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Intellectually capable but socially excluded? A review of the literature and research on students with autism in further education

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As autism is a social learning disability it is a disadvantage in any social setting such as a classroom. The 1990s saw a surge of young people diagnosed with autism who are now approaching college age; indeed there is evidence that students with autism are becoming a significant cohort in further education. However, anecdotal evidence suggests that such students are often the subject of substantial barriers due to a general lack of awareness and understanding of autism, and its educational implications. We report here the results of our review – for the Dudley College – of literature and research relating to autism in further education. After setting the scene, we highlight key research findings and guidance from the literature on how to break down barriers.

Keywords: Asperger’s syndrome; autism; further education; social learning disorder

Introduction

Autism1 has been described by the noted researcher and author Richard Howlin as ‘social dyslexia’ as its disabling effects on access to social life are analogous to the disabling effects of dyslexia on the ability to read and write (Howlin 2003). From a diagnostic viewpoint, autism is a pervasive developmental disorder involving delays in social interaction, social communication, and social imagination2 – the ‘triad of impairment’ – present from birth, generally diagnosed in the first three years of childhood, and with impacts, mainly adverse, throughout life (World Health Organization 1992; American Psychiatric Association 1994). With knowledgeable support there can be an improved prognosis for persons with autism, however, such support is considered to be a rarity in further education at present (Breakey 2006). Asperger’s syndrome (AS) is an autism spectrum condition also characterised by the triad of impairment, but in this case there is no significant

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delay in language or cognitive development (whereas autism involves delays in both areas), and there need be no developmental difficulties before three years of age. AS is often described as high-functioning autism (HFA). Although not mentioned in the standard diagnostic manuals, physical clumsiness and unusual use of language are frequently reported with AS, and persons with autism/AS may have one or more sensory sensitivities.

The UK government’s strategy for meeting the needs of adults in England with autism states that ‘all adults with autism [must be] able to live fulfilling and rewarding lives within a society that accepts and understands them’ (Department of Health [DoH] 2010, 6). The ability to live a full life is enhanced by receiving a good education, hence Article 3 of the Charter for Persons with Autism, adopted as a Written Declaration by the European Parliament, establishes: ‘THE RIGHT of people with autism to accessible and appropriate education’ (Autism Europe 2003, 1; original emphasis). UK law now prohibits discrimination against students and prospective students with autism (Department for Education and Skills [DfES] 2001).

There is increasing evidence that the numbers of young people with autism in further education (or capable of achieving FE qualifications but unable to gain access to a college) are significant. VanBergeijk, Klin, and Volkmar (2008, 1359) say that ‘In the 1990’s [sic] a surge of children were diagnosed with autism spectrum disorders (ASDs) and are now approaching college age.’ A paper supporting oral evidence given by CollegesWales to the National Assembly for Wales states that students with autism are ‘applying to FE colleges in greater numbers’ (CollegesWales 2010, 2; original emphasis) and hence supports anecdotal evidence from colleges we have spoken to of a surge of young people diagnosed with autism entering further education, many of whom are intellectually capable young people with Asperger’s syndrome (AS). CollegesWales (2010, 2) also report that ‘there are more students who display ASD traits than there are accounted for by the official data’. They conclude that ‘Better access to (and more) accurate diagnosis is leading to learners with ASD becoming a significant cohort in FE student populations’ (2010, 2).

This article reports on literature research conducted for the Dudley College into the specific needs of FE learners and potential learners on the autism spectrum and the barriers they face (both in gaining access to a college and whilst attending college) with a view, inter alia, to providing senior policymakers, college managers, and practitioners with a summary of current knowledge about autism within further education. With a focus on FE colleges, we provide some background to autism in this setting, highlight anti-discrimination legislation, provide details of a study undertaken on behalf of East Birmingham College about fifteen years ago (which indicates a general lack of progress in the sector over this period), and summarise guidance, gleaned from the literature, on how to break down the barriers facing stu-
dents with autism. We have also drawn from material relating to higher education establishments where appropriate.\(^7\)

**Autism and Asperger’s syndrome in an education setting**

We will now look briefly at the general difficulties persons with autism face in an education setting as well as the additional problems they have to deal with when studying in a college environment where all students are expected to be independent, self-reliant and able to work on their own with far less supervision than they will have been used to previously. We will do so in relation to the triad of impairment.

As much academic learning takes place in social groups such as the traditional classroom, the profound social difficulties associated with autism can make learning more difficult for young people with autism than for their neurotypical peers (Breakey 2006) *despite intellectual parity*. A young person with autism often faces the challenges associated with both puberty and late developing theory of mind\(^8\) at a critical stage of their education. The social difficulties we see with autism are likely to lead to problems with self-esteem and cause a child to be withdrawn. Counter-intuitively, a young person with autism may often have as much difficulty with unstructured time between lessons as with the lessons themselves unless they have a plan to cope with free periods.\(^9\)

In an education context a difficulty may be experienced with a child or young person with AS who cannot see the point of studying a subject they are not interested in (Breakey 2006). But if a special interest\(^10\) can be used as the focus of a lesson they are likely to learn better. If a special interest cannot be harnessed, the teacher is challenged to motivate them to learn in areas of the curriculum they find ‘pointless’ or ‘boring’.

Change is a problem for persons with autism (Baron-Cohen 2008). Even something as trivial for a neurotypical young person as a change of tutor due to sickness absence may be a problem for a student with autism. Planned change needs to be kept to a minimum for young people with autism and unplanned change handled sensitively.

Much of what has been written about the relative importance of verbal and non-verbal human communication is weakly founded, however, it is known that we use non-verbal methods much more than we use speech. For instance, Argyle et al. (1970) found that non-verbal cues had 4.3 times the effect of verbal cues. Hence, a young person with autism – who experiences difficulty in interpreting non-verbal cues – will rely on a fraction of the communication inputs (words, body language, tone of voice etc.) that a neurotypical young person uses. This can be a grave disadvantage.

Young people with autism may be visual or kinaesthetic learners who struggle in an auditory environment (Breakey 2006). They may also need more time in which to assimilate instructions or taught subject matter if they
have some of the executive functioning difficulties\textsuperscript{11} said to be associated with autism (Hill 2004).

Whilst all autistic people manifest characteristics of autism differently, some of these characteristics are seen on a regular basis, including those identified by Autism Spectrum Australia (Aspect) in their guidance on thinking and learning in autism e.g., good rote memory skills; attention problems; difficulty learning concepts; a tendency for rule-governed rather than flexible abstract thought; a compartmentalised chunk learning style; difficulty developing meaning and generalising skills; concrete and literal thinking; and often, but certainly not always, a visual thinking style (Autism Spectrum Australia [Aspect] 2002).

As the Aspect guidance implies, autism involves cognitive strengths as well as weaknesses (Aspect 2002). The Aspect guidance specifically quotes strengths in autism listed by Janzen e.g., an ability to assimilate chunks of information quickly; remember information for a long time; use visual information; learn and repeat long routines; understand and use concrete, context-free information and rules; as well as a facility to achieve high levels of concentration on their special interests (Janzen 1996). More recent research indicates that the fluid intelligence of some children with high-functioning autism and AS may be superior to that of neurotypical children (Hayashi et al. 2007).\textsuperscript{12}

Happé and Frith (2006, 6), writing about the latest version of their weak central coherence (WCC)\textsuperscript{13} theory of autism, state that ‘the original suggestion of a core deficit in central processing, manifest in failure to extract global form and meaning, has changed from a primary problem to a more secondary outcome (and) given way to the suggestion of a processing bias and cognitive style’. These authors no longer consider that WCC causes or explains the social deficits in autism but that it just ‘one aspect of cognition’ in autism (Happé and Frith 2006, 6). This new version of the WCC theory implies that persons with AS may in fact be better thinkers than their neurotypical peers in that some autistics have a particular affinity with detail without, necessarily, being less able to see the ‘big picture’ than neurotypicals.

Andrew Powell writes that ‘people with Asperger syndrome ... can greatly benefit from college or university education’ (Powell 2002, 54), but that many students with AS experience difficulties accessing tertiary education due to a failure of the education system to ‘allow for the different AS learning style’ (ibid.) and because of social isolation. In The Autism Spectrum and Further Education: A Guide to Good Practice\textsuperscript{14} Christine Breakey states that ‘people who have a diagnosis of Asperger syndrome are inadequately supported, or even not supported, at Further Education colleges and universities’ (Breakey 2006, 17). She points out that persons with autism are often ‘labelled ‘habitual complainants’ or ‘too challenging’, or even “too different”’ and ‘blamed for such things as “failure to comply”, “unwillingness to engage”, “being too difficult” or “lack of conformity”’ (ibid.).
Williams suggests that the high rate of exclusion of students with autism\textsuperscript{15} may be due to the failure of colleges to take a person-centred approach or to allow students to have a say in determining their own educational programme (Williams 2007). We consider that, in many cases, labels are simply an expression of a lack of awareness and understanding of autism on the part of neurotypical teachers and others. What may appear as an unwillingness of a student to engage may be a reflection of the difficulties they have in a social setting. Social rules are possibly the most complex of all rules – generally neither codified nor taught – so to expect a person with autism to conform to societal standards is to expect the impossible. And attempting to deal with what appears to be disruptive behaviour in class by applying generic disruptive behaviour policy principles will often be counter-productive.

To conclude this section, students with autism can perform on a par with their IQ-matched, neurotypical peers – and may be very high-achievers – but only where the learning and teaching environment takes account of their often conspicuously uneven cognitive profile of strengths and weaknesses (Attwood 2007; Breakey 2006).

**Anti-discrimination law relating to autism in further education**

Certain provisions of the Special Educational Needs and Disability Act 2001 (SENDA) that came into force in 2002 (DfES 2001) removed the educational establishments exemption from the Disability Discrimination Act 1995. SENDA affords the full protection of current anti-discrimination law in the area of education to persons with autism. Specifically, this Act makes it unlawful for the body responsible for an educational institution – including a college of further education – to discriminate against students and prospective students with autism:

- in the arrangements it makes for determining admissions to the institution; in the terms on which it offers to admit [the prospective student] to the institution; by refusing or deliberately omitting to accept an application for [a prospective student’s] admission to the institution; in the student services it provides, or offers to provide; or by excluding [a student] from the institution, whether permanently or temporarily. (SENDA 2001, 23)

The Disability Discrimination Act 2005 placed a *proactive* duty on public bodies to actively promote disability equality rather than simply respond to complaints of discrimination. As this is an anticipatory duty, colleges must ensure that no existing policy, practice, procedure or service discriminates against persons with disabilities. And when planning future service provision, or developing new policy, practice or procedures, they must ensure that no discrimination can arise.
The Autism Act 2009 imposes various duties on local authorities in relation to their delivery of social services, and on primary care trusts in relation to delivery of health services (DoH 2009). The Act is described by the Department of Health in their document setting out the national strategy for adults with autism in England as ‘the foundation stone for a wider programme of activity across the public sector, designed to drive . . . change . . . in the way that public services support adults with autism’ (DoH 2010, 4). In other words, although education services are not specifically covered by the Act, it is hoped that its ethos will eventually impact positively on education. Under the national adult autism strategy set in train by the Autism Act the achievement of the ‘fulfilling and rewarding lives’ referred to earlier involves, inter alia, ‘getting the same opportunities for education and further education as everyone else’ (ibid.; emphasis added).

Research into the experience of students with autism in education

In their research into the views and experience of pupils on the autism spectrum in secondary schools, Humphrey and Lewis (2008) stress that the mainstream education system in the UK has a poor understanding of AS, many secondary school teachers feel inadequately trained and supported, and students often suffer from loneliness and bullying. It is therefore little wonder that many intellectually capable pupils with autism do not go on to further education. In 1996 Morgan wrote that ‘There is currently a paucity of literature available concerning the integration of adults with autism into the further education system within the UK’ (Morgan 1996, 145). He referred to a development project undertaken by East Birmingham College (now City College Birmingham), which had attempted to identify how colleges could best address the needs of young people with autism, as ‘one of the few examples (of research into such integration)’ he had been able to identify. Nearly fifteen years on, there still appears to be very little published guidance in relation to the teaching of young persons with autism who have successfully reached post-16 education, with VanBergeijk, Klin and Volkmar stating as recently as 2008 that there is relatively little information available about the unique needs of college-bound youth (VanBergeijk Klin and Volkmar 2008). But there is one particularly important exception: The Autism Spectrum and Further Education: A Guide to Good Practice by Christine Breakey (Breakey 2006). Although with a different focus (limited to AS but covering university as well as college), Managing Asperger Syndrome at College and University by Juliet Jamieson and Claire Jamieson (Jamieson and Jamieson 2004) and ‘What Do students with Asperger Syndrome or Highfunctioning Autism Want at College and University? (In Their Own Words)’ (Beardon, Martin, and Wooley 2009) are also highlighted. The National Autistic Society (2009) documents entitled Education: Meeting the Needs of Students in FE and HE and Supporting Students with Autism in Further Education are also valuable reference sources.
The East Birmingham College study

The East Birmingham College (EBC) project had apparently sought to report on the current usage and need for further education for adults with autism, good practice elsewhere, barriers to access, and positive steps that should be taken, gathering empirical data from various colleges of further education in the West Midlands (Morgan 1996). Morgan reported that the EBC had concluded from their research data that there was little support for young persons with autism in further education at that time, and that these young people were often placed in classes with students with intellectual learning difficulties that were inappropriate and failed to meet their specific needs (Morgan 1996).16 Awareness and understanding of AS was in its infancy17 at this time and, despite Kanner and Asperger having both observed and remarked on the obvious intelligence of the young people they had seen, and who we now refer to as autistic, there was an unfortunate tendency to associate autism with intellectual disability.

A subsequent study known as the Oakfield House / Mathew Boulton College Project aimed to develop the EBC research data by ‘linking a local college and an autistic community through placing two young people with (classic) autism ... on courses carrying a qualification ... with on-going support’ (Morgan 1996, 149). The study concluded that ‘the education of adults with autism needs to be based on an understanding of the condition, with attention directed at the teaching process rather than solely at the award of a qualification at the end of a course’ (Morgan 1996, 156; emphasis added). Specific recommendations from this follow-up study were:

1. Formation of links between colleges and organisations working on behalf of, and representing the views of, people with autism.
2. Training in autism for all college staff involved, i.e. lecturers, classroom assistants and ancillary staff.
3. Period of familiarisation or pre-access work.
4. Sharing of information between link organisations.
5. Staggering start time of courses to allow gradual entry.
6. Consistency of approach and staffing within the teaching situation.
7. Support worker should initially come from the specialist service then gradually and systematically hand over to college support.
8. Attention needs to be paid to the learning process rather than product, and the social benefits that may accrue through planned contact with others. (Morgan 1996, 156; emphasis added)

In evaluating how certain groups of disabled learners are less likely to be included in post-16 education than others, the Learning and Skills Council (LSC) (2007) report Through Inclusion to Excellence: Moving from Policy to Practice classified autism as a group where gaps in provision are most commonly identified, concluding that persons with autism are difficult to
include. Challenging to include certainly, but the challenges can be overcome with an autism-specific, person-centred approach. And there is a clear legislative, as well as moral, requirement for inclusion.

**Breaking down the barriers persons with autism face in further education**

If persons with autism are not making the academic progress they are capable of it should not be assumed that there is something ‘wrong’ with them; the fault generally lies in the existence of barriers to their learning. The key to breaking down the barriers to learning in FE for persons with autism is to adopt a social model\(^\text{18}\) perspective on teaching, curriculum, and support services (Breakey 2006; Oliver 2009).

Breakey (2006, 53) considers that the ‘ideal approach for working with autistic students (is) to be grounded in knowledge of autism and personal accounts, and to be person-centred’ which in her view requires ‘effective forms of autism-specific assessments, curricula and teaching methods’. To be grounded in knowledge of autism requires an effective – and continuing – autism awareness training programme for college teaching and support staff. Involving persons with autism in the delivery of awareness training\(^\text{19}\) enables trainees’ understanding of autism to be grounded in ‘personal accounts’ as Breakey recommends. Given the array of differences between people on the autism spectrum, a ‘one size fits all’ approach will not work. Breakey’s (2006) approach to person-centred teaching requires gaining an understanding of each autistic student so that teaching can be tailored to the needs of the individual. She makes the point that ‘the whole autism spectrum is represented at college, and that autistic students, wherever their diagnosis places them on the autism spectrum, all need highly-skilled, individually planned support’ (55). Such support requires profiling each autistic student’s ability and potential, learning style, use and understanding of language, use and understanding of non-verbal communication, sensory processing, social skills, specific talents, anxiety levels and potential triggers, and their use of behaviour as a form of communication (Breakey 2006). Wherever possible, a student with autism should study a course adjusted appropriately to suit both their academic abilities and their autism. This requires a commitment to designing non-standard courses as well as an appreciation of the need for student profiling (Breakey 2006).

Autism is a highly complex condition, and understanding autism is often counter-intuitive for neurotypical college staff, hence effective profiling of autistic students requires access to specialist expertise in autism to assist tutors in developing an environment to match learning requirements as captured by student profiles (Breakey 2006). If the cost of such a resource is beyond the means of an individual college, a possible way forward may be to share the expense through partnering with other local establishments.
Research into autism practice in colleges of further education in Birmingham and Solihull by staff at Autism West Midlands (AWM)\textsuperscript{20} (2007) on behalf of the former LSC\textsuperscript{21} concluded that there is a need for colleges to develop more strategic partnerships\textsuperscript{22} with schools and independent sector providers of support, including housing, training and employment providers. AWM consider that working together in this manner will enhance longer-term strategic planning.\textsuperscript{23} If it is impractical for a college either to introduce its own in-house specialist or enter into a partnering arrangement, another option is to ensure direct and continuous access to external expertise. In addition to the need for access to specialist expertise, a sufficient complement of learning support workers is essential to ensure the inclusion of students with autism (Breakey 2006). A good standard of learning-support should be maintained through a programme of continuing professional development for those concerned.

Autism is an integral part of a person with autism. In our view, the two cannot be separated. And although a person with autism may develop coping strategies, their autism ‘lasts throughout life’ (Jordan 1999, 126). Recommendations to overcome barriers to learning must not require a person with autism to change. Breakey (2006) writes that one autistic student was instructed to work on their ability to learn how to use euphemisms and metaphors. This particular language difficulty is a fundamental aspect of the student’s cognition that cannot be corrected by ‘working on it’.

The need for effective autism awareness training for teaching and support staff\textsuperscript{24} in any college is paramount if the differences between students with autism and their neurotypical peers are to be understood (Breakey 2006). Breakey suggests that training should be tailored to the needs of the specific group of staff, and be relevant and responsive to the needs of the group at the time of delivery. She also suggests a set of criteria by which to evaluate the ability of trainers to deliver quality autism awareness training (ibid.). Research undertaken by the Learning and Skills Development Agency (LSDA) (2004) has identified key learning points for inclusion in autism awareness training for college staff: the importance of providing information and support during transition from school to college; the need for learners with autism to receive tailored individual support, and to be communicated with clearly; and the value of having a quiet space in college for autistic students to retreat to when necessary. On the matter of support, the LSDA (2004) highlighted that learners with autism may have a different perspective from that of parents and tutors in that the learner with autism may not feel the need for support even when they clearly do need it. In this situation, a college should involve parents in discussion of the learner’s support needs despite this being contrary to the usual expectation that college marks the point when students ‘break away’ from their parents, and counter-intuitive for staff with little understanding of autism (Breakey 2006).
Difficulties with social interaction lie at the heart of autism. Breakey (2006, 155) advocates that a college should teach social skills to autistic students, describing the teaching of these skills as the ‘hidden curriculum’. Teaching social skills would cover areas such as understanding communication and social behaviour; linking autism theory in this regard to actual practice; assessing a profile of need for individual learners with autism; teaching autism self-awareness; and developing programmes of learning (Breakey 2006). Given the dilemma involved in apparently ‘imposing’ particular standards of behaviour on adults, Breakey (2006) stresses the need for great sensitivity when considering delivery of social skills training (as do we).

Andrew Powell has set out a support pathway for students with Asperger’s syndrome into college or university that includes, inter alia, awareness sessions on AS for all staff; job-specific training on AS for learning support staff, counsellors and disability officers; so-called ‘link’ courses to enable secondary school students to test out local colleges; and the sharing between colleges of good practice on how best to support students with AS (Powell 2002). Although Powell wrote specifically in relation to AS, we regard his pathway approach as being of general application to the autism spectrum.

A management framework for autism provision in further education

With increasing pressures on college budgets there may never have been a greater need for ‘more to be achieved from less’. All public sector bodies are expected to ensure economic, efficient and effective service provision. This requires increased attention to achieving quality services within the parameters of a performance management culture, seeking efficiencies alongside improvements in service provision. In her article entitled ‘Neurodiversity in Higher Education’, Nicola Martin (2009; cited Pollak 2009) recommends the deployment of a framework for evaluating the quality of HE service provision for persons with autism. We consider both that Martin’s (2009) guidance is equally applicable to the FE sector and that it provides clues as to how a fully-fledged management framework for planning the delivery, and evaluating the quality, of further education services for persons with autism might be constructed. It does so by beginning to build a set of key attributes of a good practice learning and teaching environment for students with autism and, with its reference to ‘culture’ implying a medium- to long-term change programme to embed good practice, and by pointing in the direction of regular evaluation of an existing environment on the basis of the maturity of the environment. Based on Martin’s (2009) framework and the findings of our research into autism service provision in FE colleges, we have developed a prototype ‘maturity model’ tool (see Appendix 1). The model is intended to facilitate the setting of prioritised improvement targets for enhancing a college learning and teaching environment for students with autism, and enable subsequent performance management in this area. The LSC write that ‘It is important to put the dis-
abled learner at the centre of the planning process and to listen to the voices of learners or potential learners with disabilities and/or learning difficulties’ (LSC 2007, 1); we agree wholeheartedly, and, in view of the counter-intuitive nature of many aspects of autism, wish to emphasise that this principle is of the utmost relevance when planning in the area of autism.

Conclusion

Martin writes that ‘we ignore the opportunity to nurture the talent of people who have AS at our peril!’ (2009, 164; emphasis added). Morgan advises that attention should be directed at the teaching and learning process rather than solely at the award of qualifications (Morgan 1996). It is not just those with AS who can benefit from further education, so attention to this process will benefit students across the autism spectrum. Furthermore, this should result in a more flexible learning and teaching environment that we think has the potential to benefit all students in further education. Since this approach requires some divergence from standard practice it will challenge public sector organisations judged on the basis of their ability to meet government targets; hence there is a need for a certain flexibility in target setting.

Many young persons with autism have the intellectual capacity to make good use of further education but are, in effect, barred from such education by the barriers they face in accessing college and/or in coping with college life. This article highlights action needed to break down some of these barriers, but there remains a need for more research into autism in further education to enhance current understanding of the barriers and how best to break them down. Inter alia, we suggest that research could, with advantage, be undertaken into: (a) prevalence of autism within college student populations; (b) barriers to gaining access to college for persons with autism; (c) in-college barriers to achievement; (d) differential college achievement rates for persons with autism and their neurotypical peers; and (e) the range of steps necessary to ensure that all autistic persons capable, intellectually, of learning at FE level are not effectively excluded because of the difficulties they face in social settings. Societal barriers to accessing an education will, inevitably, prevent many persons with autism from living fulfilling and rewarding lives and making their own unique contributions to society.

Acknowledgements

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Notes

1. There is an ongoing debate as to whether autism is a disability or a difference. Autism is defined as a disability by the main diagnostic manuals used by clinicians whereas the neurodiversity movement regards autism as a difference in
cognition. Whichever view is subscribed to, a diagnosis is generally necessary in order to access support services, including support in further education. The authors consider that autism is both a disability and a difference as: (a) all persons with autism have some difficulty in social settings (such as the classroom), but (b) autism can involve strengths as well as weaknesses.

2. The social imagination deficit can give rise to restricted and repetitive behaviours and interests.

3. This is a reference to being high-functioning in an intellectual sense. Incidentally, some clinicians distinguish between AS and HFA, but others do not and the matter remains open to debate.

4. The legislation referred to is the Special Educational Needs and Disability Act (SENDA).

5. CollegesWales is a national body representing 24 further education establishments across Wales.

6. All references to Asperger’s syndrome in this article also refer to so-called high-functioning autism.

7. We have drawn from work on higher education as models of student support are, in many cases, as applicable to colleges as to universities. It should also be borne in mind that many FE establishments offer HE programmes. For instance, Dudley College offers various HE sector developed Foundation Degrees.

8. Theory of mind (ToM) is an individual’s ability to attribute mental states to themselves and to others. This function is often referred to as ‘mind-reading’ (and ‘mind-blindness’ where not fully developed) although it involves no more than the use of sensory stimuli to guess the mental state of others. A child with autism usually develops this function much later in life than a neurotypical child. Much work on theory of mind in autism has been undertaken by Simon Baron-Cohen and his colleagues.

9. To neurotypicals, difficulty with unstructured time may seem relatively unimportant but it is often raised as an issue by students with autism because it is a source of much stress to many of them.

10. Persons with Asperger’s syndrome generally have a much more restricted range of interests than is the case with neurotypical persons. They can be totally absorbed by their few so-called ‘special interests’.

11. Executive functioning (EF) has been described as problem-solving behaviour or as the mental control processes that enable self-control necessary to achieve a particular end. The main components of EF have yet to be established but are considered to encompass matters such as formation of abstract concepts, planning, focusing and sustaining attention, shifting focus, and working memory.

12. Fluid intelligence is the ability to find meaning in confusion and solve new problems by being able to draw inferences and understand relationships between concepts, independent of acquired knowledge. It may seem counter-intuitive that understanding concepts can be a weakness for many persons with autism but a strength for others, however, this is a clear implication of the Hayashi et al. study. This finding may be a reflection of the remarkably uneven ability profiles of many autistic people where certain areas of cognition are much stronger than the others (an autistic savant being an extreme case).

13. The original weak central coherence theory of autism expounded by Happé and Frith hypothesised that a specific perceptual-cognitive style, loosely described as a limited ability to understand context or to ‘see the big picture’, underlies the difficulties seen in autism and Asperger’s syndrome.
14. Christine Breakey’s guide to good practice for students with autism in further education is based on her many years experience in the fields of social work and education, most recently in further education where she developed the Autism Specialist Support Service at the Sheffield College.

15. Barnard et al. (2001) write that autistic children are 20 times more likely to be excluded from school than the national average.

16. During our research for Dudley College we spoke at length to a bright English student following an ESOL (English for speakers of other languages) course because of the perceived ‘difficulty’ of including him in the course he actually wanted to follow (he wants to work with young people with autism).

17. The research undertaken by Hans Asperger had only begun to be discussed in the UK in the 1980s, his original paper (1944) was not translated into English until 1991, and the syndrome named after him was first included as a specific disorder within a diagnostic manual for clinicians in 1992.

18. The social model of disability proposes that systemic barriers, negative attitudes, and exclusion (whether purposely or inadvertently) are the factors defining who is disabled and who is not disabled in a particular society. This model can be contrasted with the medical model by which disability is equated with impairment and considered to be the fault of the disabled person rather than of society.

19. We are often asked to involve persons with autism in our autism awareness training sessions, and always aim to involve a college student with autism whenever possible. Although the lead author has Asperger’s syndrome we only offer his insights if no student with autism is available on the day.

20. Autism West Midlands is an independent provider of services for people of all ages with an autistic spectrum disorder, their families and carers and professionals across the West Midlands region.

21. The Learning and Skills Council was responsible until 31 March 2010 for planning and funding further education (post-16 education and training other than higher education) in England. Its responsibilities have been transferred to the local authorities across the country.

22. The Learning and Skills Development Agency (LSDA) also stress the importance of partnerships, particularly in enabling the provision of a consistent level of support for learners with autism.

23. The LSC was dismantled at the end of March 2010 with its responsibilities transferred to, among others, local authorities and primary care trusts which have duties under the Autism Act 2009. Although the Act is restricted to health and social services, it would make much sense for those concerned to take the holistic view of autism provision that Autism West Midlands advocate here.

24. In this context the term ‘support staff’ covers all staff that may come into contact with students, not just learning-support staff. For example, it is important to train security staff and catering staff.

25. Link courses are courses run by colleges of further education to enable secondary school students to ‘try out’ college life whilst still at secondary school. Given the difficulties that young people with autism often have in coping with transition to a college environment, such courses can ease transition greatly.

Notes on Contributors

Nick Chown took early retirement from his former post of Director of Risk Management at the Metropolitan Police Service (London, England) in 2008 to undertake full-time study and research in the field of autism. His original interest in
autism arose through line managing a Metropolitan Police colleague with Asperger’s syndrome (AS) traits and taking a qualification in AS to assist him in doing so. Nick has subsequently been diagnosed with Asperger’s syndrome himself. This article is based on the findings of an autism research project undertaken with a colleague for Dudley College (Dudley, West Midlands, England).

Nick Beavan is a former architect who ran his own business for five years prior to his participation in the Dudley College autism research project. Having decided to change career for teaching, he has been a mentor for construction students at a local college. His interest in autism arose as a result of a family member being diagnosed with AS, and attending seminars on the subject whilst undertaking voluntary work.

References
Chown, N.P., and N. Beavan. 2010. *I hope that at college I will have support from someone who really understands what I find difficult: Removing barriers to learning for students with autism in further education*. Dudley, West Midlands: Dudley College of Technology.


### Appendix 1. Maturity model for evaluating autism service provision in colleges of further education

<table>
<thead>
<tr>
<th>Maturity Model</th>
<th>Senior management commitment</th>
<th>Student data management</th>
<th>Student induction¹</th>
<th>Student support and training²</th>
<th>Staff training</th>
<th>Student progression</th>
<th>Partnership working³</th>
<th>Environment (sensory sensitivities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 – Awakening interest</td>
<td>Certain individuals taking an interest in the subject</td>
<td>Applications do not identify students with autism adequately</td>
<td>Induction process takes little or no account of autism</td>
<td>Support patchy &amp; provided by untrained LSAs / No student training</td>
<td>Staff understand autism only if they have an interest in the subject</td>
<td>No formal process for student progression beyond college</td>
<td>Little or no effective working with key partners</td>
<td>Little or no consideration of sensory sensitivities in autism</td>
</tr>
<tr>
<td>Level 2 – Corporate commitment</td>
<td>Directorate ‘in principle’ commitment secured</td>
<td>Agreement to identify students with autism during induction secured</td>
<td>Agreement to adopt good practice induction / assessment secured</td>
<td>Agreement to develop an autism support function &amp; offer training for students</td>
<td>Agreement to deploy appropriate training for staff (not just teaching staff)</td>
<td>Acceptance of need to focus on transition to employment or continuing education</td>
<td>Acceptance of need to work closely with key partners</td>
<td>Acceptance of need to work to provide an autism-friendly environment</td>
</tr>
<tr>
<td>Level 3 – Embedding good practice</td>
<td>Plan to embed good practice agreed</td>
<td>Application form &amp; student database both cover autism appropriately</td>
<td>Induction process identifies students’ specific needs</td>
<td>Autism specialist in place / LSAs trained, and training for students with autism on offer</td>
<td>Basic awareness training delivered cross-college</td>
<td>Processes in place to ensure progression to employment or continuing education</td>
<td>Processes in place to ensure close partnership working</td>
<td>Project to make reasonable adjustments to the environment is in place</td>
</tr>
</tbody>
</table>
### Level 4 – Autism-friendly

<table>
<thead>
<tr>
<th>Commitment to sustain good practice secured</th>
<th>Student data disseminated cross-college effectively</th>
<th>Students needs being identified and handled well</th>
<th>Peer awareness training now on offer as well</th>
<th>Advanced training delivered as necessary</th>
<th>College good at preparing students for life after college</th>
<th>College works well with all key partners</th>
<th>Environmental reasonable adjustments have been made</th>
</tr>
</thead>
</table>

### Level 5 – Sustainable good practice

<table>
<thead>
<tr>
<th>College continually seeking ways of improving</th>
<th>College continually seeking ways of improving</th>
<th>College continually seeking ways of improving</th>
<th>College continually seeking ways of improving</th>
<th>College continually seeking ways of improving</th>
<th>College continually seeking ways of improving</th>
<th>College continually seeking ways of improving</th>
<th>College continually seeking ways of improving</th>
</tr>
</thead>
</table>

Notes: 1 Includes assessment / profiling process covering items such as need for support, learning style, social skills, and sensory sensitivities. 2 Includes ‘student life skills’ and self-awareness training for students with autism together with awareness training for the peers of students with autism i.e. the reference to students is not restricted to those with autism in this case. 3 Key partners include parents/carers, mentors, local authorities, Connexions, autism outreach services.