

## **KLINEFELTER'S SYNDROME ASSOCIATION (UK)**

### **INFORMATION DOWNLOADS**

## **THE LEARNING NEEDS OF BOYS WITH KS INFORMATION FOR TEACHERS & PARENTS**

Draft prepared by Paul Collingridge (KSA)

### ***Aims of this document***

These notes are intended for teachers and classroom assistants of boys who have a previous diagnosis of Klinefelter's Syndrome. This document is with special thanks & reference to a range of sources, particularly Todd-Goodson, *Klinefelter Syndrome: the learning disability connection*, Western Oregon University

### **Note:**

The information contained in this paper has been approved by our Medical Advisers but should not be treated as specific advice to individuals. All such information should be checked with your Health Provider. Drug usage, in particular, is a matter for your Medical Practitioner.

To contact us use any of the following:

**Website:** <http://www.ksa-uk.co.uk/>

#### **Mail**

National Coordinator  
Klinefelter's Syndrome Association  
56 Little Yeldham Road  
Little Yeldham, Halstead  
Essex, CO9 4QT.

**Telephone Contact Number:** 0845 230 0047  
(Calls charged at local rates)

## **INTRODUCTION**

Recent years have seen the tide turning in the ways that boys with Klinefelter's Syndrome (KS) have settled down at school, this is reflected in the statistics of the Klinefelter's Syndrome Association survey which pointed out that whilst virtually no adults had attended special schools as children, the figure had risen to around 1 in 3 by 1999. There is still a long way to go; many parents still feel the frustration of battling out for help against cash-strapped education authorities, and many teachers long for insight into the minds of boys with complex needs.

It is true that many boys with Klinefelter's Syndrome go on to lead quite normal lives, many are unaware that Klinefelter's Syndrome exists, but it seems that all could have had a better experience of school if the appropriate conditions were in place. How many thousands of KS boys have slipped through schools and been written off, failing to grasp at what comes more naturally to other boys. It is evident, through the testimonies of men who have a diagnosis of KS in adulthood that they all feel they would better fit the model for normal adulthood if school had been successful to them. The men, although often finding success in much later years, feel let down and cast out by a system that is supposed to detect and address learning blocks. Many KS boys leave school with low self-esteem feeling anger, failure, injustice, bullied and outcast.

Research has shown that boys with KS are nearly twice as likely to have maladjusted schooling, and around 2½ times more likely to have education achievement disorders. Yet throughout, it has been shown that appropriate intervention at the earliest stage will significantly reduce problems, boost achievement and ultimately lead to improved self-esteem.

### ***The nature of the problem***

The education issues associated with KS arise from a number of factors: language processing, bullying (especially during teenage years), prescription medical treatment, concentration, self-esteem, etc., these problems interact and influence each other, so the child is increasingly likely to develop learning difficulties that are otherwise manageable.

Some difficulties express themselves at numerous points in the learning process, for example, most KS boys have some difficulty in auditory processing and auditory memory. This results in the boys needing verbal commands to arrive in shorter & slower bites than normal, then giving him time to make sense of what he has heard. This impacts upon instructions such as noting the homework from a lesson; the teacher should check that the boy has written down the task in the homework diary and that what is written will still make sense to both pupil and parent later at home in the evening (admit it, how many boys write the instructions clearly, anyway!). There are implications to performance in exams and the standard of any amanuensis provided.

### ***Specific Learning Difficulties***

The following problems are recognised in boys with KS. The table serves to validate facts for those teachers and educational psychologists putting together submission documents or IEPs.

Characteristic	% of boys showing the problem (if known)	Reference	Notes from experience of KSA members
Delayed speech development	42	Ratcliffe (1999)	Greater problems in 48xxxxy
Difficulties learning to read	77%	Ratcliffe (1999)	Those without difficulties read well
Reduced mathematical skills		Ratcliffe (1999)	
Poor memory		Ratcliffe (1999)	
Psychiatric referral	26%	Ratcliffe (1999)	
Depression of verbal IQ	47.5	Paulsen & Plymate Mandoki et al (1991)	
Poor word finding, syntactic deficiencies, weak narrative formation, structuring verbal expression		Graham, Bashir, Stark, Silbert, Walzer (1988)	A common problem, leads to frustration, particularly at the beginning of a description. Often misinterpreted as slow writer or lazy
Verbal cognitive deficits		Rovet, et al (1996)	Common
Poor gross motor co-ordination		Nielsen et al, in Mandoki et al, (1991)	Occupational Therapy successful here
Slow & awkward motor skills		Robinson et al (1982)	As above
Poor management of timed activities		Robinson et al (1982)	Where found, severe.
Poor athletic performance			Many love sport & participate in non-team events

### ***Speech & Language***

Probably the most common feature of KS boys at school is their difficulty with language, this becomes of real concern in the upper secondary school as GCSEs approach. With more emphasis in external exams than ever on descriptive/essay writing, even in subjects that have traditionally been more practical in content, this puts the KS pupil at a disadvantage. Amanuensis in examinations is of limited value (though often essential) as the boy, although he may be able to perform the task, often has difficulty in interpreting the question, and, more so, processing the response into something he can express. The following list of typical symptoms has been modified to reflect those comments from members of the KSA. Teachers & EPs are encouraged to explore full, medical lists associated with Speech & Language/Auditory Processing difficulties.

- Instructions seem to be missed, often cannot be repeated back to the teacher. The more complex the instruction, the less likely it is to be followed. Long sentences become lost. Bullet-point lists are better, but concurrent instructions cause difficulties. Short sequential steps are needed.
- Instructions need frequent repetition throughout the task, where instructions involve a series of tasks these will get out of sequence.
- Cannot purely listen for more than a few seconds. This, combined with a very short attention span, results in frustrating levels of distraction for all.
- Background noise, when trying to pay attention, is hugely distracting, as is movement. As a result a teacher may have little effect even working 1:1 if the classroom is busy with activity. Homework is unlikely to progress if a sibling is in the same room working on another task, and parents should not expect to engage a boy in discussion if the TV is on in the background! Even a ticking clock or hissing pipe may be too much.
- Forgets what is said, quickly. Visual input helps here – a picture DEFINITELY paints a thousand words. Often an astounding memory for visual data is totally eliminated if the task is converted into words. The card-game "Fish" where pairs of cards must be identified whilst facedown, is easily managed; yet "get your books out as soon as you enter the classroom" is lost before the door is opened.
- Often verbally far behind peers that he is otherwise equal to in most tasks.
- Poor communicator. It seems that there may be a link to self-esteem here.
- Interprets words literally. A commonly black-and-white view of life is reflected in the way words are used. Finds it hard to read between the lines. This can lead to a breakdown in relationships, what is often said in fun is taken to heart. The typical jocular, boyish, derogatory terms, or sarcastic comments made around the classroom will usually be taken the wrong way.
- Difficulty in conversation: dialog is comprised of short, one-word answers or blocks of silence where an answer is composed (silence is often filled by the other party, thus making communication even more one-sided).
- Difficulty in expressing personal thoughts, opinions and needs. May be accompanied by deep reliance on routines where changes in need etc. can be minimised. The boys' needs are often left out when compromise is sought. They will often say that a situation is "OK" when it clearly is not.
- Essay writing becomes an extremely frustrating experience – vocabulary, grammar, verbal sequencing, word-finding, poor handwriting, arrhythmic verbal style and complex imagination leave the boy not knowing where or how to start or continue – how to end is rarely a problem as the end is rarely reached.

## **STRATEGIES FOR CLASSROOM TEACHERS**

The greatest single issue in the classroom for boys with Klinefelter's Syndrome is the management of vocabulary and its place in auditory processing. Instructions will consistently be lost & missed, and verbal expression is likely to be both unforthcoming and tiring. There is also the problem of poor concentration, similar to ADD/ADHD which leaves the child with

mental overload at a time when the need for a clear head and single focus would relieve some of the anguish of performance difficulties. Although there is probably little tangible evidence that an education away from the hurley-burley of mainstream schools will improve performance, it is certainly the case that large class sizes and discipline issues can have a major effect upon progress. Even relatively short times of 1:1 followed by work in a peaceful, supportive and productive environment have shown to lead to a profound improvement in performance, and, more importantly, to raise self-esteem and a sense of capability and equality.

### ***Environment***

1. Still and relaxed classrooms reduce the likelihood of constant distraction, allowing an appropriate focus on the task in hand. Quiet is often an unattainable ideal in classrooms, however off-task conversations nearby or sudden callings out will certainly not help. Many boys with KS have very sensitive hearing; whistling electronics and plumbing and ticking clocks can be infuriating, raising unprecedented levels of frustration and anger at what to all others seems trivial.
2. KS boys will often notice all sorts of things around the classroom that may seem insignificant or unimportant to the teacher. There is a difficult balance between distraction and stimulation. Do the pictures on the wall and objects around help him to remain on task, or do they draw him away at a tangent? Visual stimuli can be a powerful tool with these boys, don't underestimate the power of something seemingly trivial that captures the eye – where the eye leads the mind will rapidly follow.
3. Routine: encourage the establishment of clear routines with discipline at the changeovers. Watch out for the KS boy establishing his own routines within your own – some of these can undermine progress – the boys need to be encouraged to acknowledge the needs and requirements of others and that they are not always the centre of attention.
4. Homework is an important part of today's education, yet the teacher has little control over the home environment. Bedrooms, though peaceful, are often filled with a host of distractions which are far more exciting than a review of the characters in Macbeth! An uncluttered desk with appropriate items of stationery is important, enable the work to be spread out and remain uncluttered. Dining rooms can be suitable, with firm, supportive chairs and a large table, though all can be lost if there is a television, even silently, displaying anything from cartoons to shopping channels!
5. Consistency: establish a strong teacher/parent dialog and in particular ensure that rules and protocols comply at both locations, otherwise small obsessions could take hold, e.g. calculations to endless decimal places

### ***Instruction***

6. Does the child know what to do next? He may have been told several times, but repetition is no guarantee of comprehension. The child is less able to retain sequences of instructions than others in the class, so either tasks should be managed in phased sequence or very clear, short instructions should be written down in a simple list for ticking off as each is completed. Repetition of all the stages throughout the task is often helpful as the pupil is able to relate progress as well as commit to memory.
7. Speak more slowly and pause to allow some of the information to sink home.
8. Can the pupil repeat back the list of what must be done? This is some measure, but problems with short term memory probably mean that these instructions will not be

retained long. For younger children seek pictorial ways to express a task. Older children will respond well to exemplars of completed work or in stages of production. Asking the pupil to put these exemplars into the correct sequence can also help reinforce what is needed.

9. If the pupil is expected to perform at home it is crucial to ensure that written instructions are clear to both parent and pupil. This is especially important when defining context and constraint on written work. Many boys with KS have an obsession with detail and are quite unable to see the bigger picture, a story is likely to not progress beyond the opening scene, characters will be described down to the colour of their socks, and with expressive language being hard, the whole activity is quite likely to result in frustration and very little progress. For written work give guidelines for component parts that are not too prescriptive, for example "about half a page maximum" is far better than "about 150 words".
10. As life progresses, the need to manage instructions becomes more vital, so do not disempower the boy by taking too much control, but rather build up his own skills gradually and enable him to develop the capabilities needed to become more self reliant and build self confidence.
11. Instructions are frequently forgotten as the boy begins to focus on the task in hand. Look to developing short-term memory skills and in particular auditory memory in preparation for the far less tolerant and often unforgiving world of employment.
12. Teach solid reliable techniques for common tasks, particularly where they have a universality of application, e.g. essay structure, writing lab reports, basic calculations. Encourage them to list and vocalise these before commencing. As time goes by, build in levels of description beyond listing, to describe how they will tackle a task, listing priorities and sequencing components. Describing a process as it is done will link thought, movement and word.

### **Components**

13. Encourage the use of descriptive expression throughout the day, though with sensitivity to the difficulty the child might experience. The aim is to encourage success in this arena and to discover pathways to achievement, so when the crucial situations occur the child is familiar with the process and experienced in formulating each stage.
14. Monitor techniques used to achieve key components in any task. Boys with Klinefelter's Syndrome can become rigid about how a task should be managed, yet this method may be grossly inefficient. Early intervention to instil good, or even adequate, practices, habits and routines can be far more productive than retrospectively trying to introduce the perfect technique. This desire for systems can be used to your advantage if you manage to embed good habits at the early stage. Don't be surprised, however, if the child is slow to build upon this foundation in development of a more mature technique later on. Thus a balance should be explored regarding the ease of uptake of the task in hand against its long-term appropriateness; therefore it is vital that the teacher and parent can draw up some form of inventory of strengths and weaknesses of the child at an early stage.
15. Teach priorities – it is our experience that many boys with Klinefelter's Syndrome are slower than their peers at completing tasks in the classroom. There can be many underlying elements that compound to bring this about, whether lack of concentration, failure to understand the task, an obstacle to constructing a response, distraction by detail, etc, but the end result of consistently finishing last or not finishing at all can instil the expectation of inevitability at the outset; at that point the

sense of urgency which can be so important when preparing for examinations and employment, can be all but lost. Try not to spell out the list of priorities to the student, but encourage him to work through the whole process and draw up his own list. Teachers are encouraged to develop specific teaching objectives for such children as part of lesson planning; this offers an excellent opportunity for collaboration with parents and others, turning a classroom experience into a life-skill.

16. Time-out. Concentration will prove extremely tiring, this could lead to lack of concentration and short temper. He may well choose to go over to some quiet corner of the room to work, this is not a problem. The other children in the class should be taught to acknowledge this and leave him alone during that time, but also welcome him back when he feels his time is up, he has not been rejecting them but rather shaking off the tension that builds up inside.
17. Study skills will be needed throughout life and when well developed can help relieve the academic pressure. Develop the whole process from work organisation skills to research. Suggestions include:
  - a. How to pack your bag to ensure everything is present
  - b. How to lay out your desk before starting work
  - c. Reading exam questions
  - d. Time management
  - e. Story writing
  - f. Essay structure and sub-structure
  - g. Note taking – the use of common symbols as substitutes for long words, headings, bullet points, tables
  - h. Research skills, particularly when to stop researching and move on to composing
  - i. Revision for exams
  - j. Managing criticism of work, editing, précis
  - k. Workshop diaries and laboratory reports
18. Don't be frightened of incorporating complementary technologies in the learning process, but do monitor and review their use at very regular intervals. A calculator offers a perfectly acceptable means of deriving an answer to a simple formula that could otherwise fill a page with endless chasing of numerical precision; however it is also a toy with endless possibilities for distraction – consider having the calculator taped to the desk rather than hand-held, where it immediately is more important than the exercise book and pen. An obsession with detail and correctness can have a child endlessly formatting and readjusting the title of work on a word processor rather than typing in anything new, and there are endless possibilities for adjusting menus and toolbars, etc. However, writing in draft then typing up afterwards can put additional time pressure on the child. Some parents prefer to type up their child's work each evening, though this is an offering that can soon turn into a millstone! Simple keyboard/text processors are available that enable text to be typed in and downloaded at the end of the day, e.g. the AlphaSmart range, with the additional benefit of being far cheaper and significantly more robust than a laptop computer.
19. Where an aptitude for technology is evident, this can be exploited to an almost infinite degree with the right teacher and management. Spreadsheets can offer a more visual pathway to managing numbers and the child can rapidly become adept at constructing formulas as well as logically laying out tables and lists. The rigid

adherence to methods and disciplines can be a significant advantage in many technological skills; for example, in writing HTML web pages, or programming in higher-level languages. There will always be employment for "techies" who can debug endless pages of code. Start a "Computer Club", staffed by someone with a sound knowledge of the technology; educational software prices are generally very competitive and enable a pupil to embed valuable professional skills using contemporary software.

20. Offer diagrammatic and pictorial expression and organisation. A quick drawing can frequently prevent a long and fruitless description. Flow diagrams can summarise tasks and processes. Timelines are excellent at summarising sequential events and an ideal means of visualising intervals between events as well as the sequence itself.
21. Be aware of your hand movements – these are a powerful tool at reinforcing the spoken word, yet are equally a great distraction if they convey a different message from that entering the ears! You should not need to take evening classes in British Sign Language (though all teachers should consider this to widen accessibility), nevertheless simple pointing, shaping and acknowledgement gestures give firm validation to vital parts of more complex sentences.
22. Use metaphors and similes to draw expressive parallels, but be careful they don't add additional facets to an already over-complex dialog.
23. Peer-partners and classroom-mentors can bring out the best in both parties. Boys with KS can be slow to develop relationships and social skills, but often have complementary skills. In their younger days these boys may not be averse to being paired with girls during project work.
24. Work with ALL the pupils in the class at developing a culture of acceptance and inclusion. It is very easy for these boys to be bullied and teased resulting in terrible and seemingly irreversible consequences, yet a supportive peer group can grow a boy with a radiant personality and sense of self-worth. Encourage a communicating environment where pupils can share ideas and experiences safely, where all viewpoints are equally valued and those who struggle to communicate are supported and not excluded.
25. Memory devices – explore ways of helping the student remember lists and facts. Visual images, such as mind mapping, can significantly help, though they should be encouraged to develop systems for categorising importance or priority. Sometimes it is sufficient to remember that there are "five key facts" to a subject, but at other times a mnemonic may be necessary.
26. Word games in non-competitive contexts can develop vocabulary and the powers of word recall. Examples include: Hangman, conundrums and word-searches can be used throughout; the more mature pupil can function well at appropriate crosswords. Commercial games such as Scrabble, Boggle, Pictionary and Categorically-Speaking offer more of a challenge in a competitive arena, so a handicapping system or teams may need to be devised to level the field. Don't expect long-term involvement as the boys may find these games tiring.
27. Assessment – construct methods that rely less heavily on essay style answers. Is there a practical way to demonstrate a skill? Could multiple choice or short-answer questions give similar results? It is probably unlikely that the use of a dictating machine to record verbal answers will help, as the difficulty arises long before it gets to that point.

28. GCSE and SATS exams are an unavoidable part of the academic route. Above all, the student needs plenty of practice at these, both to gain familiarity with the style of questioning and to improve his sense of time-management.

### ***Parents and Schooling***

29. You may worry about gaining a reputation for being the parent who is always seeking meetings with teachers and school workers in order to discuss your son's progress and learning strategies. This is not a problem, teachers are busy people with lots of paperwork to fill in, but if the time spent is constructive you will find that your help will be welcomed. The single most important thing you can do to help your son through his school years is to care enough to get involved.
30. Teachers do not have time to trawl the body of education research to familiarise themselves with the teaching and learning strategies appropriate to Klinefelter's Syndrome, however you may. Don't rely on the Internet for information, the KSA has found that is a particular weakness so is researching the journals and publications that are peer reviewed and validated, and conducting research of its own. We hope that soon we will correct the weaknesses in information quality available to parents & teachers. Feel free to print this guide and hand it to your son's teachers, but keep checking our site as we add more research. If you find a helpful article that we have not listed, photocopy it and give a copy to the teacher and post another copy to the KSA and we will do our best to post it up. Teach the teachers about KS, consider running an after school staff development class for all the teachers early on in his time there. Consider that in a large school there could be several boys with KS, some of whom may not have been diagnosed but have similar learning difficulties, your efforts could benefit them, too.
31. Pay attention to the strategies your son responds to and those things he finds particularly hard. It has been the experience of many parents that although they are highly involved in the process, they find it hard to summarise the characteristics or identify specific aids. We suggest you keep a diary of learning strategies and interventions and use these to help identify trends. Remember that as your son gets older his needs will change, things that failed before may suddenly work, and vice-versa. We have included a template for this at the back, and will put an Adobe Acrobat version up on the website for you to download and print off if you prefer. This paper evidence/record will prove invaluable as you endeavour to track trends or as you liaise with teachers and other agencies.
32. Before starting a new class, write a letter to your son's new teacher outlining your understanding of his learning strengths and weaknesses. If there is to be a change of school why not arrange a transition meeting, where the outgoing teacher, the new teacher, other important parties and you can explore the likely issues and discuss strategies that may help. Bring along photocopies of action plans, reviews statement details, etc., it is amazing how these sorts of documents fail to follow the child through. Tea, coffee and chocolate Hob-nobs (Oatmeal cookies to those unfamiliar with English tea-time fare) can transform the meeting into something extremely productive and amiable.
33. Most schools adopt a home-school diary to improve communication between parents and teachers, as well as a record of homework set and incidents during the day. Use this book DAILY, respond to everything the teacher writes; if there is no book then establish one (it can substitute for a diary).

34. Don't leave all the tutoring to your child's teacher – they may well have 30 other kids in the class who need attention. This puts the onus upon you to be familiar with the skills and techniques your son is using. You may need to attend evening classes and study the subjects yourself. Read ahead in his text-books, find out what you can. Try to discover what aspects are hard to learn – if you struggle over it your son may too, what helped you to get through should help him too.
35. Low self-esteem has proven itself to be a major hindrance to learning in these boys. Your son needs constant reassurance that he is not stupid but simply learns through a different route. There is no evidence to show that boys with KS have a lower IQ than other kids, they are well within the normal range, though they may not perform as well in tests which are unsuitable to their needs. It is all too easy for schoolwork to dominate and replace fun, your son should be set time limits for homework and study, and then encouraged to engage in non-academic activities.
36. Don't take over the work or do it for him. As a parent it is easy to impose your own values and standards on a child, particularly if influenced by the productivity of the high-fliers in the class. Taking over will only put a bigger void between his own abilities and his perception of expectation. By all means work together, share some of the more laborious tasks, compare notes and ideas, but don't disenfranchise him from his work, help him to be proud of what HE has achieved rather than having pangs of guilt through knowing that he may get found-out.
37. Do not try to compete with other parents, and what their kids get up to. There is no gain in living your own aspirations through a child who is clearly different.
38. Support the child, but support yourself as well. Construct a strong network around you. Research carried out by the KSA has shown that a support network for parents can make all the difference. There are groups in your neighbourhood for parents with similar difficulties arising from other conditions. Some are able to share/talk with friends at sports clubs, societies and churches. The KSA can probably link you with another KS family not too far from you. It is also vital that you seek help for your own feelings, disappointments and lost hopes. Many parents with special kids go through a time of grieving for the loss of the child in their dreams. Your son will have enough problems of his own without having to carry that on your behalf, too. You may benefit from discussions you're a counsellor, or your GP may be able to refer you to specialist groups. Remember that the process doesn't have to be all giving out from you. It is helpful if you can stay afloat through the worst of the storm, and no loss of face if at times you. Don't forget to ask for help before you can no longer cope!
39. Bullying. This is a topic that deserves a help-guide in its own right. It is VERY likely to happen to your son at some point in his schooling, no matter how supportive and vigilant the teachers are. In addition, due to the emotional sensitivity of many boys with KS, what many lads would deal out as "just a bit of fun" can come across as extremely hurtful and traumatic. We recommend that before trouble comes you familiarise yourself with some of the extremely helpful resources available so you can put preventative measures in place and be aware of the warning signs. Visit [www.childline.co.uk](http://www.childline.co.uk) or phone them for an advice pack on XXXXX XXXXXX. If you are not a UK resident we suggest you ask your son's teacher to obtain information on your behalf. Inform the school as soon as you get the slightest whiff of trouble and work together with the school to stamp out bullying immediately. If the school does not seem to be interested, make a fuss until they are, bullying is unacceptable at all times.
40. Work with your son to uncover his strengths. Research by the KSA has shown that many of its boys have an aptitude for computing or engineering. Both of these can

be worked towards by attempting tasks that are strong in problem-solving, particularly where these can be visualised. It may be that from years 10 & 11 he will be able to follow a more vocational route. Art and drawing proved popular at all ages; for the older boy engineering drawing can give the opportunity to practice precision, pencil technique and visual interpretation – a small A3 drawing board and equipment can be purchased for a few pounds. This could be developed through the use of Computer Aided Design type software into a hobby with real employment prospects at the end.

41. Sports have proved popular, as with many boys, though weak muscle tone and a lower pain threshold may mean that large team field sports are rather watched than participated in. Nevertheless they often enjoy more placid sports that involve more hand-eye coordination and less charging about. Favourites include snooker, badminton and bowling. These can also help develop social skills among a small group of friends. The boys often communicate better with adults or younger children than their peers; therefore there could be a benefit in joining a local club or society where a broad, non-threatening, range of ages can be found. Praise him for his achievements at all levels, including the days he just wants to sit and watch, the concentration can be extremely tiring and he may need to take time-out at regular points. Get to know those he is befriending, particularly if they are from a different school (reputations don't always spread beyond the playground).

### **Resources**

The following list of resources is by no means exhaustive; it simply represents those recommended to us by our members. The range of opportunities to develop specific skills is constantly growing, not being included below does not in any way suggest that a resource is somehow inappropriate. We aim to keep an up to date list on our website, with reviews by members, so please regularly check [www.ksa-uk.co.uk](http://www.ksa-uk.co.uk) for the latest information.

42. **Brain Gym** - one of the most popular sessions at our Annual Conference in the past few years has been "The Brain Gym". Brain-gym is a series of quick, fun and effective exercises designed to enhance performance by assisting whole brain integration. Developed over 25 years ago by Paul Dennison, it was originally designed to help children and adults with reading difficulties; it is now a commonly used technique in education and commerce. Teachers who work with pupils with Special Educational Needs may well have come across the technique before, but as its potential is discovered by a wider range of users the list of supporters increases weekly. Find out more by visiting the official Brain-Gym website (<http://www.braingym.org/about.html>) or asking your school's SENCo. There are several books on the topic available via your local bookstore or online.
43. **PECS - Picture Exchange Communication System** - particularly suitable for younger children, PECS has been ably championed at the KSA by Sasha for a number of years, her workshop proving extremely popular with many parents. Where speech and language difficulties arise, PECS can, among its many benefits, bring effective communication forward and relieve the frustration felt by many affected children and parents. Further information is available on the PECS web-site ([www.pecs.org.uk/](http://www.pecs.org.uk/)) and in a helpful book *A Picture's Worth: PECS and Other Visual Communication Strategies in Autism (Topics in Autism)* by Andrew Bondy & Lori Frost.

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Primary draft by Paul Collingridge (KSA). Subsequent texts to have additional resources and information