Title

Transforming engagement: A case study of building intrinsic motivation in a child with autism

Abstract

This longitudinal case study of 10 year old girl with autism and severe communication impairment measures the impact of the MORE (Means, Opportunities, Reasons and Expectations) approach to enhancing engagement and communication proposed by Emerson and Dearden (2013a). Through detailed observation of video data over a period of 28 months engagement behaviours including interaction with adults and following adult directions increased whilst resistant behaviours such as kicking, hitting and pushing adults away decreased. Fluctuation between different 'states' demonstrated that the frequency and duration of engagement was influenced by the MORE approach and an emphasis on developing intrinsic motivation. In order to enable further efficacy research core features of the intervention and the changes in engagement over time are described.

Keywords

Autism; Case study; Engagement; Intrinsic motivation

Introduction

Children with a wide range of disabilities tend to show reduced levels of engagement (Kemp et al., 2013; Kim & Mahoney, 2004), which inevitably impacts on their learning. Furthermore, children with autism are considered to have the lowest levels of engagement in terms of frequency and duration (Kemp et al., 2013; Simpson et al., 2013): further the tendency of children with autism to engage more with objects than people can limit learning opportunities (Adamson et al., 2010). Additionally engagement can be reduced by maladaptive behaviours (Fulton et al., 2014), which tend to persist and become an embedded part of the child's repertoire.

This paper describes the ways in which engagement was fostered in a 10 year old girl who was highly resistant to any adult intervention. The MORE approach was adopted to build intrinsic motivation to cooperate with adults as a foundation for learning.

Engagement

Engagement is the link between the person and their action (Kemp et al., 2013) and can determine a person's achievement and school behaviour (Reschly & Christenson, 2006). Students who are behaviourally engaged show attention, effort and persistence (Fredricks et al., 2004). In an education context, emotional engagement considers the ways that students relate to staff and peers and their willingness to participate in learning activities (Reschly & Christenson, 2006). Both positive and negative reactions to the learning setting are part of emotional engagement; students who are positively engaged are interested in learning and see its value. Emotional engagement therefore has a strong link to motivation and the terms are used interchangeably, whilst Appleton et al. (2006) distinguish between engagement and motivation, the latter typically relating to 'why' a person engages.

Cognitive engagement includes investing in the process of learning, putting effort into studies and working towards mastery (Fredricks et al., 2004). Cognitive engagement is reportedly increased by challenge (Jensen, 2005) and is characterised by coping with failure and persisting despite setbacks.

These aspects of engagement (behavioural, emotional and cognitive) have tended to be investigated singly or in pairs rather than looking at their joint influence on

an individual (Fredricks et al., 2005). However, it is widely recognised that they are inter-related and inter-dependent.

Approaches to supporting engagement

Engagement can be seen as a 'state' of being (Jensen, 2005), which suggests that attempts to increase engagement involve managing a state. The state a child is in needs to be appropriate for the task and Jensen (2005) views the teacher's role as helping children to change their engagement state to match the task. Teachers can support engagement by presenting challenging work and providing social support to enhance cognitive and emotional engagement (Fredricks et al., 2004). They also need to notice and reward their students' attempts at demonstrating engagement (Smith, 2000).

Many programmes for teaching children with autism promote engagement through the provision of rewards. The effectiveness of external rewards as sources of motivation are considered to be limited in terms of duration and effectiveness (Royal Society, 2011) and an emphasis needs to be placed on the importance of intrinsic motivation to promote engagement (Zepke & Leach, 2010). Jenson (2005: 107) suggests that environments that promote intrinsic motivation involve "low stress and high challenge", including encouragement, enabling student choice,

providing a role model for enjoyment of learning, and ensuring a variety of relevant experiences.

For children with special needs, engagement has been described as "a journey which connects a child and their environment (including people, ideas, materials and concepts) to enable learning and achievement" (Specialist Schools and Academies Trust, 2011: 68). A wide range of approaches have been attempted to promote the engagement of children with additional needs including music (Simpson et al., 2013; Vaiouli et al., 2015), social stories (Delano & Snell, 2006) and Snoezlen rooms (Cuvo et al., 2001).

Whilst it is recognised that effective learning interventions for children with autism promote engagement (Simpson et al., 2013), most studies examining ways to build engagement have focused on those of pre-school age. Case-Smith and Bryan (1999) reported increased engagement in 5 preschool children with autism following the promotion of Sensory Integration. Kasari et al. (2006) highlighted the importance of establishing joint attention in a child centred study of 3 and 4 year olds. Adults sat on the floor close to the child, made eye contact, followed the child's lead (commenting on what they were doing or appeared interested) and gave corrective feedback to promote and enhance engagement. They suggest that

joint attention can be taught and should be the focus of interventions to underpin more complex social and language skills. Adamson et al. (2010: 674) also note "… it may be very difficult, although not impossible, to increase the amount of coordinated joint engagement in young children with autism".

Transforming engagement in children with autism is a significant challenge, not only because of the difficulties associated with establishing joint attention but also because of the degree to which older students can be supported to effectively engage behaviourally, emotionally and cognitively. This may be especially difficult if engagement is reduced by maladaptive behaviours (Fulton et al., 2014).

The participant and intervention

This case study was part of a larger project conducted in a special school for children with autism, with the objective of teaching children to point independently for communicative purposes. The student in this study, Hannah, was almost 11 years of age at the start of the study. She presented considerable challenges to staff working with her; resisted all attempts staff made to join her choice of activity, by kicking and hitting; and rarely cooperated with her keyworker in individual sessions where the adult set the agenda. Over the course of 28 months Hannah remained in the same class at school, with the same teacher,

assistants and keyworker. The researchers joined in with routine individual work sessions conducted by Hannah's keyworker to introduce the MORE approach (Emerson and Dearden, 2013a) and encourage its adoption throughout the day. The only changes made in Hannah's routine from the start of the intervention until the end was the way in which the researchers attempted to engage her in activities, and subsequently the adoption of these methods by her keyworker.

The MORE (Means, Opportunities, Reasons and Expectations for engagement and communication) approach recognises the need to be child-centred in order to develop personalised interventions based on a set of principles. The Means element of the approach refers to the way in which someone communicates such as gesture, signing, pointing and eye gaze. Opportunities for communication and engagement are extended by awareness and enhancement of students' interests and preferences. Opportunities stem from adult Expectations of the students' desire to engage and communicate. Literacy is promoted as part of the approach since it offers greater opportunities for expression. This builds on previous empirical evidence of the use of this approach to raise the expectations (Emerson and Dearden, 2013b) of educators in a case study that discovered that a child had unexpected reading abilities which he used to extend his communication. This

paper mainly focuses on the Reasons aspect of the MORE model and in particular the need to focus on developing the intrinsic motivation of the student.

The focus on Reasons arose from the overall objective for Hannah, which was to develop a means of communication by teaching her to point independently to pictures, symbols and words. It was not possible to teach pointing because she typically did not engage with any adult choice of activity.

In relation to developing a person's Reasons for communicating, the MORE approach attempts to build engagement through finding materials and activities that promote awareness, curiosity and anticipation (Specialist Schools and Academies Trust, 2011). It is hypothesised that this leads to the development of intrinsic motivation, which is more likely to lead to the generalisation of initiations than an approach focusing on extrinsic rewards (Zepke & Leach, 2010). "Engagement happens when students are involved in activities that spark a desire in them. Finding out what these activities are requires some research, observation, and interaction…" (Ridnouer, 2011: 11). Through a gradual process of 'trial and error', with a considerable degree of persistence, an awareness of the sources of motivation for Hannah was developed.

This exploration was characterised by high expectations of success including the demonstration of a belief that Hannah would find activities engaging and be successful. All responses, including looking towards materials presented, were noted verbally to reinforce them. Resistant behaviours such as pushing materials away, loud vocalisations, hitting, kicking or pinching staff were ignored other than by moving away or gently moving her hand. Adults persisted in talking about materials even when Hannah was not looking and was making loud vocalisations. The intention was to demonstrate an expectation that she could listen and join in when she was ready.

High expectations were also demonstrated by the use of full language (Emerson & Dearden, 2013b) to describe materials and activities, since it was not possible to assess how much Hannah was able to understand. The full language approach involves using age appropriate language with slightly enhanced intonation patterns to promote interest and curiosity. The adults also modelled engagement behaviours such as commenting on books and magazines, pointing to items whilst describing pictures or reading sections of text, and making choices through pointing and reading stories.

Methodology and methods

Adopting a pragmatic paradigm, this exploratory case study utilised qualitative and quantitative methodology. An overview of the research design is provided in Table 1. Video data was analysed using two coding schemes developed to quantify observations of the frequency and duration of the student's engaged and non-engaged behaviours during intervention sessions over a period of 28 months. The measure of frequency and type of adult verbal response to the student's behaviours included identifying the extent to which the adult used positive and/or negative language.

Staff interviews and documents (school reports and researcher logs) provided qualitative data that contributed to the compilation of a MORE profile (Emerson and Dearden, 2013a) detailing Hannah's means, opportunities and reasons to engage and communicate with school staff, as well as their expectations of her ability to engage throughout the school day. Comparison of these profiles before, during and towards the end of the intervention focused on reported student behaviours; the opportunities and types of activities she was engaging in throughout the school day and staff expectations.

Table 1. Overview of methodology and methods

Methodology	**Research focus/question**	**Data collection**	**Data analysis**
Quantitative	Frequency of engaged and non-engaged behaviours	Event sampling specific observable behaviours (Table 2), 10 minute sections from 9 sessions across the intervention period	Descriptive statistics – comparison of frequency of specific behaviours
	Frequency of adult verbal responses to the student's engaged and non-engaged responses		
	Duration of engagement	Rating scale of engagement behaviours (Table 3) over 3 whole sessions from the beginning, middle and end of the intervention period	Descriptive statistics – comparison of percentage of ratings engagement
Qualitative	Changes in means,	Staff interviews,	Content analysis -

	reasons, opportunities and expectations (MORE) during the school day	school reports, researcher logs	comparison of reported student behaviours, provision and staff expectations

Coding schemes

An initial coding scheme was developed from the Communication Coding Scheme (CCS) adapted by Thunberg et al., (2007). The items in the CCS that focused on means of communication were selected and divided into accepting and rejecting behaviours. Accepting behaviours included allowing an adult to take the student's hand and the student touching or taking an adults hand towards the materials being used in the activity. Rejecting behaviours included the student turning away, moving away, pushing an object or the adult away and hitting or kicking the adult. Self-injurious behaviours were not included in the event sampling as they were too numerous and it was difficult to discern whether the student was engaging or resisting. For example, Hannah might bang her elbow hard on the table whilst smiling and looking at the activity or adult. A description of the categories and example behaviours is provided in Table 2.

Table 2. Categories, types and examples of engaged/accepting and non-engaged/resisting behaviours

Category	**Type**	**Example**
Engaged/accepting	Allowing adult to physically interact including pointing with an adult	Accepts adult holding hand still or accepts adult guiding hand and jointly pointing to pictures in a book
	Pointing without adult guidance	Points to a picture in a book independently
	Taking and/or guiding adults hand	Takes adult had towards a flap in a book or to a picture in a book
	Manipulating objects	Places a matching picture or word on a picture in response to an adult request
	Eye gaze to adult	Clearly directing eye gaze to adult

Non-engaged/resisting	Reject objects/adult	Pushes adult or object away, turns or moves away from adult/activity
	Physical aggression to adult	Grabs, hits or kicks adult

Event sampling of the behaviours described in Table 2 was conducted on 10 minutes of video from nine intervention sessions. Every fourth session across the sample was examined to determine whether the material satisfied the inclusion criteria (a. the video quality enabled the coder to clearly see the researcher and the pupil; b. the pupil was not reported to be ill on that day). Where a session was not suitable the nearest appropriate session was selected to provide as balanced a sample across the time span as possible.

Additional coding of adult observable behaviours was used to provide some indication of the adult responses. These included recording if and how adults verbally responded to engaged and non-engaged responses by the student.

A measure of duration of engagement over whole sessions involved the development of a rating scale. The CCS includes a section on degree of engagement

that coded interest and attention on a scale of 5 (interested and highly attentive to most of the activity) to 1 (uninterested and inattentive most of the time) (Thunburg et al., 2007). It was not considered possible to implement this scale with any degree of accuracy and consistency as it relied on the subjective interpretation of the internal state of the child. However it was possible to combine observable behaviours used in the event sampling into a 5-point rating scale as outlined in Table 3. This measure was applied to three entire sessions from the beginning, middle and end of the event sampling data (months 2, 18 and 33 of the intervention period).

Table 3. Rating levels and associated behaviours

Rating level and description	**Behaviours**
1. Full engagement characterised by one or more of the behaviours	Looks and points independently to a specific target as part of adult directed activity.
	Gentle vocalisations that appear to be related to the activity and 'speech attempts'.
2. Partial engagement characterised by	Taking adults hand to guide them

one or more of the behaviours	Accepting adult's restrictions on movement and guidance for movement/pointing.
	Manipulation of materials.
	Looking directly at the adult.
	Looking at what adult is doing
	Still and quiet when adult is talking.
3. Neutral engagement characterised by no adult intervention and one or more of the behaviours	Absorption in activity with no interaction with adult typically quiet and calm.
	Absorbed in making noises and movements (thumb in mouth, rubbing eyes).
4. Low level resistance to engagement characterised adult attempting to engage and one or more of the behaviours	Not allowing adult guidance by pushing adult away or taking object for self.
	Loud incessant vocalisations.
	Pushing away from the table and withdrawing (e.g. head down, standing up).

5. Intensive resistance characterised by the adult intervening to prevent harm and one or more of the behaviours	Physical aggression towards the adult (e.g. kicking, hitting pinching, grabbing).
	Self-injurious behaviour (banging head).
	Turning body away so cannot see adult or materials.

Reliability and validity

In terms of construct validity, the codes developed for the observation data were repeatedly revised to establish unambiguous and mutually exclusive descriptions of behaviours, and to ensure high levels of inter-rater reliability. For example separate codes were initially used to record the participant allowing an adult to interact and pointing with an adult. However during the process of checking inter-rater reliability it was noted that these events were not mutually exclusive and were being double coded. Where there was low inter-rater reliability (e.g. eye gaze in response to an adult) the measure was eliminated from the data set.

Coding was conducted by one of the authors and an independent observer. The percentage of inter-rater reliability was calculated on one of the nine event

sampling sessions. The agreement for totals of engagement and non-engagement events was 84% and 90% respectively.

The sampling strategy outlined above aimed to reduce potential bias in the choice of sessions for analysis. Supplementing interview data with documentation allowed for a degree of triangulation of the qualitative data to counter potential interview bias.

Further validity and reliability concerns such as maturation over time will be considered alongside other potential limitations of this study in the discussion.

Results

Quantitative analysis

Table 4 shows the number of engaged and non-engaged behaviours observed in the nine sessions where event sampling was undertaken. The type and frequency across sessions shows little variation for some engagement behaviours such as taking an adult's hand. Other behaviours show increases in some sessions such as allowing an adult to physically interact including the action of pointing with an adult (minimum of 2 to a maximum of 50). There is also a marked difference in pointing independently with this behaviour only being recorded towards the end

of the intervention and then on a relatively high number of occasions (24). Non-engagement behaviours of pushing or turning away show a general pattern of reduction apart from a slight increase in the eighth video analysed.

Table 4. Results of event sampling of engaged and non-engaged behaviours from nine sessions over 24 months

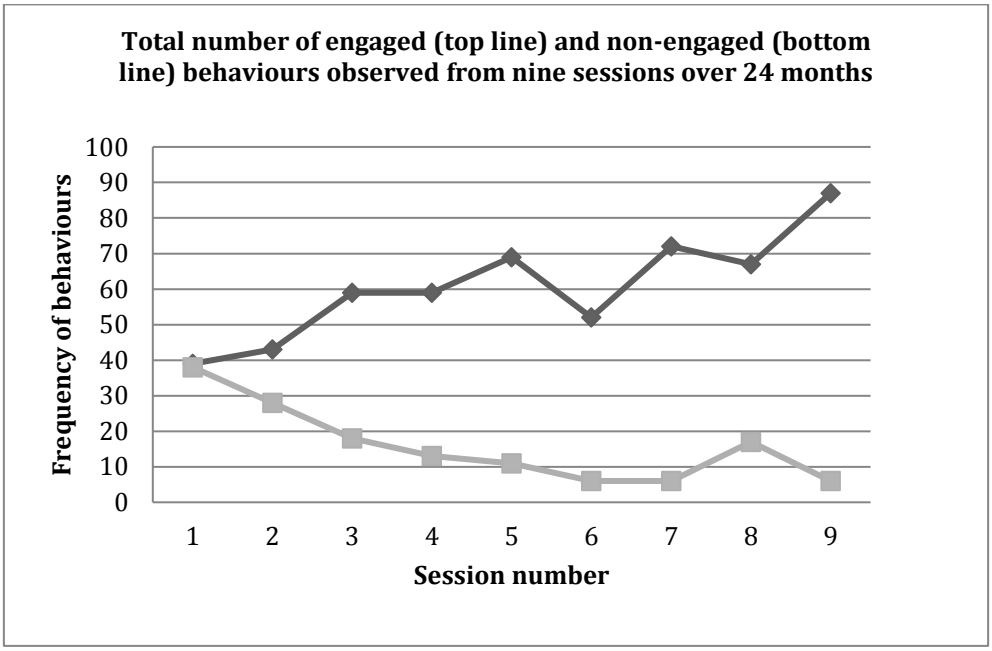
Video number:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Category	**Code**									
Engaging and/or accepting adult guidance	Allowing adult to physically interact including pointing with an adult	15	27	37	40	20	2	34	36	50
	Taking and/or guiding adults hand	4	1	0	2	7	0	2	3	3
	Manipulating objects	5	1	6	8	25	23	5	4	0

	Pointing without adult guidance	0	0	0	0	0	0	0	0	24
	Eye gaze to adult	15	14	16	9	17	27	31	24	10
	Total engage/accept	**39**	**43**	**59**	**59**	**69**	**52**	**72**	**67**	**87**
Non engagement and/or rejecting adult guidance	Push adult/object away, turns or move away from adult/activity	30	21	11	8	4	3	4	11	5
	Grabs, hits or kicks adult	8	7	7	5	7	3	2	5	1
	Total not engage/reject	**38**	**28**	**18**	**13**	**11**	**6**	**6**	**17**	**6**

Overall analysis of these behaviours indicates some variations with video six showing a decrease in engagement behaviours and video eight an increase in non-

engagement behaviours. However, the general pattern indicates a gradual increase in engagement alongside a reduction in non-engagement behaviours as illustrated in Figure 1.

Figure 1. Total number of engaged (top line) and non-engaged (bottom line) behaviours observed from nine sessions over 24 months



Adult verbal responses to the student's engaged and non-engaged behaviour across the nine sessions were also recorded. There was an average of 25 instances of adults responding to engaged behaviours and an average of 8 instances of adults responding to non-engaged behaviours across the nine sessions.

The results of using the rating scale of engagement are presented in Table 5. The percentage of time rated as full engagement remains low across the three sessions. Partial engagement ratings show an increase with twice the amount of time being rated as partial engagement (60%) in the final session as compared to the first session analysed (28%). Low-level resistance shows a decrease from approximately one third (33%) in the first session to 3% in the last session.

Table 5: Ratings of engagement behaviour by percentage of time from three sessions over 24 months

Rating	Video 1 30 mins	Video 5 20 mins	Video 9 19 mins
	% of time (to nearest whole number)		
1. Full engagement	0%	8%	2%
2. Partial engagement	28%	36%	60%
3. Neutral engagement	33%	44%	25%
4. Low level resistance	32%	8%	3%
5. Intensive resistance	4%	4%	1%

When the patterns of engagement are reviewed within each of the three sessions there has been a shift from approximately one third partial, one third neutral and one third low level engagement in the first session, to most of the time (85%) in the last session being rated as either partial (60%) or neutral (25%) engagement.

Qualitative analysis

The progression Hannah showed in relation to activities (as detailed in the researcher logs) was from initially glancing at the materials to more directly looking at what was on the page of a book or the activity being used. Over time the type of activities that promoted most engagement were books with 'lift and reveal' flaps. These appeared to promote a sense of curiosity and wonder with Hannah being motivated to find out what was beneath the flaps. She gradually began to take the adult's hand or allow her own hand to be taken to lift flaps; turn pages; point to pictures and match words to pictures.

Towards the end of the intervention her key worker reported that Hannah continued to grab at adults in order to protest but kicking had stopped and there was no longer a need for a board to be placed between them to protect the adults legs. Her key worker reported that during individual work sessions there was an increase in Hannah wanting to engage, which was evidenced by her looking at

activities and responding more quickly to a range of tasks (e.g. matching pictures, matching words to pictures). In terms of interacting and pointing, at the beginning of the intervention, Hannah was reported to occasionally grab an adult to take them to what she wanted. She used "*a form of pointing through waving a floppy hand … at dinner-time, when choosing what she wanted*" (key worker interview a). Towards the end of the intervention she was beginning to use pointing throughout her day, for example pointing at the whiteboard in the classroom with support, and in her individual work sessions she was pointing to objects, pictures and words with and without adult support. Her keyworker also stated that Hannah "*understands more and wants to point and I can push and try new things now*" (key worker interview b). The key worker's expectation of what Hannah might understand and engage in also appeared to have changed: "*I have learnt that she understands more than I originally thought she could"* (key worker interview b).

Discussion

This case study presents findings that suggest that Hannah increased her behavioural, cognitive and emotional engagement over the course of the intervention. In addition she reduced her resistant behaviours and generalised her increased engagement from intervention sessions into her everyday class

behaviour. Overall she became a much easier child to engage with, providing a foundation for staff to work on to facilitate communication and learning.

The evidence that engagement behaviours increased in terms of frequency and duration needs to be considered in relation to the intervention. The question of whether these changes would have occurred as a result of building relationships and the maturation of the student is important, as is the extent to which specific aspects of the MORE approach could have influenced the engagement of this student.

The student was almost 11 years of age when the intervention began and had not previously been reported to interact with adults or respond to adult instructions in any sustained manner despite having continuity of staff and a strong relationship with her keyworker. The fact that the changes occurred with the researchers and the key worker who had been supporting the student prior to the intervention suggests that the MORE approach rather then relationships was influencing the changes in student behaviour.

If this view is accepted, then it is important to consider the intervention in more detail including possible theoretical interpretations. Aspects of the intervention

that can be quantified include the frequency of adult verbal responses to the engaged and resisting behaviour of the student. Whilst this data appears to indicate a behaviourist approach as, on average, there was a greater degree of verbal encouraging feedback in response to engagement, there were no sanctions applied to resisting behaviours. The most typical verbal response to challenging behavior was a reassuring “it’s OK”, usually accompanied by the adult 'backing off' and the student entering her 'neutral' engagement state which could be regarded as rewarding to the student. The use of sanctions is viewed as unproductive in the MORE approach, where the focus is on maintaining positive interactions to limit the potentially damaging emotional responses associated with negative feedback.

Identifying intrinsic motivators and providing opportunities for Hannah to engage in a way she found rewarding appeared to make a significant difference. Hannah was known to like looking rapidly through favorite books prior to the intervention but would not tolerate adult interference. Establishing that she enjoyed books with ‘lift and reveal flaps’, and presenting them in an enticing way, enabled the curiosity and anticipation needed for behavioural and emotional engagement to occur (Fredricks et al., 2004; Reschly & Christenson, 2006). These materials allowed the researchers and key worker to promote interest and excitement that appeared to build Hannah’s intrinsic as opposed to extrinsic motivation to engage. While it is

possible that the behaviours being rewarded extrinsically trough verbal feedback were those that mirrored intrinsic motivation, the key difference between the MORE approach and that used previously by Hannah's keyworker was that the researchers followed Hannah's lead rather than following a curriculum and setting out to 'teach' her something. It is suggested that the persistent presentation of a wide variety of materials challenged Hannah to respond, whilst adults also provided high levels of encouragement in order to notice and reward attempts to demonstrate engagement (Smith, 2000). This had the reciprocal effect on her resisting behaviours and supports the assertion by Hartley et al. (2008: 827): "behavioural management efforts should be aimed at increasing social engagement, sustained attention and decreasing aggressive behaviour".

Regardless whether the positive changes came through reinforcement of Hannah's positive behavior, or due to the development of intrinsic motivation, the desirability of ignoring undesired behaviours is clear.

At times when the student withdrew from the adult led activity, the researcher and the key worker continued to look at the book or engage in the activity commenting on for example what they could see in a picture and what they might choose. During this 'modeling' of engagement behaviour the student could often be observed turning her head to look towards what the adults were talking so

expansively and enthusiastically about. It felt as if the student was being 'enticed' to shift her engagement state (Jenson, 2005), with the adults demonstrating an expectation that she could join in and would do so when she was ready in an environment of "low stress, high challenge" (Jensen, 2005: 107). Instructing Hannah to look or point became increasingly effective once her interest had been gained. The degree to which adults adopt a directive approach is thought to impact on engagement (Kim & Mahoney, 2004). In their work with young children Mahoney and Wheeden (1999) suggest that for maximum effect teachers need to be highly responsive in being directive whilst minimising the impact this has on initiations.

Over the course of the intervention the researchers and key worker were aware of the increase in the amount of time the student was willing to partially and, at times, to fully engage with the adults over whole sessions and this was confirmed by the results of the rating scale observation analysis. However, it is important to highlight differences between neurotypical children and children with autism when measuring and interpreting engagement. Spending time looking at a book independently, and appearing to be absorbed in it, might be viewed as positive for most children. However, this was Hannah's most typical neutral behaviour and one of the ways she chose to withdraw from adults' attempts to interact with her.

Engagement was promoted primarily through enticement and reinforcement within a relationship that built emotional engagement. Cognitive engagement was built through high expectations by using full language and persistently providing opportunities for Hannah to engage despite long-term resistance. Modelling of how to engage was provided by the adults who consistently invited her to join in through their behaviour, thereby encouraging behavioural engagement. This gradually led to increased tolerance of adults and acceptance of the invitations to participate, and eventually resulted in Hannah inviting the adults into her activities and accepting adult directions and instructions.

As a single case study it is recognised that whilst the findings in relation to the MORE approach supporting intrinsic motivation to engage and communicate with adults are not generalizable, they are relatable. There is also some empirical evidence to support the expectations aspect of the MORE approach (Emerson and Dearden, 2013b), which illustrates how the use of 'full' language and written words and letters (as opposed to minimal speech, pictures and symbols) revealed a students ability to understand more complex language and literacy skills than had previously been expected. Further exploration of the application of this approach is clearly needed in order to build the evidence base that will instil

confidence in relation to its efficacy. It is hoped that this paper will stimulate further research and communication amongst those struggling to unlock the potential of the children and young people they support.

Conclusion

The MORE approach offers a way of intervening with students who are typically described as 'hard to reach', 'in a world of their own' or 'resistant to change'. When consistently applied the MORE approach has the potential to promote behavioural engagement through modelling learning behaviours; cognitive engagement through identification of interesting and increasingly challenging activities; and emotional engagement through the establishment of a low stress and high praise environment.

The importance of persistently exploring the interests and conditions that enable a student to engage in learning opportunities cannot be under stated. The adoption of the least dangerous assumption (Donnellan, 1984) allows educators to step out of their 'fixed mind set' and adopt a 'growth mind set' (Dweck, 2008). It allows them to experiment in a problem solving culture that promotes the assessment of learner needs and the adoption of adult support strategies that enable the student to achieve with support what they could not achieve alone.

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