*, pp. 201–217 (London, David Fulton).
- Porter, J. & Lacey, P. (2004) *Researching learning difficulties : A guide for practitioners*. London :SAGE.
- Powell, T.W. (2008) 'The use of nonspeech oral motor treatments for developmental speech sound production disorders: Interventions and interactions', *Language, Speech & Hearing Services in Schools*, 39 (3), pp.374-379.
- Qualifications and Curriculum Authority (2007). *P scales consultation report*. Ref: QCA/07/3103 London: QCA.
- Qualifications and Curriculum Group (2006). *Routes for Learning Assessment Booklet*. Cardiff: Qualifications and Curriculum Group.
- Quine, L. & Pahl, J. (1992) 'Growing up with severe learning difficulties: A longitudinal study of young people and their families', *Journal of Community & Applied Social Psychology*, 2 (1), pp.1-16.
- Robson, C. (2012) *Real world research : A resource for users of social research methods in applied settings*. Chichester :Wiley; 3rd rev.] ed.
- Rose, R. (1999) 'The involvement of pupils with severe learning difficulties as decision-makers in respect of their own learning needs', *Westminster Studies in Education*, 22 (1), pp.19.
- Schopler, E. (1994). Behavioral priorities for autism and related developmental disorders. In E. Schopler & G.B. Mesibov (Eds.), *Behavioral issues in autism* (pp.55-75). New York: Plenum Press.
- Siegel, B. (2000) *Behavioural and educational treatments for autistic spectrum disorders*, Advocate: Autism Society of America, 33(6), 22-31.
- Smart, M. (2004) 'Transition planning and the needs of young people and their carers: The alumni project', *British Journal of Special Education*, 31 (3), pp.128-137.

Smyth, M. & McConkey, R. (2003) 'Future aspirations of students with severe learning disabilities and of their parents on leaving special schooling', *British Journal of Learning Disabilities*, 31 (1), pp.54-59.

Stephenson, J. (2004) 'Controversial practices in the education of students with high support needs', *Journal of Research in Special Educational Needs*, 4 (1), pp.58-64.

Sulzer-Azaroff, B., Hoffman, A.O.(.2.), Horton, C.B.(.2.), Bondy, A.(.2.) & Frost, L.(.2.). (2009) 'The picture exchange communication system (PECS): What do the data say?', *Focus on Autism and Other Developmental Disabilities*, 24 (2), pp.89-103.

Ware, J. and Evans, P. (1986) Interactions Between Staff and Pupils in a Special Care Class. In Berg, J. and De Jong, J. (eds) *Science and Service in Mental Retardation*. Proceedings of the Delhi Congress of the IASSMD, pp. 248-257.

Wright, A. (2006) 'Provision for students with learning difficulties in general colleges of further education – have we been going round in circles?', *British Journal of Special Education*, 33 (1), pp.33-39.

Appendices

Appendix 1. Observation sheet

Appendix 2. Parent Interview Schedule

Appendix 3. Ethics – parental consent form

Appendix 4. Ethics – student information

Appendix 1. Observation Schedule

Observation Sheet DRAFT

For each observation, all students will be observed, where possible. A basic ticksheet for the occurrence of specific forms of communication is used, based on the communication targets the teachers are working towards. Additional notes will be taken for each child for each session.

Functional Spontaneous Intentional Expressive Communication
Drawing Attention
Getting Attention
Requesting
Rejecting
Requesting a break
Seeking Help
Seeking Information
Expressing Feelings
Volunteering Information
Commenting
Greeting & Taking Leave
Functional Elicited Intentional Expressive Communication
Affirmal
Denial
Expressing Feelings
Giving Information
Answering
Greeting & Taking Leave

Date: _____

Time: _____

Staff Present: _____

Lessons Covered: _____

Student	Staff Member	Communication Type	Scenario	Duration	Description

Appendix 2. Parental Interview Schedule

Parent Interview Questions

Introduction

- Could you tell me a little bit about X (how long has he/she been in school)

Communication

- Could you tell me about how your child communicates at home?

Prompts (is he/she verbal, what does he/she talk about, how easy are they to understand?)

- Are they consistent in how they communicate?
- Are they able to communicate their needs?
- Do they engage in conversation..

Changes Over the last year

- Have there been any changes in their communication over the last year?

(if so, what was the nature of the change, has it been consistent..)

Looking to the future

- What level of communication do you think your child should be able to achieve?
- What is the next step for your child – where will they be next year?

Appendix 3. Staff Consent form

Information & Consent Form

Dear Sir/Madam,

I am writing to ask to for your consent to take part in a piece of research. As you may already be aware, St. John's Special School, in collaboration with the University of Bedfordshire are conducting research, funded by the Harpur Trust, looking at how to improve communication skills for pupils with Severe Learning Difficulties. This piece of research is occurring during the 2012-13 and 2013-14 school years. The research is looking at the effectiveness of a teaching format that focuses on creating and encouraging students to engage in forms of functional communication, either verbally or nonverbally.

In order to assess the effectiveness of the teaching strategies, I will be conducting detailed observations in the classroom, which will focus on how often the pupils display different types of functional communication. These observations will be carried out on multiple occasions per term. The research will also involve getting feedback from staff at regular intervals. It is envisaged that you will fill out questionnaires once a term providing your own views on the progress of the children.

I would be very grateful if you are happy to be involved in this research. It is perfectly acceptable for you not to participate or to stop at any point during the study that you want. Your participation or non-participation in this study will not affect your child's status in the school. Furthermore, your participation in this study is not in response to financial or other inducements.

If you do agree to take part in the research, all the information that I collect will be kept confidential and will not be passed on to any third party in a form that you will be able to be identified. At your request, I will also make my findings available to you when I have completed my study. If you are interested, email me at cathal.butler@beds.ac.uk or phone me at 01234 793045. If you have any concerns about this study or the way that you have been approached, please contact the University's independent contact, Prof Angus Duncan, Secretary to the University Research Ethics Committee angus.duncan@beds.ac.uk.

Yours Sincerely,
Dr. Cathal Butler.

If you have read and understood these instructions, and you do not have any questions about them, please sign your name below.

I volunteer to participate in this study, entitled

Signed

Participant's Name

Appendix 4. Parent Consent Form

Information & Consent Form

Dear Sir/Madam,

I am writing to ask for your permission for yourself and your child to be involved in a piece of research. At St. John's Special School, research is being conducted in collaboration with the University of Bedfordshire. This research is funded by the Harpur Trust. The research will be looking at how to improve communication skills for pupils with Severe Learning Difficulties. This piece of research is occurring during the 2012-13 and 2013-14 school years. The research is looking at the effectiveness of a teaching format that focuses on creating and encouraging students to engage in forms of functional communication, either verbally or nonverbally.

In order to assess the effectiveness of the teaching strategies, I will be conducting detailed observations in the classroom, which will focus on how often the pupils display different types of functional communication. These observations will be carried out on multiple occasions per term. The research will also involve getting feedback from parents on any changes in the pupil's language competence over the course of the project, through interviews. It is envisaged that these interviews will take place towards the end of the school year.

I would be very grateful if you are happy for your child and yourself to be involved in this research. It is perfectly acceptable for you not to participate or to stop at any point during the study that you want. Your participation or non-participation in this study will not affect your child's opportunities and access to support.

If you do agree to take part in the research, all the information that I collect will be kept confidential and will not be passed on to any third party in a form that you (or your child) will be able to be identified. At your request, I will also make my findings available to you when I have completed my study. You may also request copies of any articles produced, and will be kept informed of how the data will be used. If you are interested in finding out more, please email me at cathal.butler@beds.ac.uk or phone me at 01234 793045. You also have the opportunity to meet me and ask questions about the research during the parent's open evening on the 4th of July. If you have any concerns about this study or the way that you have been approached, please contact the University's independent contact, Prof Angus Duncan, Secretary to the University Research Ethics Committee angus.duncan@beds.ac.uk.

Yours Sincerely,
Dr. Cathal Butler.

If you have read and understood these instructions, and you do not have any questions about them, please sign your name below.

I volunteer to participate in this study, entitled

Signed

Participant's Name

Pupil's Name

Appendix 5. Student consent instructions

Consent Instructions for Pupils

This information will be read out to students for whom it is felt they will be able to understand:

Mr Butler is going to be spending some time in the class, watching us teach. Are you happy for him to spend time with us in the class?

For children whom it is felt they will not be able to understand, if the child shows signs of any discomfort or wariness as a result of the observer being in the class, the observation will be discontinued, and the observer will leave the class. The same stipulation applies to children from whom verbal consent has been attained.