Using the special interests of autistic children to facilitate meaningful engagement and learning

Lydia Davey, Cheshire, UK

Editorial comment

Many autistic children and adults have strong special interests (SI), some of which change over time and others which continue into adulthood. Accounts from autistic people commonly state how important these are to them. For example, they can bring great joy and lead to a positive state of flow (McDonnell and Milton, 2014); they can lead to the development of a high level of skill and knowledge; they can serve to distract or motivate an autistic person when in social situations and may lead to employment. Yet, in the past it has been argued that not all SIs are useful or that too much time is spent on them to the exclusion of other pursuits. As a result, SIs have not always been incorporated or built upon within a school context and may actually be discouraged. In this paper, Lydia Davey, an experienced Specialist Autism Teaching Assistant, describes a means of identifying a child’s special interests and then links these to the curriculum to aid differentiation. She creates an SI map for three children and explores the views of staff in using these over a four week period.

Positive responses were given which showed that using SIs motivated the child to engage in tasks, developed their relationship with staff, and, for some, led to an increase in expressive language in both spoken and written form. Davey argues that the inclusion of autistic children is made easier and more enjoyable if their SIs are incorporated. On that basis, professionals and parents alike may benefit from creating and using an SI map and the wellbeing and self esteem of all concerned is likely to be enhanced.

Introduction

Parents and professionals alike can sometimes be concerned about the nature and value of special interests (SI), but others argue there are many potential benefits for the child, the family and school staff. Teachers and Teaching Assistants (TAs) often need to differentiate the curriculum and can find this challenging as autistic pupils are often not motivated to engage in tasks that their peers do almost without question. This paper explores the use of SI by staff with three autistic children in a primary school and shows that many areas of the curriculum might be taught by mapping and harnessing a pupil’s special interests. More importantly, the children may become motivated to engage in activities, the relationship between staff and the child is enhanced and staff gain a better understanding of the child’s abilities.

Address for correspondence
E-mail: Lydia.davey@yahoo.co.uk

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The perceived pros and cons of special interests

There is often a difference in perception as to whether an SI is productive or not and to whom. Research by Grahame et al (2015) shows that areas of strength or special skill can have a disruptive impact on the autistic child and/or their family. Some activities might be seen as having little or no value, although autistic individuals explain this is often not the case. Attwood (1998) has said that many parents have difficulty in tolerating their autistic child’s incessant questions on the same topic and their reluctance to take part in other activities. But he argues that autistic individuals use their SI to facilitate conversation, show their intellectual capabilities, provide order and consistency, and to help with relaxation and enjoyment. Research by Winter-Messiers et al (2007) found that autistic individuals did not see their SI as a hobby, but regarded it as fundamental to their wellbeing. For autistic individuals, their SI may be the only channel for developing skills and understanding and to enable them to be with others. Two autistic adults, Milton and Sims (2016), stress the importance of being able to engage with others in like minded pursuits to develop one’s sense of belonging.

Some autistic individuals may spend much of their time on their SI to the exclusion of other tasks that need to be done and have been described as fixated or obsessed. Breeding (2018), an autistic person, makes a distinction between his SI and his fixations, suggesting that while his interests often lead to productivity and happiness, his fixations are counterproductive. His fixations are uncomfortable thoughts or feelings that he gets stuck on. In contrast,

“My thinking pattern always starts with specifics and works towards generalization in an associational and consequential way.”

(Grandin, 2006, p16).

As a child, Grandin used to dribble sand through her fingers for long periods. She said this allowed her to analyse the shapes of each grain of sand scientifically (Grandin, 2014). She is a visual thinker and has focused on the physical and animal world, and become very skilled in developing cattle handling equipment. She highly values this ability and attributes this to being autistic.

Issues in differentiation

Findings from a study by Webster and Blatchford (2014) showed that TAs and not teachers are often responsible for the planning and teaching of children with SEND (Special Educational Needs and Disability). However, there are concerns that these are often the least qualified people and there is often not time to adequately discuss what and how to differentiate with the class teacher. In my experience as a TA, we often have to differentiate a child’s work ‘on the spot’ which is clearly not ideal. This goes against the SEN Code of Practice (DfE, 2015) that states that differentiation should be underpinned by high quality teaching.

Special interests: Restrictive, Repetitive Behaviours (RRB) or cognitive style?

Lawson (2011) attributes intense interests to having a Single Attention and Associated Cognition in Autism (SAACA). He suggests that it is the difference in the autistic sensory system and associated cognitive processes that are connected to an ability to focus intensely. This is referred to as monotropism. Conversely, non autistic people usually have a polytropic thinking style that uses attention aroused by several interests at any given time (Murray et al, 2005, cited Lawson, 2011). As Temple Grandin, an autistic adult, explains,

“My thinking pattern always starts with specifics and works towards generalization in an associational and consequential way.”

(Grandin, 2006, p16).

As a child, Grandin used to dribble sand through her fingers for long periods. She said this allowed her to analyse the shapes of each grain of sand scientifically (Grandin, 2014). She is a visual thinker and has focused on the physical and animal world, and become very skilled in developing cattle handling equipment. She highly values this ability and attributes this to being autistic.

Some parents have found that their child’s SI has substantially developed their own knowledge about a subject and that their child’s knowledge and passion gained admiration from others (Mercier et al, 2000).

Leekam et al (2011, cited Grahame et al, 2015) showed that SIs often led to successful employment. This is
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evidenced by Williams (1996) and Grandin. Williams’s special interest in patterns led to her becoming a machinist and Grandin’s special interest in animals and her visual strength led to her becoming a Professor of Animal Science. These stories demonstrate the potential value of using SIs to learn and justifies their place in education.

**Special interest maps**

An SI map is a one to two page profile that presents the pupil’s SI in a diagrammatic format and links the SI to curriculum areas (see Figure 1). I invented the SI map, but during my research noted a similarity to Porter’s (2012) web based approach which uses SIs to promote pretend play. Information about the child’s autism is also placed on the map. This highlights sensory issues, priority targets, strengths and motivators. This information is obtained from two questionnaires designed by the author.

I became interested in using SI maps when I worked with Felix (name changed). He was unable to access the classroom for two years. Often neither the content nor the setting was appropriate for him. The open layout of the classroom with invisible boundaries to areas for play and learning were confusing and caused sensory overload. He preferred to spend time on his special interests which were keys and locks and became agitated if presented with different tasks. As a TA, I created a map of his SIs and linked these to his curriculum targets. This became the start of his inclusion into the mainstream classroom.

Mesibov and Howley (2003) argue that unlike typical children who are motivated to learn within a social context, many autistic pupils are motivated by other factors. On first impressions, Felix appeared to have an impaired imagination as he would not produce any work when asked to draw. However, through using his interest in keys and locks, he started to write stories about ‘Key 101 and Key 186.’ He personified these keys and placed them in adventures. In this way, his creative abilities were shown to be well developed and a strength. A part of one of his stories was as follows:

“Key 101 and Key 186 decided to go on an adventure. They jumped into their brand new Porsche 911 GT2 with 700 horsepower, started the engine, and headed for Scotland. After half an hour, Key 101 noticed a peculiar smell. There was something wrong with the engine. Big wafts of smoke filled the air…….”

In Year 2, he had made sufficient progress to enable him to access the classroom and mainstream lessons. The learning environment was more visibly structured and the social demands within lessons had significantly reduced. These were significant factors in his reintegration. His work was no longer differentiated using SIs, but he continued to incorporate his SI into aspects of his writing.

**Aims and methods**

The aim was to explore teachers’ perceptions on the value and ease of the use of an SI map for differentiation. A diary was kept noting the teachers’ feedback and concerns and they were interviewed using a semi-structured interview.

**Case studies**

Three young autistic children were recruited to explore the value of SI maps. All had a diagnosis of autism without an additional learning disability. The children’s parents completed a questionnaire to help create their child’s SI map. The study was conducted in a mainstream primary school, with resourced provision for autism. These pupils were selected by the SENCo (Special Educational Needs Coordinator) as they were struggling to engage in classwork.

**Elliot, aged 10 years old**

Elliot was a Key Stage 2 (KS2) pupil but was accessing the Key Stage 1 (KS1) curriculum. He spoke fluently with an American accent, although he had never been to America. He found it hard to understand others’ perspectives and to sustain friendships. He had a very limited attention span for things outside his interests.
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**Figure 1: An example of a SI map for Ben, an Early Years Foundation Stage pupil**

**Ben’s Special Interest Map**

**Key information**

**Attention span for SI:**
- 10–20 minutes

**Rewards (motivations):**
- Lego
- iPad

**Sensory:**
- Chew toy
- Blanket
- Massage brush

**Targets:**
- Eat with knife and fork
- Social interaction with one peer (Tom) each day for ten minutes
- Understand how to self-soothe with blanket

**Prompts:**
- To check how he feels
- To check what he needs

(Support staff will need to observe how he feels and tell him to start off with)

**S&L Speech and Language**
**ER Emotional Regulation**
**Soc Com Social Communication**
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Creating the SI Maps

Step one
The main SI and other SIs were identified from the SIQ. Figure 2 demonstrates how Joe’s SI map was started. Joe’s mother identified two main SIs: the iPad and outdoor activities, so a two sided SI map was developed. Outdoor activities were renamed ‘sensory play’ as he enjoyed engaging in physical and calming activities and messy play.

Step two
More specific ‘what’ and ‘how’ information was placed on the map (see Figure 3). For example, Joe liked watching Mickey Mouse, Sofia the First and Power Pants. He liked how Mickey would say “Oh Toodles!” and he liked to copy. He also liked to list all the characters from Sofia the First in order.

Step three
Next, the SIs were linked to curriculum targets. EYFS targets were taken from Section 1 of the Statutory Framework for the Early Years Foundation Stage (DfE, 2017). Speech and language targets were also incorporated (see Figure 4).

Step four
Finally, the information from the Key Background Information Questionnaire (KBIQ) was added to the SI map, highlighting other areas of importance (see Figure 5).

Semi-structured interviews
A preliminary interview was carried out to gain the staff’s views on differentiating the curriculum for autistic pupils. This interview was brief, containing only five questions and lasted approximately 20 minutes. This helped shape the semi-structured interview used after they had been using the SI maps.

Finlay aged 6 years old
Finlay had been kept back a year. He accessed a Year 1 class with an Early Years Foundation Stage (EYFS) curriculum. His language skills were limited and his communication often involved shouting, screaming, laughing, pulling, and running. He was being toilet trained.

Joe, aged 5 years old
Joe was kept back a year as he was not emotionally or socially ready to start school. Prior to the study, he struggled to settle into school and was banging his head up to 100 times a day. His language and communication skills were very limited and he spent the majority of his day in outside play.

The teaching staff
The KS1 and KS2 teachers, the EYFS TA and the SENCo took part in preliminary interviews and semi-structured, follow up interviews. They were given SI maps for each child developed by the author in discussion with the children’s parents and staff to aid differentiation. After four weeks of using the SI maps, the TAs completed a feedback form on their experiences and the teachers, a specialist autism TA and the SENCo took part in a semi-structured interview.

The creation of the special interest maps
In the past, when I created an SI map, I used my observations and spoke to the child’s parents. For this study, I formalised the process and the parents completed two questionnaires, the KBIQ (Key Background Information Questionnaire) and the SIQ (Special Interests Questionnaire) (see Appendix 1 and 2 for copies of these). Some of the KBIQ questions were based on the Social Communication Emotional Regulation and Transactional Support (SCERTS) Model (Prizant et al, 2006), to gain information on the child’s social interaction skills and emotional regulation. It also collected information on the child’s strengths, challenges, sensory differences, main target areas and attention span.

The SIQ asked parents for information on their child’s special interests. Data on SIs were also obtained from the teaching staff. There were comment boxes for different areas (eg technology, social, information, exploratory learning, systemising, physical skills, and sensory).
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Figure 2: Step 1 of Joe’s SI map, Side A

Joe’s Special Interests Map

**Electronic gadgets**
- iPad
- YouTube
- Sensory videos
  - Watch TV episodes
  - Satisfying slime videos
  - Machine shredder video
  - Soap carving videos

**Side B**

- Physical activities
  - Sensory play
    - Messy play
      - Water play
      - Mud play
      - Paint
      - Clay
  - Calming activities
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Figure 3: Step two of Joe’s SI map adding more specific information

Joe’s Special Interests Map

Electronic gadgets
- iPad
- YouTube
- Sensory videos

- Mickey Mouse (likes how they say “oh Toodles”)
- Sophia the First (likes to list their names in order)
- Power Pants (needs investigating further)

Watch TV episodes
- Satisfying slime videos
- Machine shredder video
- Soap carving videos

- Try making slime
- Try shredding paper using office shredder

Side B

Physical activities
- Spinning wheels
- Turning
- Running outside
- Jumping
- Pushing bikes outside
- Messy play

Calming activities
He seeks environments like home:
- Marble run
- Smelling Mum
- iPad
- Own space indoors
- Outside space

Sensory play
- Messy play
- Water play
- Mud play
- Paint
- Clay

S&L Speech and Language
ER Emotional Regulation
Soc Com Social Communication
Joe's Special Interests Map

**Electronic gadgets**
- iPad
- YouTube
- Sensory videos

**Physical activities**
- Spinning wheels
- Turning
- Running outside
- Jumping
- Pushing bikes outside
- Messy play

**Calming activities**
He seeks environments like home:
- Marble run
- Smelling Mum
- iPad
- Own space indoors
- Outside space

**Understanding own needs**
- Increase communication of needs (PECS)
  Monitor how often he is able to communicate own needs (verbally/PECS)
  Use choice boards. One with calming activities and one with physical activities. Monitor how much time he appears to need in different environments/involving different activities before behaviour heightens
  (ER/Soc Com)

**Sensory play**
- Messy play
  - Water play
  - Mud play
  - Paint
  - Clay

**Side B**

- Letter recognition. Use characters and other nouns from programmes to support phonics. Eg all the animal characters from Sophia the First
- Simple sequence of story (beginning and end)
  (English/S&L/Soc Com/Art)

**Transfer to physical activities**
- Instructions
- Sequencing (1st, next)
  (Maths/S&L/Soc Com/Art)

**Counting/categorising/ordering**
Use a small selection of bars of soap (different sizes/shapes/colours)
  (Maths/S&L/Soc Com/Art)

**Precipitations** (use appropriate language contextually)
- Sequence (putting on coat to go outside/washing hands after messy play/hygiene)
- Instructions (stop/run/stand/sit)
- Ordering: places in race/marbles
- Turn taking: sharing (use marble run). Wait until you feel he’s ready to allow you to join
  (Maths/S&L/English)

**Mark making** (comment: introduce a few words at a time)
- Introduce nouns (a few at a time)
- Counting
  Monitor vocab expansion and reasons for communicating (comment/need/social)
  (English/S&L/Soc Com/Art)

**Figure 4: Joe's SI map linked to EYFS and SALT targets**
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Joe’s Special Interests Map

**Electronic gadgets**
- iPad
- YouTube
- Sensory videos
  - Mickey Mouse (likes how they say “oh Toodles”)
  - Sophia the First (likes to list their names in order)
  - Power Pants (needs investigating further)
- Watch TV episodes
  - Satisfying slime videos
  - Machine shredder video
  - Soap carving videos
- Counting/categorising/ordering
  Use a small selection of bars of soap (different sizes/shapes/colours)
  (Maths/S&L/Soc Com/Art)

**Transfer to physical activities**
- Instructions
- Sequencing (1st, next)
  (Maths/S&L/Soc Com/Art)

**Important information**

**Favourite TV:**
- Bubble Guppies
- Sheriff Callie
- Word Party

**Favourite toy:**
- Marble run
- Train set
- Outside toys

**Attention span if easy:**
- 5–15 minutes

**Attention span if challenging:**
- 5–15 minutes

**Attention span for SI:**
- 10–20 minutes

**Rewards (motivators):**
- Tornado lamp
- iPad
- Marble run

**Sensory:**
- See overleaf
- Likes staying in bed with Mum where he feels safe. Sensory overload causes head banging behaviours

**Targets:**
- Replace headbanging with physical activity
- Look at sensory diet and teach emotional recognition and self soothing (traffic light system)

**Prompts:**
- To check how he feels
- To check what he needs
  (Support staff will need to observe how he feels and tell him to start off with)
Comments from the staff on differentiation prior to using the SI maps

In terms of differentiating the curriculum, comments made included:

“He is at such a different level to other children in all subjects.”

“It is not easy to understand his ability – it takes a long time.”

“Other children will get on with their work whether they like it or not. A child on the autistic spectrum will only do the work if they are interested. He is very controlling as to whether he does a task or not.”

“I have to differentiate every lesson.”

“I was conscious to keep him in the classroom, but it did feel at times that he was just being given things to almost keep him busy and I think he felt a little bit isolated – on the side.”

Furthermore, in the preliminary interview, the role of TAs and the involvement of parents were considered very important by staff.

“They (TAs) are my right hand because you might have ideas and they have to follow it through or vice versa.”

“(Parent involvement is) essential because of the amount of time they spend with the child.”

“I am the one who delivers all the objectives set by the SENCo and SALT (Speech and Language Therapist). He receives nothing from the classroom teacher now as she never sees him.” (TA)

Findings from the semi-structured interviews showed that teachers were creating an extensive number of resources each week to differentiate for autistic pupils and some standard reading resources were being completely rewritten. The time needed to adapt resources was often considerable.

“I do 22 extra resources a week just for him. On top of that we arrange life skills...three lessons a week which are out of school need planning for.” (Teacher)

Another area of concern was demand on their time for communication among the multidisciplinary network (ie teacher, TAs, SENCo, parents, and SALT).

As in the research by Webster and Blatchford (2014; 2019), the study’s findings revealed that TAs were differentiating on behalf of teachers when pupils were unable to access the classroom. This was not always ideal, with one teacher commenting,

“It is difficult sometimes to have confidence in the TA’s feedback. Sometimes I’m dubious whether the child was actually able to do the task as well as was reported.”

However, the findings in the preliminary interview showed that most teachers recognised the level of skill and competence of the TA and highlighted that TAs were needed to motivate the autistic pupils to engage in work. One of the teachers commented:

“If left to their own devices the pupil would just sit there.”

Staff perspectives on using the SI map

The key themes were that the SI map:

- gave a gateway to understanding the child
- had a positive impact on time management
- encouraged multidisciplinary communication
- enhanced pupil wellbeing and meaningful outcomes
- was easy to use

Tapping into the pupil’s interests was said to increase their ability to access the curriculum. Their strengths were highlighted and using their interests increased their sociability and language use.
“One of the children invited him outside and said to get his coat, and he responded by getting his coat and saying ‘OK’; which was massive because we’d never seen him respond in that way!”

The staff also said the SI map gave ideas on discussion points and that they could use the map to identify what he might be asking for.

[Before the map] “We were not able to engage with him without having him getting frustrated because he couldn’t tell us what he wanted.”

A marked improvement in spoken language was noted by the SENCo and the SALT for one child.

“What has been really marked has been his increase in language that has come from it, which has also been noted by the speech and language therapist. This week she is redoing his speech care plan because he’s made such significant progress.”

“He’s increased the number of words that he’s using in context. The language that’s come from activities that he’s enjoying is being used in context and in other situations. So he’s starting to generalise his language.”

Elliot’s ideas for written work developed significantly.

“[When] planning his writing, she (the TA) has struggled to get his ideas down fast enough.”

The work Elliot produced using his interests was now considered to be superior in both quality and quantity. She also added that the TA, who scribed for Elliot saw a natural drive in him to learn.

This supports Winter-Messiers et al’s (2007) assertion that,

“There is (clearly) an untapped gold mine of drive and passion within students when they are engaged in their SIA [special interest area] (page 73).”

Building relationships
Elliot appeared to enhance his relationship with his teacher and TA through discussing his SI.

“The relationship between the TA and child developed really quickly. My perception is that for that child seeing a person taking an interest in what he was interested in was quite powerful – coming into his world more. Joint interaction increased between the two of them.”

“We have really been able to engage him and understand what he’s been saying within his play. It’s been brilliant for that… and having something to help us to talk to him about.”

Time management
Creating the SI map does create more work but the outcomes achieved were worthy of this.

There were conflicting views on the extra planning time involved in differentiation when using the SI map:

“It helps with planning time really as we can look at the map and see what we could use from his interests and set things up as a motivator.”

“It takes longer because, it’s specific and you need to go with his themes, you need to find the images, crop them, adapt them, border them.”

“It probably does add a little bit more planning time, as I need to research his interests, but not a ridiculous amount outside the box of what I was doing already. What it stopped was going down stairs to KS1 and photocopying sheets that they were using.”
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Multidisciplinary communication
The SI map was seen as a time effective way of sharing information. It was a positive platform to drive discussion and disseminate information.

“I am 100 mph and I just need to be able to hand something over quickly with all the most important information on. If I pass the timetable of his day with resources and the SI map, the person working with him or planning for him will have a good understanding of him.”

“The map was really useful because of the discussion with parents in particular. She highlighted things that he was interested in that we didn’t know about.”

“It encouraged them [TA and teacher] to exchange ideas and talk about difficulties that they were having. It provided a forum for that discussion. It nurtured a feeling of working together.”

Insight into the child

“The map was really helpful because she got to see a map of ‘him’ – it was like an outline of him and how he works. This helped her plan.”

“More people now have an idea of his likes and dislikes. It’s easier to hand over to others working with him.”

Pupil wellbeing and meaningful outcomes
The teacher felt that Elliot’s self-esteem had been enhanced and that he felt valued and motivated.

“It really does make a difference and it makes him feel…not different but appreciated and involved to have the same as everyone else, (but) with his interests put in.”

The following comments relate to Joe, whose health was severely affected when he entered the EYFS environment.

“His stress levels in the previous environment had been really high and within a couple of days [of using the map and being in a different environment] this had reduced.”

“A massive reduction in sensory – he was previously banging [his head] 100 times a day. It now happens once a day, if that.” I heard him laughing…I’d never heard him actually laugh before.”

“This week we were doing area and perimeter and for this we used Super Mario travelling around the perimeter – he really enjoyed this.”

Ease of use of the SI map
Ease of use was a common theme. Staff could use the map to set meaningful individualised work and build teacher confidence. The format was valued as being clear and easy to follow.

“Curriculum links were useful. It was good to see where things would lend themselves and from this you could start to see where other things could go.”

“Drawing – this is used as his reward a lot of the time, although for writing we used his drawing to write about his drawing. Lots of focus on language and getting him to express himself and share through pictures.”

“In class we looked at how a teacher works and it was full of underlying sarcasm and irony and something he would have struggled with. So we looked at how Super Mario works. This week he’s written his fantasy story about Super Mario (the teacher showed me his work which compared to previous work was extensive).”
Teacher confidence
The curriculum links appeared to build teacher confidence.

“At first I was a bit overwhelmed by it, getting my head around what to use and I did feel that his was quite niche [restrictive]. So I did have to look to see what could work. His toys were one that I didn’t feel I could use. If I were to go back to it I would step out of my comfort zone to see how I could use some of the other interests.”

The KS2 teacher was newly qualified. She explained that her SEN training merely taught her that pupils must have their work differentiated, if needed. However, it failed to explain how differentiation might be achieved. So she said using the SI map to differentiate the pupil’s work had contributed to her own development and knowledge, saying “the most [training] I’ve got has been from the map.” A map showing how Elliot’s SIs were linked to his Maths targets is given below in Figure 6.

Concluding comments
Arguably, a pupil’s EHCP (Educational Health Care Plan) can provide teachers with comprehensive information about a child’s strengths and needs. However, this document is often deficit focused. The SI map, on the other hand, provides a one to two page profile which is predominantly strengths based and accessible. In line with research by Dunst, Trivette and Massiello (2010) and Winter-Messiers et al (2007), this study shows that even a narrow repertoire of interests can provide opportunities to learn, and should be valued and nurtured. The children also appeared to enjoy the fact that another person was taking an interest in their interest. Using their SIs gave staff a better picture of their ability and skills and enabled them to engage in tasks that they had previously struggled with. It did not reduce the planning time needed but appeared more successful than time spent on other ways of differentiating the curriculum.

There is potential for staff to create their own SI maps, using feedback gained from the two questionnaires. The maps offer flexibility in design, as all SI interests can be placed on the map and connected to classwork in general, for KS1 and EYFS pupils, or an SI map for each curriculum subject can be created for KS2 pupils. It can be designed termly, incorporating class topics, or specific areas of Mathematics and Literacy, which one teacher thought might reduce week to week planning.

Teachers’ perceptions of using the SI map for differentiation
Teachers comments were as follows:

“I have seen first hand the value and the importance of taking their interests and I’ve had my eyes opened to the way you can take their interests.”

“Just seeing the outcome of the work and his enthusiasm for the work would make me want to use it again in the future.”

“It’s motivating and just from seeing the benefits towards the increase in language and joint interaction.”

“I will definitely continue to use after the trial because I think it really does work.”
Figure 6: Elliot’s SI map for mathematics

Elliot’s Special Interests Map (Maths)

- Different worlds
- Aircraft
- Running, jumping, throwing

Mario Odysseus

Electronic games

Mario Kart

- Racing
- Luigi and other characters

- Use the items Mario has collected for shapes and angles of shapes. Also use directions (right angles/parallel/perpendicular lines)
- Use points collected on a game to identify the value
- Use characters and relevant activities as part of word problems, adding, multiplying, dividing and subtracting. Eg Mario collected 124 coins but Luigi stole 26. How many does he have left?
- Use energy/fuel amounts/items collected for fractions/percentage. Comparison between how many Luigi and Mario collected for ratios (use his motivator – colouring)
- Use Luigi’s racing car to measure perimeter and Lego blocks to work out area
- Use running, throwing and jumping to measure

- Angles
- Shapes
- Place value
- Word problems
- Adding
- Subtracting
- Multiplying
- Dividing
- Fractions
- Percentage
- Ratio
- Area
- Perimeter
- Distances
- Measurements (Km/Kg/Ltr)

Important information

Favourite books/TV/toy:
- Toy Story
- Incredibles
- Sonic
- Scooby-Doo
- Mario
- Lego (with help)

Attention span:
- Very limited

Attention span for SI:
- Up to an hour

Rewards (motivators):
- iPad
- Drawing
- Colouring

Sensory:
- Ensure tasks presented in quiet environment with soft lighting
- Avoid:
  - food smells
  - certain foods
  - loud noises
  - bright lights
- Provide snacks in small chunks

Targets:
- Speaking in small groups
- Waiting
- Understanding others’ perspectives

Prompts:
- To stay calm
- To share
- To be kind to others
References


Winter-Messiers, M (2007) From tarantulas to toilet brushes: understanding the special interest area of children and youth with Asperger syndrome Remedial and Special Education 28, 140–152.

Appendix 1: Key Background Information Questionnaire (KBIQ)

This information will enable us to work together to develop your child’s skills. It aims to ensure that appropriate areas are targeted in a way that suits your child.

1. My child’s strengths within social communication include:
   a
   b
   c

2. My child’s motivators include:
   a
   b
   c

3. My child’s favourite books, TV and toys include:

<table>
<thead>
<tr>
<th>Books</th>
<th>TV shows</th>
<th>Toys</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>c</td>
<td>c</td>
<td>c</td>
</tr>
</tbody>
</table>

4. Please list any areas of social communication that you are working towards at home.
   a
   b
   c

5. Please list any behaviours that you find challenging at home.
   a
   b
   c
6  Please list any areas in general that you are working towards at home.
   a
   b
   c

7  Please list any of your child’s dislikes or sensory difficulties.
   a
   b
   c

8  Please list any of your child’s sensory comforts.
   a
   b
   c

9  How long is your child’s attention span when they are engaged in an activity they enjoy?

10 How long is your child’s attention span when they are engaged in their special interest?

11 Please list your top three priority areas for your child?
   a
   b
   c

12 Please use the following space to give any extra details not mentioned above.

Name of child: Parent/guardian:
### Appendix 2: Special Interests Questionnaire (SIQ)

Working together to understand your child’s special interests and what motivates them. Some questions have been influenced by Baron-Cohen's Obsessions' questionnaire (Baron-Cohen et al, 1999).

**Part A:** State the child’s SI and explain what elements of it they enjoy and how they engage with it. Complete the form out again for any additional SI.

<table>
<thead>
<tr>
<th>Special Interest (answer all questions in relation to this SI. Use a second questionnaire to answer questions about a different other SI):</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technology</strong></td>
</tr>
<tr>
<td>Explain what elements of technology your child likes.</td>
</tr>
<tr>
<td>Explain how they like to use technology</td>
</tr>
<tr>
<td>If gaming, please explain which games they like.</td>
</tr>
<tr>
<td>If they like to watch video clips, explain what they like to watch.</td>
</tr>
</tbody>
</table>

*(if not applicable please leave blank)*

<table>
<thead>
<tr>
<th><strong>Social</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain what elements of your child's SI they talk about, socially engage with, role play with.</td>
</tr>
<tr>
<td>Explain how they engage with it.</td>
</tr>
</tbody>
</table>

*(if not applicable please leave blank)*
Using the special interests of autistic children to facilitate meaningful engagement and learning

**Special Interest (answer all questions in relation to this SI. Use a second questionnaire to answer questions about a different other SI):**

<table>
<thead>
<tr>
<th>Information</th>
<th>Exploratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Explain what your child watches, describes, shares facts about, or researches facts on (give us as much detail as possible).</td>
<td></td>
</tr>
<tr>
<td>2. Explain how they absorb and like to share this information.</td>
<td></td>
</tr>
<tr>
<td>1. Explain what elements of your child’s SI they use to create or build, and state what they like to build or create.</td>
<td></td>
</tr>
<tr>
<td>2. Explain how they build and create and what systems, methods they like to use?</td>
<td></td>
</tr>
</tbody>
</table>

(if not applicable please leave blank)
**Systemising**

1. Explain what your child likes to categorise or order (in relation to the stated SI).
2. How do they prefer to categorise/ order? What processes do they use?

(If not applicable please leave blank)

**Physical (gross motor)**

1. What elements of your child's SI do they use in a physical manner?
2. How do they demonstrate their enjoyment in this area?

(If not applicable please leave blank)
Using the special interests of autistic children to facilitate meaningful engagement and learning

### Special Interest (answer all questions in relation to this SI. Use a second questionnaire to answer questions about a different other SI):

<table>
<thead>
<tr>
<th>Sensory</th>
<th>Physical (gross motor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In what elements of their SI do they find sensory relief? touch/sense/smell/sound/taste/suck/cover/feel</td>
<td></td>
</tr>
<tr>
<td>How do they demonstrate their behaviours?</td>
<td></td>
</tr>
<tr>
<td>(if not applicable please leave blank)</td>
<td></td>
</tr>
<tr>
<td>What elements of your child’s SI do they nurture, keep safe, feel connected with?</td>
<td></td>
</tr>
<tr>
<td>How do they demonstrate this?</td>
<td></td>
</tr>
<tr>
<td>(if not applicable please leave blank)</td>
<td></td>
</tr>
</tbody>
</table>

### Part B:  Tick all that are applicable

- [ ] a My child likes to find out how things work
- [ ] b My child likes to sort and categorise items
- [ ] c My child likes to build models, bake cakes, or sew, etc
- [ ] d My child likes to find out facts
- [ ] e My child likes creative arts and fiction including cinema, theatre, writing
- [ ] f My child likes sciences
- [ ] g My child likes animals
- [ ] h My child likes people
- [ ] i My child likes plants
Appendix 3: Elliot’s SI map

Important Information

- Compelling writing
  - Adventure stories/descriptive writing
  - Team work
  - Exercise
  - Collecting
  - Word problems
  - Adding/subtracting
  - Colouring/drawing
  (Maths/S&L/English)

- Different worlds
  - Aircraft
  - Running, jumping, throwing

- Mario Odysseus

- Plush toys are his friends:
  - Takes them everywhere
  - Connects with them

- Mario Kart

- Electronic games
  - Luigi and other characters

- Ordering, categorizing, comparison, sequencing, general maths
  (Maths/S&L)

- Prepositions
  (English/S&L/Soc Com/Art)

- Plush toys (soft toys, often animals)

- Toy Story
- Incredibles
- Sonic
- Lego (with help)

Attention span:
- Very limited
- Up to an hour

Rewards (motivators):
- IPad
- Drawing
- Colouring
- Fact finding
- Report writing

Sensory:
- Ensure tasks presented in quiet environment with soft lighting

Targets:
- Speaking in small groups
- Understanding others' perspectives

Prompts:
- To stay calm
- To share
- To be kind to others

Avoid:
- Food smells
- Certain foods
- Loud noises
- Bright lights

Important information

Favourite books/TV/Toy:
- Toy Story
- Incredibles
- Sonic
- Lego (with help)
- Mario
- Mario Odysseus

Attention span for SI:

Rewards:
- IPad
- Drawing
- Colouring
- Fact finding
- Report writing

Sensory:
- Ensure tasks presented in quiet environment with soft lighting

Targets:
- Speaking in small groups
- Understanding others’ perspectives

Prompts:
- To stay calm
- To share
- To be kind to others

Avoid:
- Food smells
- Certain foods
- Loud noises
- Bright lights

Additional information:

- Talk about character description
  (English/S&L/Drama/Soc Com)

- Adventure stories
  (English/S&L/Soc Com)

- Recount
  (English/S&L/Soc Com)

- Use toys to express feelings
  (ER/Soc Com)

- Understanding other perspectives
  (ER/Soc Com)

- Fact finding
  (ER/Soc Com)

- Report writing
  (ER/Soc Com)