SECTION 2:

Supporting the Creative Strengths of Students with dyslexia

Celebrating Dyslexia, Maths and Music

Professor Tim Miles

Mathematical reasoning is a positive characteristic of dyslexia and this is important. One of my briefs is to celebrate Mathematics and Music and it's interesting that although these difficulties about subtraction, tables and symbolic difficulties cause great difficulty, some dyslexic people use their fingers, need concrete aids, need to count it up, all those sort of things, and are very slow and often very discouraged over Mathematics, and yet dyslexic people can be highly successful Mathematicians.

So you have this curious group of incongruities, with dyslexia. Some of the basics including learning the symbolism are difficult and therefore negative, but some of the other things, for example creative ideas are very very positive and this can clearly be encouraged. There are ways around the difficult bits, for example computers and enabling technology can do a lot as far as that is concerned.

Art and Dyslexia

Art from my earliest experience is a positive. Many of the children I saw who were experiencing all kinds of reading and spelling difficulties at school, they sometimes produced really beautiful Art work.

There is also Architecture and I think again there are physiological reasons for this to do with the two hemispheres and the symmetry of the two plana. This somehow seems and is still a bit speculative, to affect the balance of skills and one of the skills many of the Dyslexics seem to have is this holistic understanding, so they become Architects for example, can envisage things in 3-D and all kinds of ways.

I had a dyslexic Orthopaedic surgeon writing for the journal Dyslexia and he said he could somehow envisage the position of the bones, more than his colleagues could. There are many skills in that way and for those of us who are merely modal (as Professor Gosling puts it) I think I'm rather anti Dyslexic because they are horribly good at mending the car and mending the television sets and all those sorts of things, and folk like me are absolutely hopeless at such things, with great effort I did learn how to change a wheel when the car had a puncture, but you know it was very hard work, not the sort of thing I do naturally.

One of the contributors to Dyslexia and Stress who is actually a priest said this is actually embarrassing when the car goes wrong, "because I can spot it immediately but it's so embarrassing because I don't want to seem to clever so I simply got to let the others have a go first", and he

could spot this sort of thing instantly. Incidentally in his chapter he said his room looks like a bomb site but he still knows where to find things, a lot of them are out in the open.

Computer programming is a positive characteristic for dyslexia, as is dress making. The skills which are thought, and this is still a bit speculative, to be right hemisphere skills. There is good evidence, but again a purist might take me up saying I'm rushing ahead of what's being proved, that Dyslexics tend to be weaker at left hemisphere tasks and good at right hemisphere tasks.

With my colleague Mary Haslum we had a chance to inspect some twelve thousand ten year olds. A sneer that really riled me in the early stages was that it was only the middle classes who were Dyslexic. There certainly were more teachers and more sophisticated people among the people I was seeing, but it was that they were more alert to the problem. But there were sneering journalists who said, let me quote, "If you live in Acacia Avenue you are Dyslexic, if you live in Gasworks Terrace you are just thick".

In this extensive study one of the things it gave me quite a lot of pleasure was to find we have all the social classes in our ten year olds including manual skills etc and in fact there was absolutely no difference in social classes, Dyslexia falls on all kinds of classes. We also took measures of handedness and my early cases were clearly right handed and right eyed. We found slightly more people who were partially left handed, more in the males in another survey and we need to exert caution in talking handiness and dyslexia.

Music and Dyslexia

The problem with Music and dyslexia is similar to Mathematics. If you look at Musical notation there is a large amount of information within a small space, and this means reading Music as with reading anything else Dyslexics are slower they take more time, and the actual sight reading is more difficult for music. However the holistic skills give great positive characteristics in music, such as composition, rhythm and playing by ear. There is a collection of essays by dyslexic musicians in the book, Music and Dyslexia.

This has implications, in particular the examining board have been marking students sight reading sometimes above their musical skill. Now this has been a real problem for us, they don't want to lower standards obviously, no examining board wants to lower standards. What we need to do is persuade all examining boards not to mark down the Dyslexic on things that are irrelevant to what you are examining.

If you are examining you have to decide if you want correct spelling or not, but if they don't want correct spelling then it is very wrong to mark somebody down because they are spelling badly. Similarly do you really want people to a particular job of work within a three-hour period? If you don't then you allow your Dyslexics (or anybody else for that matter) extra time so that you are not judging on how quickly they can get it done, otherwise the Dyslexic will panic. One lad I remember was doing an exam to do with vectors and he just got something reversed the wrong

way round and only spotted this three quarters of the way through the exam. He had to start again, panic stations, and you get therefore the Dyslexic who fails the exam, yet they know perfectly well that they've got the understanding there.

If you are counselling Dyslexics I think the important thing is to have a good heart to heart talk to them, let them tell you what it was about the exam that maybe let them down. Maybe persuade your examining boards not to grade on so and so, or what ever it may be more continuous assessment. I'm not even sure about continual assessment. It is not as easy, although it might seem the obvious thing for the Dyslexics, I'm less sure about that.

I'd like finally as a celebration just to mention the names of those Dyslexics who have contributed to the Music and Dyslexia book. These are people who are successful musicians who were quite severely handicapped by Dyslexia when they were younger. Some of them are still fairly young.

Nigel Clark a composer, now Professor at the Guild Hall. Janet Coker again a beautiful singer, she's written a beautiful piece in the book, just saying books are my friends she loves books, she loves the feel of books and then when she gets this beastly musical notation, all dots and things, Oh dear I'm sure there's something lovely buried in there but I can't decipher it and she says I must learn to try and make written music my friend as well, it's a very moving piece.

There's a girl who had particular problems with Mathematics, Helen Poole; Paula Bishop who has been a singer, a very successful singer; Michael Lee who was a Double Bass player, he was very interesting because although they say that sight reading is difficult for Dyslexics, he said there is a paradox here, because if you are weak at something you just work and work and work and for whatever reason Michael Lee has taught himself to sight read, and doesn't have any problems with sight reading.

Conclusion

As we are celebrating I'd like to applaud Successful Dyslexics all the World Over. We've had plenty of them and this could be the celebration.

Finally I don't want to minimise the down side, of course there is a down side but I suppose the central message I'd like you to take away is if you are counselling or advising Dyslexics encourage them to be realistic, a realistic sense both of their weakness and in particular of their strengths.

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Access to Higher Education for the mature dyslexic student: a question of identity and a new perspective

Dr David Pollak

ABSTRACT Using examples from interviews with mature students who are both dyslexic and from 'non-traditional' backgrounds, this paper proposes a new perspective which links models of academic writing with discourses of dyslexia and approaches to learning support. It relates this perspective to issues of identity, self-image and student experience, and concludes that the widening participation agenda needs to include a new way of construing dyslexic students.

Introduction

The Higher Education field is changing. We already have a much less homogeneous student population than ten years ago, and the likelihood is that the trend towards this will increase (Preece, Weatherald et al. 1998). Access courses open up opportunities for adults, many of whom did not realise in their younger days that they were dyslexic, to pursue academic study (Gilroy and Miles 1996). The Report of the National Working party on Dyslexia in Higher Education (Singleton 1999) points out that such students may not have been successful at school because there was not sufficient awareness of dyslexia at the time.

Initiatives towards widening participation (Dearing 1997; Fryer 1997) have led to the admission of more students who have not followed the traditional A Level route. We have more mature students studying part-time, and steadily increasing numbers of students who identify themselves as dyslexic (Singleton 1999), although as a proportion of the total student population this is probably well below the incidence of dyslexia in the nation as a whole (Morgan and Klein 2000).

However, the answer to this problem should not simply be a case of saying that 'Universities must do more for dyslexic students.' This paper will examine various models of dyslexia, academic writing and learning support which are offered to students. In order to illustrate the proposed perspective, reference will be made to interview data obtained from mature students (including two younger examples for comparison purposes) who reached University via a range of 'non-traditional' routes, as well as Access courses. These are people for whom entry into higher education is frequently a challenge to long-held elements of personal identity (Ivanic 1998); such issues arise for all dyslexic students and others who feel 'different,' but they are particularly salient for this group. Comments from students collected during a research project on dyslexia in higher education (Pollak 2001) will be cited, which refer to identification as dyslexic, self-image and learning support. The paper will also look at possible responses by the higher education sector to students whose sense of identity is challenged not only by the label 'dyslexic' but also by academic writing in general.

Table 1: Students who took part in the research (selected from Pollak 2001)

name	age	university	route	course
Peggy	38	Spenceton	Access	Geography
Fenella	44	Spenceton	Access	Social anthropology
Victoria	50	Burnside	Access	Social work
Susan	45	Spenceton	Access	Sociology
Robert	31	Litherland	Access	Law
Ron	41	Burnside	Access	Adult nursing
Rachel	20	Litherland	BTEC	Occupational therapy
Charlotte	21	Spenceton	BTEC	Social policy
Adrian	25	Belleville	BTEC	Electrical engineering
Mel	32	Burnside	HND	Education and IT
Alice	37	Burnside	HND	Education
Chuck	34	Belleville	APL	Engineering
Lisa	50	Litherland	APL	Social/environmental studies
Betty	49	Burnside	APL	Health visiting
Charles	44	Belleville	APL	Building surveying

The students who took part in the research (Pollak 2001) attended Universities in the North, Midlands and South of England; names of Universities and individuals have been fictionalised. See Table for a summary of basic information about them. (The abbreviation APL stands for Accreditation of Prior Learning.) Within this paper they will be referred to by these fictional first names:

Models of academic writing, dyslexia and learning support

Lea and Street (2000, page 34) set out three models of student writing, the second two subsuming the ones above them:

- The 'study skills' model – a potential student deficit in atomised skills; student writing as a technical skill

- The 'academic socialisation' model – acculturation of students into academic discourse; student writing as a transparent medium of representation

- The 'academic literacies' model – different literacies seen as social practices; students' negotiation of contrasting literacy practices; student writing as constitutive of identity; meaning-making as contested.

It is useful to explore these models in the context of dyslexia, because there are links not only between them and discourses of dyslexia, but also between the latter and approaches to learning support (links which also involve identity).

Lea and Street describe the 'study skills' model of student writing as viewing problems with student learning as a kind of disorder within the student which needs to be treated. Publications which adopt this model tend to present studying as a matter of technical skill; one states that 'studying is a skill, not a body of knowledge' (Williams 1989, page 'x'). The assumption made by this model of academic writing is that language is primarily a matter of grammar, spelling and punctuation, with these as 'autonomous, nonsocial qualities' (Street & Street 1991, page 152) and essay-writing a further set of discrete skills. If a student lacks these, s/he needs to be 'cured.'

The medical model of dyslexia (in which it is described as a condition which has symptoms and can be diagnosed) similarly locates any problem as lying within the student. From the earliest references to it (Kussmaul 1878; Berlin 1887; Morgan 1896) to more recent times (Critchley 1970; Hornsby 1984; Snowling 2000), dyslexia has consistently been represented as a biological deficit. The National Working Party on Dyslexia in Higher Education describes it both as a 'condition' and as a 'syndrome' (Singleton 1999). Students such as Chuck have held a medical view of dyslexia for many years:

> I think dyslexia should be described as suffering, as in that the physical manifestations are bad – basically are bad wiring of parts of the brain – and subsequently it can be connected to a physical disability.

In terms of models of learning support in higher education, the model which equates to the medical discourse of dyslexia is the disability model (in which students who need support are seen as having a disability which makes higher education inaccessible to them (Oliver 1988)). The funding of learning support in higher education is currently arranged, for those who qualify for it, by means of the Disabled Students' Allowance or DSA (DfEE 2001); many Universities place learning support staff within a Disability Unit (or department with a similar title). Information published for dyslexic students which adopts this model will often refer to 'students with dyslexia' as if it were a disease, and inform them of the need for a 'diagnostic assessment.'

Charlotte's experience fitted this pattern. First, the problem was presented to her as lying within herself: *'Spelling was picked up on terribly; grammar I was just slaughtered for.'* Then her tutor asked whether she had ever considered that she might be dyslexic. Charlotte was screened at University and told that this was indeed the case. She thought: 'Well, I'm dyslexic, there's something wrong; at least I'm not stupid and thick.' (Unfortunately this feeling was not supported by her Educational Psychologist's report, which quoted low reading and spelling ages and made Charlotte feel 'devastated.')

She was then offered learning support sessions with a counsellor in the Counselling and Psychotherapy unit. The 'medical model' of learning support tends to treat it as an exercise which takes place in isolation, with little or no liaison with a student's course tutors or subject context, although sometimes students prefer this (Keim, Ryan et al. 1998).

Universities which have refined their definition of 'study skills' have begun to focus more on student adjustment to learning or interpretation of the task of learning (Lea and Street 2000). Peelo (1994) uses this model; she describes a tutor marking an essay as 'a representative of an academic readership,' and states that 'the finished product must look like what passes for communication within that discipline' (Peelo 1994 page 74). This is what Lea and Street call 'inculcat(ing) students into a new "culture," that of the academy' (Lea and Street 2000 page 34). The academic socialisation model, in focusing on the role of a student's learning strategies or style in the process of acculturation into academic discourse, parallels the discourse of dyslexia which sees it as a 'difference,' or a constitutional developmental pattern of learning which does not favour an easy acquisition of fluency in symbolic material. Robert (as a former painter of architectural perspectives) and Ron (a former electrician who described being able to visualise easily where complex circuits fitted into buildings) both made it clear that they saw dyslexia as such a 'difference,' but they also showed the influence of medical models in their use of terms such as 'symptoms.' This reminds us that these models are not completely discrete, but inevitably overlap; they are distinctions imposed by the researcher on complex subject matter.

A recent HEQC discussion paper (HEQC 1996) adopted the study skills model of academic writing. It referred to the 'ancillary qualities' which a graduate should possess, numbering among these 'the ability to write in grammatically acceptable and correctly spelt English' (HEQC 1996 para. 14). The academic socialisation model treats writing as a 'transparent medium of representation' (Lea and Street 2000 page 35), in much the same way that the HEQC document does. It thus fails to address the issue of literacies as social practices. Lea and Street assert that under the academic literacies model, student writing and learning are seen neither as matters of skill nor of socialisation: they are viewed as taking place within institutions whose academic practices are founded both on power and on discernible discourses of literacy and knowledge-making. When literacy is seen as a social practice, or rather a variety of social practices, then the kind of literacy which is demanded in educational institutions becomes simply one variety, albeit one which is accorded supremacy (Street and Street 1991). In Universities which adopt what Street calls an autonomous model of academic literacy (Street 1984), students are expected to master a range of linguistic and communicative practices for different settings and purposes. The academic literacies model thus operates at the levels both of epistemology and of identity (Brodkey 1987).
The word 'discipline' is certainly well chosen, if 'correctness' in grammar, spelling, referencing and so on are seen as controlling and potentially discriminatory:*Insistence on correctness has a regulatory function in that it limits both the possibilities and the desire of many ordinary people to use writing to express their views (Clark and Ivanic 1997 page 215).*

This brings us back to the mature, 'non-traditional' higher education student:

> *A student's personal identity – who am I? – may be challenged by the forms of writing required in different disciplines, notably prescriptions about the use of impersonal and passive forms as opposed to first person and active forms, and students may feel threatened and resistant – 'this isn't me.' (Lea and Street 2000 page 35).*

I suggest that Lea and Street's proposition, which applies to all students ('dyslexic' or not), is particularly relevant to those who have not arrived at University directly from A Level courses.

This is because mature students may be in the process of changing their identity as they try to become members of an academic community, and this may conflict with other aspects of their identity (Ivanic 1998). Ivanic suggests that most mature students 'are outsiders to the literacies they have to control in order to be successful in higher education' (Ivanic 1998 page 68). This self-perception may be intensified by identification as dyslexic.

What discourse of dyslexia, then, matches the academic literacies model of student writing and University study? The head of the Computer Centre for People with Disabilities (University of Westminster) recently wrote:

> *In terms of the social model of disability, I have always regarded the brain functions associated with dyslexia as part of a perfectly normal variation in the population, but the English language as a social factor 'disabling' dyslexics in much the same way as stairs inhibit those in wheelchairs (Laycock 2001)*

Mel seemed to be groping her way towards such a broader view. She said that *'we ought to be more accepting of different styles,'* and went on to talk about teaching everybody, *'right-brained and left-brained,'* in a variety of ways. Were this to happen, Mel asked, *'would you be making the issue of being dyslexic almost redundant?'* The students who took part in the research are part of a cohort of undergraduate interviewees which also includes students who reached University via A Levels; it was overwhelmingly this 'traditional' student group which provided the most confident espousers of dyslexia as part of the normal spectrum of human brain development (Pollak 2001).

Learning support approaches which adopt this kind of stand-point centre on supporting a student's self-awareness and sense of identity. All students need some degree of metacognition (thinking about how they think, learning about how they learn) in order to succeed, but those who are different from the main-stream need a particular degree of awareness of their own cognitive style (Krupska and Klein 1995; Given and Reid 1999). However, the difference between this and the 'academic socialisation' model (which involves concepts such as 'deep' and 'surface' learning) lies in the analysis of the University as a site of discourse and power. This is not a new concept. Radford (Raaheim, Wankowski et al. 1991 page 146) quotes a 1981 study (Ramsden and Entwistle 1981) which found that University departments perceived as 'allowing freedom in learning' had students with 'an orientation towards personal meaning in their studies.' Wankowski adds that there should be a 'feeling of mutuality in the social transaction of learning' (Raaheim, Wankowski et al. 1991 page 109). Student Charles needed what Wankowski calls 'the feeling of approval and recognition from another human being' (Raaheim, Wankowski et al. 1991 page 117) in response to his writing, and spoke enthusiastically about applying to develop his dissertation into an MPhil because his tutor had enjoyed working on it with him.

Learning support tutors who are aware of the academic literacies debate can encourage students to maintain a sense of self in their writing even while obeying the conventions of their subject (Creme and Lea 1997). Susan valued such work, which helped her to *'feel better about things and not feel so thick.'* The model of learning support adopted in De Montfort's Student Learning Advisory Service (in press) involves listening to a student's ideas and working towards a way of putting them into an essay which feels right for him or her; this often includes acknowledgement

of the validity of his/her natural sense of these ideas as a two- or three-dimensional pattern, and the fact that the hegemony of standard academic practice means that they must be shoe-horned into a linear order. This process implicitly requires counselling skills in staff working with such students, a fundamental element being the need to let the student know that s/he has been heard and understood. It is also possible to deploy counselling skills to facilitate a student's private challenge to the disability model of dyslexia, even though under the present system s/he may have to accept it publicly in order to obtain funding for learning support via the DSA (DfEE 2001).

Self-image and identification as dyslexic

The interviews with the students listed in Table 1 lasted for a total of 22 hours (Pollak 2001). There were very few occasions on which they deviated from seeing themselves as deficient as a result of being dyslexic. Whether they have heard of dyslexia or not, many mature students who have previously failed in education are afraid that they are lacking in ability (McLoughlin, Fitzgibbon et al. 1994). Victoria continued to worry that her difficulties were not connected with dyslexia, but rather the result of *'total idiocy.'* Fenella and Susan expected to be turned down at every stage, when applying for pre-Access courses, Access itself and then University. Fear that formal assessment will not indicate dyslexia, but prove fundamental lack of intellectual ability, is common to many students who are eventually identified as dyslexic (Miles and Varma 1995). The decision to re-enter formal education involves facing the issues of 'who am I?' and particularly 'why have I found studying difficult in the past?' (Riddick, Farmer et al. 1997).

For many on Access courses, the tutors are the first people they have met who recognise dyslexia and suggest formal assessment (Gilroy and Miles 1996; Singleton 1999). Ron took the initiative himself after struggling with an essay, telling his tutor:

> *Look, there's got to be something wrong here. I can't be this thick. I don't have a problem anywhere else. Why have I got a problem with this? Is it dyslexia, whatever dyslexia is?*

That quotation reveals several common themes: perception of dyslexia as a fault within himself, awareness of a discrepancy with other areas, fears regarding his intelligence, and patchy information about dyslexia. As they deal with people who can be expected to have trouble with academic study, Access course tutors are more likely to be aware of dyslexia than many other education professionals. This puts them in a good position to provide answers to these areas of doubt, but it also gives them great power to influence students' perceptions of themselves, of the nature of academic study and of dyslexia itself. For example, if an Access tutor adopts a medical model of dyslexia and describes it using terms such as 'diagnosis' and 'wiring of the brain,' a student's self-image may start to include the notion of deficiency and deficit.

However, the person with even greater influence in that respect is usually the Educational Psychologist to whom students are referred for formal assessment, as s/he has the kind of status accorded to medical consultants, and the role of formally applying the dyslexic label (Cooper 2000). Many Educational Psychologists subscribe to a discrepancy model of dyslexia (Turner 1997), and look for a contrast between a person's 'intelligence' as defined by a normative test and

his/her attainments in other areas such as reading and writing. They therefore tend first of all to pronounce on a person's 'intelligence,' and for those who have been doubtful about their own, this can be a relief (Gilroy and Miles 1996). Rachel said that *'it sounds like a professional saying you are OK,'* and Ron said *'I nearly fell off my chair'* when told his IQ figure (which was high). [The controversy as to the measurability of innate intelligence and the inevitable cultural bias of tests is not the subject of this paper, but must be acknowledged (Rothblatt 2001)].

Although the chief aim of seeing the psychologist is investigation of dyslexia, the issue of such labelling is contentious: as an explanation for a history of educational failure, it can be attractive, but it may raise hopes of learning support which will not be realised (Reid and Kirk 2001). The very label also places the 'problem' within the student, rather than within the institution. As Reid and Kirk point out, feedback to the student after an assessment should include a detailed explanation both of his/her strengths and weaknesses and of ways forward, as well as emotional support. For someone whose memories of schooldays include painful experiences of failing tests, such sensitivity will be essential during the assessment session; Ron, who was 39 when assessed, remembered *'walking past the door four times'* before going in, and being 'well wound up' by the tests. Learning support work also needs to start with acknowledgement of the emotional content of memories of schooldays (Raaheim, Wankowski et al. 1991).

These issues of identification are similar for students from all backgrounds. Gilroy comments that some wish to conceal the fact that they have been previously labelled (Gilroy 1995), sometimes because they hope to have a fresh start. For others, a life change such as enrolling for an Access course, with its new demands, may be the catalyst for the kind of exploration of learning approaches which leads to assessment for dyslexia (McLoughlin, Fitzgibbon et al. 1994). On the other hand, this point may not be reached until after the University course has begun. Having taken on the daunting prospect of a three-year course, itself a major change of direction in life entailing potentially major revision of self-image (Ivanic 1998), identification as dyslexic means that the student is informed that s/he is 'deeply flawed – or at least, that is how it is experienced' (Peelo 1994 page 24). Peelo adds that the label may seem to confirm a long-held feeling of being an unsuitable person for academic study. This may be compounded by the assumption that fellow students, almost all of course much younger, know the secrets of studying and have the mysterious skills. Such feelings apply particularly to writing, where initiation into membership of the higher education institution is often presented quite openly as requiring conformity to conventions of academic writing (Benson, Gurney et al. 1994); indeed, 'correctness' in writing can be seen as having a disciplinary, normative and discriminatory role (Clark and Ivanic 1997).

'Late returners,' as Peelo calls them, often arrive at University with a non-academic self-image, and may well over time have unconsciously built up a variety of ways of hiding what they see as their stupidity (Peelo 1994). If, like Lisa, they have come across television programmes about dyslexia, this may be compounded by feelings of anxiety about this as well.

On the other hand, completion of an Access course and admission to University may lead some students to assume that they have been deemed fully capable of completing their course (Singleton 1999), in other words already academically socialised. Various problems may arise as a result of

this. Firstly, they may assume that their work must be of the required standard and hence that they need no support. Secondly, there may be an expectation of a continuing level of individual learning support which the University does not offer; Further Education institutions generally include a great deal more in the way of one-to-one support than Universities (Gilroy and Miles 1996; Singleton 1999). Thirdly, they may (in common with many students) be unprepared for the way the course becomes increasingly demanding from year to year.

A student's reaction to identification as dyslexic will probably depend on the way it is presented. Victoria's Educational Psychologist used what was clearly very much a deficit model:

> *......an endless list of things I can't do. No sequencing, nothing. Visual, auditory perception, is it called? That's all gone. There's just so many things wrong, I'm amazed.*

In contrast with this, Rachel was told:

> *It's just the way you are. It's not because you've been lazy or anything. It's something you're born with and it's, you just, you're just different, you interpret information differently.*

Student experiences of academic writing (and stress)

Access courses generally provide guidelines on structure and argument, and most Universities offer similar documents on the technical aspects of writing. This approach is clearly within the 'study skills' model of academic writing (Lea and Street 2000). This does not help students with the much less tangible issue of 'tuning in' to the expected style of academic writing in their particular discipline (what Peggy called *'a way of portraying and receiving knowledge'*), which in turn comes under the 'academic socialisation' model.

Furthermore, 'structure' in an essay involves linear thought, a left-hemisphere process (Krupska and Klein 1995; Springer and Deutsch 1998) which is often hard for a person with a preference for right-hemisphere processes (West 1997). Describing the brain in terms of this kind of preference is within the 'difference' model of dyslexia and thus again matches the 'academic socialisation' model of academic writing, which includes a 'focus on student orientation to learning and interpretation of (the) learning task' (Lea and Street 2000 page 34).

Victoria was acutely aware of what, she believed, was taking place in her brain; she was equally convinced that it was deficient, pointing vehemently to her head as she told me:

> *I have trouble focusing, up here; I don't mean visually. Does that make sense to you? I can't get things into order. There's no order up here; it's like spaghetti junction.*

(This is remarkably similar to what Susan Hampshire refers to as 'the ball of string filling my head' (Hampshire 1981 page 37). At times, Victoria added, *'it clicks'* and she can *'see the road ahead.'*

Peggy was conscious of the grammatical acceptability of her writing:

> *I still concentrate so much on my sentences, my words, the sort of overall piece of work is sort of, you know, still eludes me as a sort of run-on piece.*

Similarly, Betty spoke of spending many hours moving paragraphs around until the sequence seemed right, and moving words around until the grammar did so as well. Such a process often makes the 'non-traditional' student doubt her ability to work at higher education level; as Susan put it: *'I tend to think that I am not academically bright enough.'* Models which make students feel deficient are clearly not helpful to them.

Many dyslexic students arrive at University with deep-seated self-doubt, often derived from exposure to a deficit model at school, where they may have been labelled 'lazy' or 'remedial' (Gilroy 1995). Such feelings may be increased in the 'non-traditional' student. Fenella made frequent self-deprecatory comments:

> *But what was holding me back all the time, that feeling that it's ridiculous a person like me thinking of doing something like that when I knew there was something wrong with me.*

Such an attitude can often lead to 'helplessness' (Raaheim, Wankowski et al. 1991), and this may be exacerbated when feedback on early assignments conveys a message implying absolute cultural values and beliefs within the University which must be adhered to (Ivanic, Clark et al. 2000). Such values may be soon internalised. Susan said of an essay on psychology:

> *I managed to get 'excellent' for it and I spelt psychology wrong all the way through. That's totally embarrassing, it's unforgivable to do that.*

Another common response to the written work of a dyslexic student, when many versions and revisions precede the finished product, is to doubt that the author has any problems because the work is so good (Cairns and Moss 1995). Victoria expressed frustration with course tutors who were unaware that she had spent many more hours on her work than younger undergraduates, whom she perceived as able to write an essay the day before it was to be handed in. Victoria was voluble about the stresses of writing:

> *Panic! I do mean sheer panic. Put it away, have a wobbly, get the wretched thing out again the next day, have another wobbly, and then very slowly it can all start to sink in, bit by bit.*

Having begun to write, Victoria explained, **'the words take a very very long time to come forward.'** This may of course be particularly acute in examinations, where rapid information processing is called for, and other students are visibly writing at neighbouring desks. This is potentially the most stressful time for most students, but is usually more so for dyslexic ones (Gilroy 1995), and more so again for those from 'non-traditional' backgrounds who fear exposure (Peelo 1994). Charles had walked out of several examinations, commenting that his *'brain just literally locked.'*

Another potential source of panic is reading aloud in a group. Many dyslexic students may have had embarrassing experiences at school with this, but mature students are likely to have been at school in an era when humiliation and punishment were commonplace (Peelo 1994). Even if reading aloud is not called for, panic may arise in a seminar, when short-term memory and comprehension are simultaneously taxed. Mel explained this:

> I developed the feeling like everybody's talking on a different level, it's going too fast, and I'm not, I'm not hearing the words, I'm not picking up what they're saying and I can't write it down, because it just comes and - like that reduced me completely. I had to sort of go out.

In addition to the stresses of the course and of adjusting to the 'dyslexic' label, a mature student may have domestic responsibilities (Riddick, Farmer et al. 1997; Singleton 1999). As the short-term or working memory is often a dyslexic person's greatest problem area (McLoughlin, Fitzgibbon et al. 1994), carrying mental lists of family-related tasks may make it even harder to cope with a studying agenda. Furthermore, a feature of University life liable to be conspicuous to a student from an Access or BTEC course is that the staff do not provide a structure for private study (Gilroy and Miles 1996). In addition, pre-selected readings and digests are not often provided, and the overall quantity of reading expected is much greater (Gilroy 1995).Time management and personal organisation, frequently areas of difficulty for dyslexic people, may therefore be taxed; this is potentially a greater problem for those who are employed while studying.

Learning support

This is an area where students' experiences can be vary variable. At Spenceton University, which was using a medical model of dyslexia and learning support at the time, Peggy and Fenella were offered study support sessions delivered by a counsellor, whom they both experienced as preferring to focus on their emotional lives rather than their academic tasks. Nevertheless, there is clearly a great deal of emotional content to learning support; as Peelo points out, the first task is often to confront the issue of special arrangements (such as extra time in examinations) feeling like 'cheating' (Peelo 1994). Next, when examining learning styles and time management on a one-to-one basis, material about a student's domestic life inevitably comes up and this needs sensitive treatment (Raaheim, Wankowski et al. 1991). A mature student may have children to look after as well as a job to cope with, and as the dyslexic brain runs in families, one of the children might be dyslexic as well. For Lisa, it was taking her daughter to be assessed by an optometrist and a psychologist which had made her confront her own processes. She said: *'I suppose it was making me re-live what I had gone through.'*

At the time when the students in this study were interviewed, Litherland University had only just started to employ one part-time, sessional learning support tutor. Support for dyslexic students was seen as a welfare role, and they were assisted in claiming the Disabled Students' Allowance mainly in order to obtain ICT equipment. For Robert, this brought about a transformation; he took to voice-activated word-processing with enthusiasm, because he preferred to speak his ideas aloud, quite apart from his difficulty with handwriting. Peggy was also very positive about word-

processing, as it allowed her to write out what she described as the 'little chunks' of her ideas and then cut and paste them. Victoria on the other hand hated cutting and pasting, because she disliked not being able to see text when it was on the clip-board; in addition, she felt that she needed so much repetition of keyboard procedures in order to learn them that it was quicker for her to write by hand. She did however like the way Burnside placed dyslexia support as part of Student Services, and thus on a par with the careers service, money advice and so on. (The 'non-traditional' student may be particularly aware of a need to feel 'normal.')

However, another feature of Victoria was her belief that she could not improve. Talking about her personal organisation, such as filing her papers, she said: *'Why waste my time sorting everything out? Things'll be no better.'*

Then she added:

> *Why won't my brain work, and say 'Victoria, this is how you do it'? Now why? Is this dyslexia, again? Or as I keep saying, is it total idiocy?*

Victoria seems to be a clear case of someone in need of 'reframing,' or changing the framework in which she views her own abilities (Gerber, Reiff et al. 1996). Morgan and Klein suggest that students' self-esteem can be markedly improved by helping them to see the extent to which their previous teachers were responsible for their educational failures (Morgan and Klein 2000).

Under a more social model, learning support tutors aim to help students to accept the person they are and what they can do, as well as what it is not worth trying to do. In some ways, this may be particularly successful when the support tutor identifies herself as dyslexic, which was the case at both Belleville and Burnside Universities; students were able literally to identify with the tutors. (This is probably less valuable when the tutor encourages an 'us and them' attitude, or a 'we dyslexics against the world' approach; if the tutor is dealing with her personal issues by making a 'mission' out of dyslexia, the results can be quite unhealthy.)

Victoria is also an example of a mature student who had the confidence to challenge her lecturers if they seemed to have forgotten she was dyslexic. She was indeed encouraged by her tutor to keep reminding them of her needs (such as having copies of overhead transparencies rather than being expected to copy quantities of text from the screen). Victoria spoke quite proudly of her assertiveness about this; however, the topic showed that her department at Burnside University was quite happy not only to place any problem within the student, but also to leave her with the responsibility to ensure she was taught in a helpful way. Rachel's course at Litherland was quite different; she appreciated the way one of her lecturers would write technical terms on the whiteboard *'in case any of you need the spellings.'*

Charlotte wished tutors on her course at Spenceton would be similarly mindful of the differing needs of their students. She hoped that her personal tutor would inform all her lecturers, so that she could avoid having to say:

Hi, I'm Charlotte W......., I started in your new course today and I just thought I'd like to tell you that I'm dyslexic.

'I didn't want special treatment,' Charlotte added; *'I just wanted it known.'*

Ways in which lecturers can help dyslexic students are summarised from a disability perspective in the report of the National Working Party on Dyslexia in Higher Education (Singleton 1999).

Conclusion: what we can learn from this model

Much of the above applies to all dyslexic students; however, the experiences of mature students from 'non-traditional' backgrounds help us to focus on the key issues. For any student, acceptance of the label 'dyslexic' means accepting that their difficulties are in some way the result of factors within themselves, often presented as disabilities. The dyslexia model can offer an explanation, but at many Universities it involves the student in internalising a deficit model of their own cognitive patterns.

The key to future progress lies in the attitude of the academy. Preece, though not writing about dyslexia, makes a relevant point:

> *The mass university no longer enjoys the protected autonomy of its old elitism. Instead it must respond to market forces and be accountable to society(Preece, Weatherald et al. 1998 page 2)*

Preece and her contributors argue for a different kind of higher education to accommodate new participants, and for 'the need to recognise 'difference' in both strategy and delivery methods if under-represented groups are to benefit' (Preece, Weatherald et al. 1998 page 6).

As we are now in an era of 'lifelong learning' (Fryer 1997), a problem which is going to need a great deal of attention in the next few years is the tension between academic rigour in assessment and 'student-centredness,' the latter being essential if 'non-traditional' students are to be supported (Johnston and Croft 1998). Jary and Parker list ten 'issues and dilemmas in the expansion of higher education' which have to be resolved; among these, they include:

> *Tradition versus change*
> *Excellence versus equity*
> *Exclusion versus inclusion and access*
> *Professional control of the curriculum versus student-led provision (Johnston and Croft 1998 page 4).*

Both Preece and Jary & Parker are writing about a broad inclusivity agenda, but the points which they make are relevant to the matter of dyslexic students. Dyslexia, whether defined as a neuropsychological 'condition' or as part of the natural spectrum of human brain development,

confronts academic autonomy and oligarchy as clearly as any other aspect of the debate about widening participation.

At the time of writing, the Higher Education Funding Council is encouraging Universities to 'rationalise,' which in many cases means retreating from the heady expansion of the 1990s. Whatever their eventual size, Universities will continue to need first of all to recruit and secondly to retain students. As the National Working Party points out, 'many of the changes of practice in teaching and learning that are vital for dyslexic students can also be beneficial for other students' (Singleton 1999 page 169).

However, in the author's opinion there is probably a long way to go before there ceases to be a 'traditional' background for students to come from, and an equally long journey to the point where the autonomous model of academic literacy (and indeed the concept of dyslexia as a defect) cease to hold sway. Lea and Street (2000) conclude that the very notion of a learning support unit implies that students lack skills, and ignores their interaction with institutional practices. They add that for students, their own identity as writers is important; furthermore, is knowledge 'transferred,' or 'constructed through writing practices'? (Lea and Street 2000, page 45). These issues

> are located in relations of power and authority and are not simply reducible to the skills and competences required for entry to, and success within, the academic community (ibid. page 45)

A radical view is that eventually, reading and writing themselves will come to be seen as the skills of a medieval clerk, as advancing technology changes the cognitive make-up of 'dyslexic' people from an apparent deficit to a positive advantage (West 1997). Meanwhile, we have large numbers of people who are struggling to find a sense of identity as students in higher education; many are dealing with being 'mature,' with being 'non-traditional' in background and with being 'dyslexic,' and frequently with all three. The concept of 're-framing' learning difficulties/dyslexia by the individual (Gerber, Reiff et al. 1996) involves 'reinterpreting the learning disability experience in a more productive and positive manner' (page 98). Maybe the way forward lies in reframing by the University: a move away from labelling the student as having a 'problem' to seeing any such 'problem' as one for the institution. As Morgan and Klein put it:

> This change in emphasis can be instrumental in allowing the adult student to re-enter education with a positive outlook. In response to the widening access to further and higher education, all teachers need to re-evaluate their approach to teaching to accommodate larger numbers of students with a wider range of individual needs (Morgan and Klein 2000 page 137).

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Address for correspondence: dpollak@dmu.ac.uk

Dance, desire and dyslexia - Random thoughts on creativity

Jane Graves

Beginning to write this paper is like opening a Jack-in-the- Box' - which means I have no idea what is inside. All I know is that the title is 'Dance, desire and dyslexia'. So it turns out that the box is triangular rather then square. - which appeals to me. What I do know is that the following is not a closely reasoned argument. It is more like a walk-about. Already there are words written on the outside of the box, which continue to linger in my mind like a hidden wave in water. These are the words - spoken by the dancer Merce Cunningham.

'You have to love dancing to stick to it. It gives nothing back, no manuscripts, no paintings to show on walls and maybe hang in museums, no poems to be printed or sold, nothing but that single fleeting moment when you feel alive. It is not for unsteady souls.'

Hanging on to a fleeting moment is as disturbing as it is elusive. So summoning what steadiness of soul I possess I open the box and come across a statement from Freud which reads ' It is the transience of life which gives it beauty.' And I would add it is only through our creativity that we are able to be fully in touch with the joy and sadness of that ephemeral moment - the moment when we run the risk of being totally alive. Paradoxically, this requires us to be fully in touch with our mortality. The creative life is the lived life - and it cannot be lived without risk. Although dance, as defined by Merce Cunningham, serves as a sublime metaphor for its essence, creativity is protean in its manifestations. It cannot be confined to traditional creative activities. It is an attitude of mind rather than any specific action.

As a psychoanalytical psychotherapist I employ a psychodynamic model of the mind. In this context creativity comes into being when the unconscious comes into conflict with the conscious mind. The conscious mind is the one we rely on, the one that supports the comforting illusion that we are rational and reasonable. But whether we like it not the unconscious is the more powerful, making most of the decisions and doing most of the work for us - if we let it. The unconscious is outside time and space, so it's not surprising that we are mostly unaware of its existence. The deepest darkest part is completely dominated by the pleasure principle, demands instant fulfilment and cannot tolerate frustration. It is a chaos of wishes, unacceptable, contradictory, and incompatible, primarily powerful instincts of love and aggression in their most primitive form. It exerts a continuous and inescapable pressure on the rest of the personality. It is wordless and totally inaccessible. It is also the source of our drive and energy.

This is the Freudian Id. The id's constant attempts to emerge into consciousness are in fact very successful - but only in an indirect form. Repression is the strategy which consciousness employs to evade the id - but the id forces an escape hatch emerging through symptoms which the conscious mind does not understand. As I see it, these so-called symptoms are the ground work of

our creativity. But it needs a creative encounter with an experience - sometimes with the aid of a therapist - to change this internal dynamic from negative to positive.

One could say, for many at least, that this radical change is an attempt to rediscover a lost skill - that of play. Regrettably, play is often seen as the prerogative of the child. Children play in the most dreadful circumstances - even in concentration camps. One could even say that play is a symptom which arises as a result of inner conflict - but one that is fruitful. Play not only links the unconscious with the conscious, but converts the most painful experience into the positive. In *Beyond the pleasure principle* Freud identifies the significance of the 'fort-da' game (gone - come back) in which his little grandson used a cotton reel on a string to deal with his mother's absences. This child of eighteen months threw the cotton reel under the cot (where he could not see it) and then retrieved it to prove it still existed. (Mother would return.) As Freud puts it 'Under the dominance of the pleasure principle, there are ways and means enough of making what is in itself unpleasurable into a subject to be recollected and worked over in the mind. The consideration of these cases and situations, which have a yield of pleasure of as their final outcome, should be undertaken by some system of aesthetics...' Or as Rilke says 'Beauty is the beginning of a terror that we are just able to bear.' Rodin expresses a similar sentiment with the phrase ' What we call 'ugly' in reality can in art become great beauty.

However we define it I would see that play is our primary aesthetic experience, converting the painful into the pleasurable. Unfortunately, many adults have lost the capacity for imaginative play - possibly because our educational system knocks it out of us in favour of problem-solving - which is seen as more 'realistic'. Secretly, however, in the dark night, most people have the chance to play - through dreaming. In our dreams at least we are all creative artists. What Freud identifies as the mechanisms of dreams, 'condensation, displacement, and symbolisation' - these are the very stuff of creativity. They not only conceal and reveal at the same time - but they give us the means of communication with ourselves as well as with others. Condensation turns the dream into a story - often an image. Displacement obscures the unwelcome unconscious meaning - and symbolisation means we can communicate with others as well as ourselves. Like Shakespeare's Bottom in a Midsummer Night's Dream we are wonderfully changed. Dream on!!

It has always seemed strange to me that Freud, who paid such a detailed attention to dreams - The interpretations of dreams is over seven hundred pages - should have been so cynical about the image when it seems so essential to many creative activities. Psychoanalysis was dubbed the 'talking cure' and many therapists continue to feel words are superior to images. It seems clear that Freud's empathy with literature was infinitely greater than his relationship with the visual world. Not only is this apparent in the quality of his writing (his case histories are brilliant novellas) but he would quote long passages from Shakespeare - in English. Given that until 1938 he lived in Vienna, the world of Klimt and Schiele, it seems even odder that his understanding of the visual world is so inadequate.

This bias was obviously incompatible with my work in an art and design college - and my encounter with dyslexia proved to be a wonderful corrective. As the dyslexic students flooded though my door, they changed me considerably more than I changed them. As they came to trust

me they confided in me the power of their own internal imagery. I was asked by a course director to see if I could find out why a disturbed young man spent so much of his time travelling round on the tops of buses. It turned out he was sitting there with his eyes shut watching his own internal cinema! (This subsequently emerged in his very successful illustration work.) More sadly, another student who had desperately wanted to read physics at University said he could see and rotate images in his mind - but he couldn't cope with the text books. He could express his thoughts in diagrams and there really seems no good reason why examination systems at all levels should not offer this as an alternative mode of assessment. After all Einstein said 'If I can't see it I don't understand it!'

This capacity, to judge visual information as a whole and to change view-points in the mind, could be described as visual-spatial ability. It is commonly found in students who attend art/design colleges - and would seem to be the key to their creativity. It is rare, however, to find a visual artist/designer who is prepared to attempt to put it into words. Fortunately, a sculptor, Steve Furlonger, has given us a beautiful description of this aptitude. '.... sculpture shows me that we have the capacity to evoke imaginatively the world out there ...in here...coping with the external world and its vicissitudes, and these are triggered both consciously and unconsciously by image, narrative and correspondences.

It is more surprising to find a comparable viewpoint put forward by a scientist. Stephen Jay Gould, the evolutionary biologist, writes this of a fellow scientist. 'McLintock does not follow the style of logical and sequential reasoning which is often taken as a canonical mode of reasoning in science. She works by a kind of global intuitive insight. If she is stuck on a problem she does not set it down in rigorous order, write down the deduced consequences, and work her way up step by step, but will take a long walk or sit down in the woods, and try to think of something else, utterly confident that a solution will eventually come to her 'in extenso'. He goes on to say that he works in the same way. 'I never scored particularly well on so called objective tests of intelligence because they stress logical reasoning and do not capture this style of simultaneous integration of many pieces into one structure. ' What a wonderful definition!

I suspect there are many people with a similar thinking style - but I wonder if they have learnt to keep quiet about it. Which is strange in that these people may turn out to have an easy access to their creativity. Obviously not all of them would be diagnosed as 'dyslexic' but they might be said to have a 'dyslexic learning style' in the sense that they would benefit though being taught by the same strategies that benefit dyslexics. Certainly, teaching cultural studies in an art and design college, I found that videoing lectures, providing sets of notes and encouraging students to tape-record lectures benefited all my students - and indirectly me.

Nonetheless, it is still often assumed that verbal literacy is the end product of human development. This is part and parcel of a view of human development which sees 'humankind' (or perhaps one should one say in this context 'mankind' ?) as the ultimate in the perfectly adapted species. Darwin does not seem to have supported this teleological view. From the first he insisted that 'natural selection has been the main but not the exclusive means of modification' and Adam Phillips in his

book Darwin's worms identifies Darwin's celebration of the essential role of the humble earthworm in making and sustaining soil. As Marx so aptly put it ' Nature is man's inorganic body'. I find Darwin's humility appealing. In the same way I am deeply touched by the concluding paragraph of Claude Levi-Strauss autobiography which begins with the words 'The world began without man and will certainly end without him.'

Not surprisingly I am enthusiastic about Stephen Jay Gould's view on the development of language. He suggests that literacy arose accidentally, through co-opting 'spandrels', areas of the brain which originally had no specific use - although he admits 'Reading and writing are now highly adaptive for human beings'. Even this statement is open to question.   For example, written history gives us one version of the past, but oral history, ritual and dance are alternative forms of remembering and celebrating. Carnival brings the individual into contact with conflicts between the individual and society. The Trickster who goes walk-about, exuberantly celebrating the oral, anal and phallic ecstasies of the body, reminds us of the joys of infancy - before we had succumbed to the pressures of pot-training and the loss of the breast. Such events also collude with the pleasing fantasy that in the infancy of the race there were no such pressures - an attractive myth!

Nonetheless myth is an essential form of play which helps us to resist an excess of conformity. And reminds us of dance - which is always now and cannot be recorded. It is not always understood that remembering also includes forgetting. We never know the whole of language at any given moment. As is sometimes said 'Language speaks us rather than we speak language.' In other words, language is like a merryground that we leap on to for a while before we fall off. So of course is memory - no matter if the unconscious and long term memory never lose anything,

This kind of thinking is much needed - and frequently undervalued. Unfortunately in the literacy game of the hierarchical society, Apollo rather than Dionysus, is ruthlessly re-established through the concept of 'intelligence'. It often seems to me that the educational system is primarily designed for failure rather than success despite repeated attempts to make education inclusive rather than exclusive. The recognition of a need for late opportunities - and late development - may yet help to challenge this. It is certainly good news for dyslexics who are often late developers.

I like to think of dyslexia as a healthy form of rebellion against destructive social pressures, a celebration of individuality - and, equally important, the ordinary. Rather than idealising 'superiority' and concentrating on special people let us think about and celebrate difference. To celebrate 'difference', is the first step in embarking step on a creative relationship with ourselves. And a creative relationship with others. We can learn to disagree creatively - meaning to hold two different points of view in our minds at the same time. In psychodynamic terms, this can be understood in terms of the Oedipus complex. As Ronald Britton defines it, observing the parents' relationship 'We can also envisage being observed (as well as observing.) This provides us with a capacity for seeing ourselves in interaction with others and for entertaining another point of view, for reflecting on ourselves whilst being ourselves.' It is only if through tolerating these alternative viewpoints that we become capable of self-development - by which I mean discovering and sustaining an individual learning style.

With this kind of thinking in my mind, it became harder and harder to stick to any straightforward definition of dyslexia - certainly I could no longer put my hand on my heart and say that 'Dyslexia is a disparity between spoken ability and problems with the written word.' From a negative point of view, the most consistent problem, and the source of most major difficulties was poor short term memory. On the positive side I found that my students often had a capacity to understand sophisticated ideas despite simplistic and naive expression of them in verbal terms. For example, poor word recall handicapped them particularly when they were anxious - as in presentations. Equally, they were frustrated when their rich thinking was reduced to banal commonplaces by an insensitive tutor.

And then I began wonder. Were they really so bad with words - or did it depend on what kind of words? Certainly writing course documents will hardly be their scene. On the other hand, their often bizarre word order can be turned to good effect. We have to remember that among the dyslexic are the poets and novelists - Keats and Shakespeare would make a good starting point. Anybody who could write

> ' If it were now to die
> 'Twere now to be most happy, for now my soul
> Has her content so absolute that not another moment
> Like to this succeeds in unknown fate.'

- this man, called Shakespeare, knew something about awkward word order! Despite its creative potential awkward word order remains one of the most frustrating symptoms of dyslexia. Putting it on an more mundane level, I think the student who tried to say 'Knee-high to a grass-hopper ' but ended up saying 'Chest-high to a knee-hopper' certainly had something going for him! But I don't think he saw it that way.

It is often said that dyslexics benefit from multi-sensory modes of teaching. This may be true for many of us. I sometimes wonder if there is a correlation between dyslexia and synaesthesia - defined in the dictionary as 'production of mental sense impressions by stimulation of another sense.' This experience is vividly described in Richard Cytowic's *The man who tasted shapes* or Vladimar Nabakov's autobiography *Speak memory* in which he recalls his rich Russian childhood in scenes in which every detail is omni-present. On most of my dyslexia workshops there is somebody who reveals themselves to me as being synaesthesic. On one occasion, when I remarked that some people think that Wednesday is green, a young man burst out 'Of course Wednesday is green. Everybody knows that! '.

I don't think synaesthesia itself can be equated with the creative process because it can be so overwhelming in its exactitude, stultifying rather than liberating. Something more has to happen - the magic whereby one sense is translated into another with such a vivid impact that it leaves us breathless. I am thinking of Shakespeare's 'Love's feeling are more soft and sensible than are the tender horns of cockled snails' in *Love's labours lost.* If you've ever touched a snail's horns and felt the horror of that impact, however gentle, as the vulnerable creature hides in its shell, you'll know exactly what he means. In terms of creativity it is not synaesthesia but an experience

in which we smell a word, taste an object, see a voice, feel a silence which gives us access to the sensuous experience we need to access our most profound unconscious gifts. Proust's understanding of this is disturbing. In the final volume of his novel *In search of time lost* he describes how he had desperately struggled to find a theme for his unwritten novel. Accidentally, he steps on an uneven paving stone, and as he repeats the movement to the amusement of passers-by he was able to recapture the past. 'Almost at once I recognised the vision; it was Venice of which my efforts to describe it and the supposed snapshots of memory had never told me anything, but which the sensation I had just experienced, that I stood as on two uneven paving stones in the Baptistery of Saint Mark's had, recurring a moment ago, restored to me complete with all other sensations, linked on that day to that particular sensation, all of which had been waiting in their place - from which with imperious suddenness a chance happening had caused them to emerge in a series of forgotten days. ' Not surprisingly he called this final volume *Time remembered.*

Thinking about this, it strikes me that what is most profoundly important is the capacity to translate from one language to another - or even to speak two at the same time - in this case sensation and words. Dyslexics are usually hostile or indifferent to clashes between two different symbolic systems - for example words and images. I asked one graphic student how he coped with using words - and it became clear that he regarded words as a form of drawing. On the other hand, another student, who felt she was in the wrong subject area, said when she went into the room called words the light went off in the room called images. She could reverse the procedure - but she could not persuade the two to talk to each other.

Translation from one visual medium to another may be easier. It is interesting to speculate how dance, which is to me the quintessence of intangibility, can be interpreted in the visual world. I'm never quite sure how to read Degas's dancers. Is he celebrating the substantial middle aged woman trying to imitate the nubile grace of the young dancer? Certainly there is here a delight in the human body in its plenitude. Rodin's erotic sculptures for me, however, capture the essence of dance - a static sculpture which serves as a metaphor for movement, and liberates the inner spirit of many famous ballet lifts.

It may now sound as if I'm trying to abolish dyslexia. This is certainly not my intention. Nobody who has listened to the regular litany from those who have been called 'lazy' and 'stupid' systematically can feel any thing but moral outrage. As one young woman put it to me, 'If you have a problem and it's not diagnosed your personality grows round it.' A severely dyslexic friend of mine wrote a painful account of his fifty years of suffering, bitterly recalling his school days. As he puts it 'I overgot the red pen .....What no one seemed to notice was the imagination leaving the essays for the sake of safety. In the minds of teachers I was improving but I was getting lost and worse. For the science that was my love left me. There was luck coming through and things worked out not too badly in the end. I made it to art school and books and found escape. I still feel the loss of science'.

Recently, a taxi-driver described to me his beautiful garden which had been destroyed when the council demolished his flat. But he had resurrected the memories of the lost garden by creating stained glass windows in his new house. I expressed my deep envy of this and he responded by

saying 'I was born in the wrong class - I love, opera, ballet - all those kind of things - but I 'm stupid. I can't spell.' I explained to him that there was a difference between a powerful visual memory and the kind of memory needed to retain and recall written language, and suggested he was probably dyslexic. It was a wonderful moment. Subsequently, we met again and he behaved as if he'd never seen me before - but managed to include in the conversation a reference to his dyslexia! This reminds me of a student who wrote 'Being told I was dyslexic was one of the most shameful but also joyous experiences in my life...It lifted the phantom 'D' cap off my head. '

Because I am a psychotherapist many people assume that I think of dyslexia as an emotional problem. I am well aware that losing a word, or a sudden attack of stammering may have an unconscious meaning. And sometimes students have told me that they believed their dyslexia had been caused by emotional difficulties. Two students claimed that it was the result of sexual abuse, meaning 'I can't read because there is something I don't want to know '. But, whether they were right of wrong, it can also happen the other way round. A middle-aged student, sulky, resistant and aggressive was referred to me because she was uncooperative. She had had a breakdown, in which she had become unable to read. As we managed to generate a dialogue between us I picked up on some confusing evidence. Finally, I diagnosed her as dyslexic. Almost overnight she became cooperative and friendly and started to work well. (She subsequently said that this diagnosis had saved her life.)

Moving from a prestigious art and design college to working in an underprivileged and horrendously deprived area has brought me in an abrasive contact with the brutal label 'illiterate.' It sometimes seems to me that every person who comes to address our local Tenants meetings begins by reminding us that we live in an area in which there is 22% illiteracy. I have no idea what how this figure is arrived at. How do we define 'illiteracy'? Nobody has knocked at my door asking me if I am illiterate! And I can't help thinking about the 70% in prison who it seems may be dyslexic. And we should remember criminals are tremendously creative - though not in ways that society finds very helpful.

This systematic abuse and contempt need to be challenged and addressed - if we are able to use our creative abilities positively. I personally regard 'laziness' as a distress call which needs to be responded to by therapeutic help - or in the case of dyslexics by appropriate teaching. Nor do I believe in 'intelligence'. Fine to celebrate difference - but don't let's arrange it in a hierarchy of superiority and inferiority. 'Stupid' is a term we use to abuse our enemies - like 'immaturity'. (In psychoanalytical circles it's 'underanalysed'). We're all of us abnormal - thank God!!

I must confess I think of dyslexia as an umbrella term. As a result, I have become more and more suspicious of a Government policy which continues to prefer a brutally hard-line distinction between the 'dyslexic' and the 'non-dyslexic' as I suspect it is a way of saving money - and a justification for failing to offer teachers at all levels the support they need. Nor would I see creativity as the exclusive provenance of the dyslexic. What strikes me as the meeting ground between the dyslexic and the non-dyslexic (assuming this is a reliable distinction) is that creativity only takes place when you can wipe the slate clean - 'forgetting in order to remember better.' For example, the poet Stevie Smith told me that she did the Times Crossword puzzle every day - but with the clues from the previous day!

What is remembering? Dyslexics are of course not the only ones with poor short term memory. They frequently have excellent long term memories, but they are handicapped by the fact that they have trouble in accessing them. In the consulting room the strategy for remembering is free association and this leads us into a new state of mind in which thoughts and feelings can talk to each other. It is often forgotten that certain thoughts are only possible at certain levels of feeling, and certain feelings only possible at certain levels of thought.

It is perhaps because of this that artists, designers, poets, novelists, dancers, all make use of this method of free association as a creative strategy. Major roles in classical ballet are usually passed on from dancer to dancer. It is the music that often serves as the memory bank and the stimulus for creative interpretation. Rhythm - along with rhyme - is one of the basic learning strategies. (This is why we teach our children nursery rhymes.) Poets rely on these skills to find out what they want to say. Many, though not all, write spontaneously and are as surprised as their readers to find out what it was they wanted to say.   In Keats words ' If poetry does not come as the leaves on the tree it had better not come at all.'

Memory may be located in the body as much as the mind - for how can we draw a distinction between them? I have in my consulting room a beautifully crafted wooden box which contains a secret - a cast of the Willensdorf Venus. This small figure with enlarged breasts and swollen stomach is usually interpreted as a fertility symbol. Fertility in bodily terms becomes symbolic in psychic terms. As we know, it is not unusual for artists or writers to think of their creations as children. Not only an endless chance of renewal but also the possibility of seizing at a chance illusion of immortality.

Dancers are blessed in that they are spared this illusion. It was assumed that as they age their greatest performances can only live in the memories of others, who may not remember the precise steps - but through experience or identification with the dancer's performance can enlarge their own creative being. Strangely enough, many dancers now continue dancing into old age, remembering and reminding their own bodies. Like Anna Pavlova they dance into eternity.

I assume that Merce Cunningham believes that dance cannot be recorded though film or video. Its glory lies in its ephemeral - and secret nature. In both psychoanalytical and aesthetic terms the most important mode of communication is unconscious. It is not just in dreams that the unconscious can communicate through powerful symbols. A symbol is something which is capable of being both itself and yet of representing something else. Individual symbols can be codified and developed into a language. When we use the term language we tend to think of the spoken and written form. But there are many different forms of language, visual, musical, and the multifarious languages of the body itself.

Gestures are a form of communication and we manage to say a great many things with them. Think of the wealth of meaning that can be conveyed through the twitch of an eyebrow! Gestures, which may be spontaneous are honed and refined in dance to a pitch of intensity and consistency. Indian classical dance is probably the most sophisticated physical language. Classical ballet has a crude sign language called mime - which is considerably less expressive than the dancer's dancing.

It is only the sign language for the deaf which can lead us into a comparable sophistication - as eloquent as it is beautiful. And according to Oliver Sacks it enhances the development of visual-spatial ability in the mind. Maybe it would be a good idea if we all learnt sign language as our first second language. I suspect that dyslexics would benefit would find signing a natural and spontaneous mode of expression. Sign language, like dance, liberates us into a 'Now ' in which joy and mortality go hand in hand - what Merce Cunningham calls 'the single fleeting moment.'

Creativity is certainly not confined to the dyslexic, but undoubtedly dyslexia can serve as a key to understanding something of the creative process which releases us from egocentricity and enables us to discover our proper place in the universe. Lacan writes 'The Emperor Choang-tsu dreams he is a butterfly. When he wakes up, he may ask himself whether it is not the butterfly which dreams that he is Choang-tsu.' It takes all our creativity to grasp our own bewitching insignificance. Few people have summed it up better than Stephen Hawkins when he writes 'The earth is a medium-sized planet orbiting around an average star in the outer suburbs of an ordinary spiral galaxy, which is in itself only one of about a million galaxies in the discernible universe.' So it no turns out that my Jack-in-the-box is a dancer, which has turned into a butterfly which flies away into a universe beyond my comprehension. As Merce Cunningham say, such fleeting moments are not for unsteady souls.

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Marking the visual

Ian Padgett

Introduction

The three distinctive models of teaching and learning defined as "Frames of Mind" by Howard Gardner represent the evolution of education from the informal to the formal. His model can also be interpreted as representing a transition from an experiential or multi sensory system of learning to one which is almost wholly dependent on symbolic representation and abstract codification for its communication and reception.

Thomas West argues that contemporary educational orthodoxy privileges a minority of individuals able to make the necessary "neural dominance adaptation" (Geschwind, Gallaburda) required for reading, involving a single or limited cognitive focus, and that the insistence on this system of education may have been appropriate to the needs of the industrial revolution but not to a post-industrial age. Stephen Rose suggests that continuing evolutionary processes in culture and brain/mind adaptation may, given time, allow alternative cognitive processes and forms of communication to replace the dominance of the orthodox symbolic form.

We describe most classroom teaching as "talk and chalk", in higher education we have a requirement for an oral examination, the "viva voce". Unfortunately Gardner does not differentiate, in the "Intelligences" subsection of his theory, the cultural imperatives that led to the changing emphasis and to a written language as a dominant indicator for intelligence. He highlights communality in outcomes as linguistic and interpersonal in all three categories, in a) he indicates oral linguistic instruction, in b) oral versus books and in c) he completely omits oral transmission. We can deduce from this that the logical and mathematical become dominant at the expense of oral communication in the education process.

One of the most prolific and best selling contemporary publishers, Peter Kindersley of Dorling Kindersley Publishers, developed his business based on the juxtaposition of words and images on the printed page. He said "I realized there was a missing link between words and pictures. Words are incredibly slow and pictures are incredibly fast. When you put them together they work in completely different ways. We needed to find ways in which we could slow down the pictures and speed up the text." Not surprisingly, Dorling Kindersley Publishers were quick to seize the possibilities opened up by multimedia applications which enabled the spoken word to overlay text and image and which Peter Kindersley describes as "the most incredible breakthrough in terms of getting people to learn actively".

Historical context for the dominance of written language

Eco describes the way in which hieroglyphic writing is composed, in part, of iconic signs. "Some are easily recognizable such as eagle, owl, bull, snake, eye, foot, man seated with cup in hand. Others are stylized, the hoisted sail or an almond like shape for a mouth, the serrated line of water ..." He explains that these signs are ideograms that work by rhetorical substitution, "thus an inflated sail serves to represent the wind, a man seated with a cup means drink" and describes how the limitations of representing everything ideographically led ancient Egyptians to turn their ideograms into simple phonograms, "Thus to represent a certain sound they put the image of a thing whose name sounded similar".

Eco suggests that the discovery that combining different hieroglyphs created evocative visual emblems inspired scribes to "experiment with increasingly complicated and abstruse combinations, and they began to formulate a sort of cabalistic game based, however, on images rather than letters." The privileged group who understand their self developed code depart from the associative non-linear, un-sequential (potentially dyslexic) logic of the visceral or the intuitive and widely known. Later in history the political, social and intellectual hierarchies associated with power and control perpetuate the mystification and retain ownership of the keys to the code that have become synonymous with power. "The symbols were initiatory because they were wrapped in an impenetrable and indecipherable enigma, to protect them from the idle curiosity of the vulgar multitudes."

Kircher defined a symbol as "a nota significativa of mysteries, that is to say that it is the nature of a symbol to lead our minds, by means of certain similarities, to the understanding of things vastly different from the things that are offered to our external senses, and whose property it is to appear hidden under the veil of an obscure expression." Kircher understood, as Bacon and others had, that ideograms were universal characters referring to ideas, and not alphabetically to sound, confirming this departure from the experiential or tacit mode of expression to hieroglyphics that supported the assertion of a new order of dominance.

Contemporary research has revealed that Amerindians pictograms were a flexible pictorial language, which if allowed to develop might well have resulted in a language form that was not based on concealment. Unfortunately the social structures imposed as a consequence of imperial intervention inhibited this avenue of semiotic and transparent language evolution.

Kircher says "symbols cannot be translated by words, but expressed only as marks, characters and figures". One rationale for the mystification of written language is given by Umberto referring to Swift's imagining of "an assembly of professors bent on improving the language of their country" in Gulliver's Travels. "The first project, you will recall, was to abbreviate speech, reducing all polysyllables to monosyllables and eliminating verbs and participles. The second tended to abolish all words completely, because it was quite possible to communicate by displaying things (a difficult project because the speakers would be obliged to carry with them a sack containing all the objects they planned to mention)."

Ridicule and irony are powerful tools of political rhetoric. The Enlightenment had so subverted the notion of the natural to be the notion of the unintelligent that fables such as Gulliver were a complexity of paradox, that can be interpreted on many levels. It may be understood as a political critique or as social observation, highlighting the mutual incomprehension between the classes. The imperative to spread literacy was in part stimulated by a call for social reform and in part by the needs of the industrial process. Notions of improvement and progress required a subversion of the old order supported by a ruling class who were previously the minority and who held the keys to the code of written language.

Changing relationships between text, image and oral communication.

In the contemporary context we are forced, ironically, to consider the imperative in consumer culture of imbuing a commodity with social values. This new dimension to language has introduced the concept of 'product semantics'. Umberto suggests "this primigenial language should incorporate a natural relationship between words and things. The primigenial language also had revelatory value for, in speaking it, the speaker would recognize the nature of the named reality."

Cassirer argues that the non-mystification linguistic order sets an ideal that all subsequent creative endeavors not set in the context of formal language are doomed to failure. I would contest this in the sense that a linguistic departure from the descriptive into a symbolic representation only establishes a space for creative reflection. But it is not a cause and effect mechanism, an interaction with the metaphysical is possible through notions of the other, which differentiates mystification from the mystical.

Cassirer redeems himself in his conclusion to Language and Myth, describing the power of metaphor and stating, "although language and art both become emancipated in this fashion from their native soil of mystical thinking, the ideal spiritual unity of the two is reasserted upon a higher level. If language is to grow into a vehicle of thought, an expression of concepts and judgments, this evolution can be achieved only at the price of forgoing the wealth and fullness of immediate experience. In the end what is left of the concrete sense and feeling content it once possessed is little more than a bare skeleton. But there is one intellectual realm in which the word not only preserves its original creative power, but also is ever renewing it; in which it undergoes a sort of constant palingenesis, at once a sensuous and a spiritual reincarnation. This regeneration is achieved as language becomes an avenue of artistic expression. Here it recovers the fullness of life; but it is no longer a life mythically bound and fettered, but an aesthetically liberated life."

In his introduction to the exhibition, "Verbal Inter Visual" Chris Wainwright expresses the current state of developments, misunderstandings, and, by implication, transition of the "binary" languages evolution disrupted by the spoken word. He says "The discourse surrounding the relationships between text and image continues to preoccupy artists, writers and theorists, often fuelled by mutual dependency based on the need to develop, establish and question the construction of frameworks of meaning. Specific questions concerning the transferability,

compatibility and equivalence of meaning between text and image, and their place in an historical and cultural hierarchy, are rehearsed in fierce academic debate and particularly in art schools."

Some of those aspects of compatibility and equivalence are highlighted in the reportage media, particularly where text is verbal commentary and image is real time and moving. Two examples come to mind where discourse is at odds with image and/or reality, one is wartime propaganda and the other is news coverage of events such as the miners strike during the Thatcher era. Both these examples have encouraged a cynicism about and disbelief in what had, until more recent times, been regarded as 'seeing/hearing/reading is believing', and the route to truth. Computer enhancement of newspaper photographs and illusory aesthetics in advertising have compounded our cynicism and compelled us to suspend disbelief. We now perceive the truth to be a movable feast and some of us have merged with the virtual.

Specialisation has, nevertheless, maintained and fostered a separate development or polarization of the language continuum through and beyond the Enlightenment. 'I am an artist, therefore I use a visual language. If I needed to write about my ideas I would be a writer' is a romantic and now broadly discredited view. However this binary is represented by a post-structural position where 'nothing exists outside of language and is therefore implicitly defined by it' which could be argued as being equally problematic as a framework of reference when encouraging visual forms. There are a significant number of works around which this, and other intermediary positions, can be explored.

The word is both spoken and written, the oral tradition where knowledge passed from generation to generation belonged, in the main, to nomadic lifestyles in the ancient world. In Genesis in the bible, God is described creating the world using the 'verbum', the Latin counterpart for our modern 'word'. The word spoken and the image made icon are the bread and butter of today's advertising industries. They stimulate illusionary lifestyle representations, suggesting individual or collective social change through consumer products. This development, initially promulgated by advances in photography, film and television is ever expanding, courtesy of the digital revolution in information technology.

Machluan's "the media is the message" has come of age. Contemporary high technology has reintroduced the importance and significance of the iconographic, not only in its message, but also in its systems controls. In the opinion of some this has generated a sub cultural debasement of English, for others it has liberated the language from the fetters of the elite literacy custodians of a language which has ceased to belong solely to English people, and which has become one of the global tongues for communication purposes.

I hope to indicate in the selection of references for this short explanation that I, and others, perceive that a wheel has come full circle in changing relations between text, image and oral communication. We may, once again, be about to embark on a period where the spoken word and the image become dominant in our culture. Perhaps it is already with us. Perhaps for ordinary people it never went away.

Speculation

We learn in ways, which utilise all our sensory receptors and demonstrate our receipt of knowledge through synthesis and externalization via our responders; the voice, the drawn image (in the form of abstract letter forms or pictures) and in a physical way (through gesture or body language). We express ourselves, and our expression is in itself a creative act. The creative industries in the UK are now the second largest industrial sector of the economy, both in terms of employment and capital turnover and investment. What then are the educational needs and imperatives in the context of this new situation, and what are the prospects for dyslexic people. Dare we suggest that dyslexia will cease to be a disability in the context of a society that no longer is driven by the written word and the need to spell 'correctly'?

There is a growing body of opinion leaning towards a view of the future which is more democratic, less elitist, in the sense that the dominant characteristic required for a successful career in the developing digital industries will not be those which are prerequisites for written language skills, as favored in Intelligence Quotient (IQ) measures and the orthodox examined academia.

Linear thinking has, for some time, demonstrated its limitations in the adaptive and/or innovative spheres of activity. De Bono expounded the virtues of lateral thinking thirty years ago. We are able now to consider this ability to reflect synaptic connectivity, mirroring the neural chemistry of the brain. Gardner refers to "Linguistic (less emphasized)" skills in his types of learning outcomes, reinforcing the growing dominance of the more holistic concept of 'communication' skills, of which writing is only one. The research project conducted by Steffert et al at Central St Martins, which evaluated the cognitive styles of almost 400 arts students, further supports the link between creativity and adaptive thinking to laterality and the synaptic, suggesting differing individual protocol in neural pathway development. These cognitive styles have also a predisposition toward the visual spatial.

If we are in new territory with regard to learning outcomes and requirements, are we also in need of a new critical framework with which to evaluate? Or are we dealing here with a balance of expressive forms, which have equitable values? This paper should be regarded, perhaps, as setting out an overview or a structure upon which to hang information which might help us to determine the answers to some of these questions. The Education sector, from primary to PhD, is undergoing a paradigm shift, but does this fundamentally change the evaluation of performance against outcome factors, which need to be presented in order to assure quality of educational experience?

"Something extraordinary must have happened to create human minds capable of producing the Altimira paintings" suggest David Horrobin. He continues, "What happened within our brains left no external trace on our bones, but it did leave tracks in the form of an explosion of artistic and technical skill. ...Artifacts show that human culture, instead of being dull, slow changing and near universal up to perhaps 100,000 years ago, became exciting, rich and rapidly changing, with immense geographical diversity. Something more than mere brain size must have been involved."

Horrobin's contention is that our modern minds were made by changes in the way nerve cells (neurons) inside the brain make and break the connections they make with each other. In some cases he states these microelement connections develop an extraordinary richness, which enabled skills to emerge never previously apparent. His main thesis is that "we became human because of quite small genetic changes in the chemistry of the fat inside our skull. These changes injected into our ancestors both the seeds of the illness of schizophrenia and the extraordinary minds which made us human".

This is a slightly different theory to many in the field of genetics, although Horrobin does affirm, as he develops his argument, that evolution needs both environmental conditional change and available novel circumstances, or a pre-existing genetic response, variation or mutation available when needed and labeled "exaptation". The relevance to our interest in dyslexia of Horrobin's theory is that he shows that relatively minute changes in the genetic composition and fat chemistry can bring about huge and dramatic changes in our neural pathway development, causing potentially huge leaps in intellect, but also for a tiny minority, conditions such as schizophrenia. While schizophrenia is a serious psychotic condition affecting a small percentage of the population, there exists along side it a concept called schizotypy, which, it is thought, may affect perhaps 10-20% of the population, including dyslexics.

The link with achievement and creativity is further stressed by Horrobin, as is the suggestion of an inheritance factor.

Conclusion

I would wish to develop this discourse at greater length in the future, but I am concerned to suggest at this point that it is my contention that individual cognitive styles are proven to exist and are long standing, for some 100,000 years. Social evolutionary change, prompted by economic imperatives and class dominance, have mitigated against most forms of expression and communication for most people. This is particularly demonstrated by the dominance of the linear cognitive style necessary for reading and writing, supported by the calibration for of Intelligence Quotient (IQ) tests, which are themselves a socio-cultural and economic construct.

Most individuals have developed coping strategies for the artificial and limited thinking style preferred by the 500-year dominance of this cognitive style. This has not, however, precluded the continuum of other cognitive styles within each individual, which can be represented by the astonishing array of so-called hobbies and the expansion of the creative industries. As we progress further into this new century, my opinion is that the pressure from all directions will support a move towards holistic communication and a redefinition of expressive response, both in the work place and in leisure. We will see a decline in the dominance of linear thinking, which will in turn require a period of transition where academic and other evaluative processes relating to quality assurance or measures of achievement will need to adopt notions of equivalence, until there is acceptance of like measured against like, understood to have equal standing.

During the workshop for Cascade, I presented marking papers prepared for a mini research project at Central Saint Martins, aimed at exploring equivalence measures for visual assessment, together with images and text attempting a full textual description of the images. There is a great deal of work to be done before we reach equivalence in assessment of "marking the visual" with the verbal, however the debate is current in Higher Education, and students demonstrating their ability in ways alternative to text has begun to achieve credence in a way never believed possible in the past.

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Dyslexics, drowning in the mainstream... Throw them a chance to succeed and not another spelling test

Mike Juggins
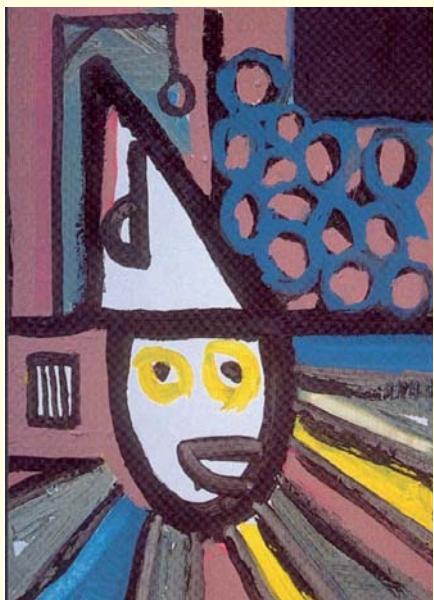
10% of the population are dyslexic. How do we level the educational playing field that provides the platform for their intellectual development? My name is Mike Juggins and I am a dyslexic artist and writer. The aim of this article is to re-focus society's view of dyslexia and education. The issue of how to secure alternative provision will then be tackled.

What is Dyslexia

Dyslexia is a word that suffocates and disguises the truth of a rather complex matter. Indeed, dyslexia is a clumsy term that is unkind as Dys means difficulty and lexia means words... therefore the focus is automatically negative by definition. It focuses on a small weakness of a whole mind set, rather than incorporating areas of intellectual difference, many of which are strengths.

You see we dyslexics are talented, socially disadvantaged and misunderstood. Taught through a method which leaves us confused and excluded from the intellectual development we seek and deserve. We exist in a place and in a time that sees dyslexics drowning in a shallow mainstream.

Dyslexia is a difference in the wiring of a brain and not as is suggested by *experts in the field* simply being "lazy" or "dysfunctional". But let's face it, some of these self proclaimed experts only ever get their information second hand. They will never really experience the difference in brain functioning in the same way as a dyslexic does.

The press often talks of re-mediation, cure and even eradication! Well it may come as a surprise but... I don't want to be cured, I want to discover and learn in the broadest sense of the word, not just forced to notate and regurgitate. Frankly, I don't care if my spelling is bloody awful as computers provide me with non-judgemental spell checkers. Often it seems that no other group in society is forced to over focus on their weaknesses at the expense of their strengths and their emotional equilibrium.

Unfortunately society insists on measuring our intellect by our inability to perform word-based tasks and chooses to highlight our weaknesses whilst often ignoring our abilities. No one individual is fully proficient in all areas of brain functioning. Physical and visual faculties are arguably more important than word based skills in many facets of modern living.

Current provision

Constantly focusing in on inadequacy will invariably adversely effect confidence and self-esteem. I believe that dyslexia is a natural and potentially beneficial difference and not a dysfunction? The plethora of strengths many dyslexics possess would suggest that this is the case. In fact there is a large amount of dyslexic success stories, despite the lack of appropriate provision through generations.

Dyslexics often have fluid, spontaneous, sets of natural strengths. They are often global thinkers, due to a more equal balance in size between the two hemispheres of the brain. When nurtured they are often able to see the bigger picture. This can often provide the dyslexic with unique problem solving skills that can positively benefit the whole of humanity. Einstein, Darwin, Eddison, Picasso, W.B.Yeats, Da Vinci, Lennon, Branson etc are all fine examples.

WORD based education

dyslexic

THE EDUCATION SYSTEM

Why not change the shape of the wHOLE?
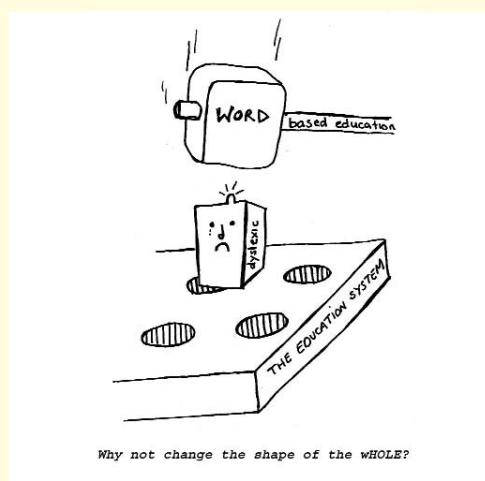
The present system causes emotional scarring, low self-esteem then follows. Despite having a higher than average IQs we often end up on the employment scrap heap or locked up in prisons. We are disadvantaged by inappropriate teaching approaches that never think to look at our preferred learning style and adapt accordingly.

Literacy skills would improve if the individual's confidence and motivation could be improved through better-suited multi-sensory teaching practices. We must to start looking at the whole person and not just their weaknesses.

Change must come

Presently we attempt to change the individual and not the system, as it keeps down the costs, in the short term. However, the human cost on the individual who is denied an appropriate education cannot be measured. Whilst the financial cost to society regarding the amount of unemployed and imprisoned dyslexics is costly in the extreme!

Solutions in the form of either a "twin track" system or separate state funded schools for dyslexics should be considered. These approaches would offer the type of teaching that is necessary to accommodate the dyslexic's difference in processing.

The twin track system would involve a separate multi-sensory (holistic) learning environment within the mainstream. This would complement the current teaching environment currently provided. Whilst a separate school for dyslexics in every LEA would also provide individuals with the opportunity to grow as confident people rather than ending up with low self esteem.

education   has   produced   a   vast   population   able   to   read   but   unable   to   distinguish   what   is   worth   reading
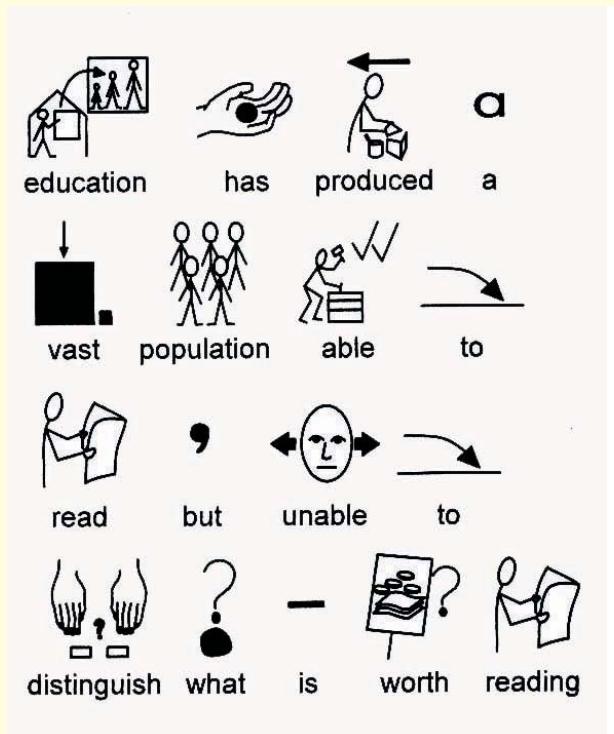
How would it work?

Changing the way we teach would have a profoundly positive effect. Acquiring Basic Skills are vitally important for all, yet dyslexics have difficulty learning these skills out of context. Subject areas such as History and Geography or Drama and English that overlap must work together whenever possible. This sort of change would motivate the dyslexic to learn across curriculum. It would enable them to link concepts and work on areas of weakness whilst simultaneously enjoying subjects whilst working on joint topics.

Providing more practical tasks and discussion opportunity positively effect dyslexics' ability to learn. Whilst extra literacy *remediation* often leaves that dyslexic feeling even more inadequate. In an understanding environment copying from the board and ploughing through text heavy books would have to be greatly minimised. They are a block to real understanding for the dyslexic. Information being relayed in mind maps or diagrams is more effective. These are all simple changes that would have such a emphatic effect on individual dyslexics. Virtually all of these changes would come at no extra financial expense!

Conclusion

The majority of dyslexics underachieve academically, unable to fulfil their full intellectual potential in the patched up, weakness focused system that presently exists. Change must come for all dyslexics and not just the lucky few whose parents shouted loudest. Or the adults lucky enough to receive good advice about what they are entitled to.

The emphasis must be on the system to match teaching method to learning style. It is no longer acceptable to place the pressure (blame) on the individual dyslexic student to always adjust. What we need is less fixing of the unbroken and more nurturing of the dyslexic's strengths by providing them with a suitable learning environment.

Contact details: mike@juggins1.freeserve.co.uk

Being Dyslexic in Higher Education

Professor William Gosling

I am going to talk about dyslexia and I had better start out by saying what a dyslexic is. This is not just anybody with any kind of reading or writing disorder, it is much more specific than that. I think the best thing I can do is quote Dennis Little, who wrote a lovely piece called 'Einstein's Mother' in a dyslexia online magazine. She's not herself a dyslexic but she's the mother of a dyslexic boy, and she says:

> "Dyslexics populate the world, the earth in great numbers they are all around us all the time: she's the little girl who forgets her lunch at home for the third day in a row, her jacket and her homework. It's the friend who gets lost driving in his own neighbourhood. She's the tour director that keeps saying 'go right - go right' while emphatically gesturing to the left, and the store counter who can't count the change. He's the young man who begins his chores in the middle and some how works his way out to the beginning and to the end. He's the guy rattling his tin cup on the bars of his prison cell. He's the man accepting the Nobel Prize" and there's been plenty of them."

> That is what I am talking about, I think Little might have added a bit more - there's some other pretty uniformly identifying characteristics she might have added that he will be almost certainly be wearing a digital watch, and he would certainly prefer Apple Mac computers to PC's".

Dyslexia was first recognised in 1896 by Pringle Morgan a GP in a paper published by The British Medical Journal. The existence of the syndrome has often been denied. In the past the sufferers were treated as mentally subnormal, uneducable or suffering from a moral defect. Once people even thought it was due to defects of vision and sometimes it has been attributed to defects of hearing. Both of these things are nonsense. It is in fact the case and has been established beyond doubt that the structure of the dyslexic brain is different from the modal brain. I shall refer to people who are not dyslexic as 'modals'. (Modals are all right actually, quite nice people!)

In the dyslexic brain the planal or temporal brain is symmetrical in the two hemispheres, which is very rare in modal brains. It is also known that the affects of injury, for example strokes, on dyslexics and modals are quite different. This very different brain development produces a cluster of different physiological and psychological outcomes, they include dyslexia – dyspraxia – allergies – left handedness – better than average visual abilities and enhanced creativity. Not all of these are present in every sufferer from dyslexia, if 'sufferer' is the right word, but a lot of them do they do cluster together. These differences in brain development seem to occur from the early months of gestation and are not reversible. The incidence of dyslexia is certainly not less than 5% and estimates tend to rise all the time, perhaps the incidence of dyslexia is actually rising, we just do not know. It is now thought that the incidences are equal between the sexes, although there

was some early work that suggested that boys were more likely to suffer from dyslexia than girls but that's now thought to be due to bias in early research studies.

Like many, but not all, dyslexics I come from a dyslexic family. Not all dyslexics do, surprisingly enough, but many do.   My mother's, Aida, was dyslexic, I am dyslexic and so is my son Kerry, my daughter Melanie and my granddaughter Rebecca. Interestingly I am the only one who is left handed. Although this combination is common, not all dyslexics are left handed by any means. Patterns like this are fairly common in families, but anybody with any knowledge of genetics will be well aware that a simple dominant gene cannot explain these patterns. They simply cannot be explained in that way and I think they have a subtle and more complex explanation.

Let me turn now to my personal history. My father was an early amateur radio enthusiast and encouraged me to build my first crystal set radio, which I did at the age of four. At that time I also learned to read electronic circuit diagrams, which I did before I could read English. I taught myself to read English before I started school because I was intrigued by the writing on the sides of pencils and felt it had to have some significance that I wanted to pursue. My father, who was a thoughtful man, bought me a picture book that taught reading and writing and I boned up from that. It took me about a month, after which I began reading Henry Williamson's 'Tarka the Otter', the first book I ever read. I remember it to this day because I was in floods of tears at the sad bits. (If any of you have read the book will know that it ends very sadly). Tarka dies, and I was in floods of tears at that, but it also decided for me that I would be a writer. I wrote my first novel at the age of nine. It was a tale of lust and passion among fisher folk and was a cross between Mary Read and Arthur Ransome, it did not find a publisher!

At the local state junior school my reading was quick, my writing was execrable and my spelling was worse. I was told that my failure to solve my writing and spelling problems was due to moral defects and I was beaten. This did not work, so they beat me harder. Quite surprisingly, this procedure had great educational advantages for me because I realised my sensitivity to pain was not as great as I had supposed. I therefore stood up successfully to the school bully. At grammar school I became a boxing champion, which was just as well as I was hopeless at all other games – I'd never been able to catch a ball, nor have I had any interest in doing so.

Due to the disruption resulting from the aftermath of the Second World War, I attended three grammar schools in different parts of the country. My last move between grammar schools was six weeks before what were then called Schools Certificate Examinations, more or less equivalent to present day GCSEs. That change took place with a whole new curriculum. I changed from General Science to Physics, Chemistry and Biology as three subjects. I was written off by my school so I mugged up on my own and got distinctions in all three.

As a result of these experiences I became disillusioned with schools and I thought I could have educated myself just as well as they had done, if not rather better. However, I have to say that my attitude changed in sixth form when I was taught Maths. I was very fortunate, I was taught Maths by a remarkable man, Titus Thorpe, who was himself a dyslexic. He taught graphically, in pictures, using fundamental concepts rather than formulae, and established in me a life long predisposition

to tackle all scientific problems from essentially visual first principle models. He also established in me the habit of mathematical thinking, which has never left me. I won a scholarship to Imperial College where, again, I was very fortunate because I read Physics under Sir George Thompson, a Nobel prizewinner and a dyslexic. He had a tendency to appoint dyslexics to his department - I'm sure it was unconscious - but I remember two of them particularly, Charlotte Kelner and R. W. B. Williams. When Williams introduced me to symbolic logic for circuit design and to Shannan's newly formulated mathematical theory of information I loved it.   I decided to become an electronic engineer.   Perhaps this was a triumph of early influences, I don't know.

I took all the examinations and completed my finals. In those days one had a long gap before one got the results so, as there wasn't much to do, I decided I would change my handwriting which, up until then had (as I said) been execrable. I read a book by John C. Tarr called 'Better Hand Writing', in which he advocated the italic style. I'd been taught round hand at school, as most people were at that time, a style very unsuitable for left handed dyslexics.   I looked at Tarr's italic style and realised that it could only be written with a square nib pen, so I modified it so that I could write with a ballpoint pen and I changed my handwriting. I have to admit my handwriting is fairly artificial, but it is more legible than it was. Quite a dramatic change really.

I went into the aircraft Industry after I graduated, and spent five years there designing test equipment, latterly leading a small team. While doing this I thought I could see broad unifying principles in the design process, which were almost independent of what you were designing. This is the design process for complex systems.   I encountered a remarkable book by Goodham MacCule, called 'Systems Engineering' and published in 1956 and, although I was very excited by it, I thought it insignificantly radical in approach so I decided I must write a book on the subject myself. It wasn't very easy to do that in industry so I moved to a university lectureship at Swansea and, at 29, I published my first book, called 'Design of Engineering Systems'. I then became a senior lecturer and I got the chair of Electrical Engineering at Swansea when I was 33. Subsequently I was Vice Principal, which is a curious Welsh term used in those days, meaning a form of Deputy Vice Chancellor. I was at Swansea for a while and then the University of Bath very kindly invited me to come and be the first Professor of Electronic Engineering, and am now an Emeritus Professor at Bath University. At the end of 1988 I was head hunted by the Plessey Company and joined the board as Group Technical Director and left them at the end of 1989 when they were taken over by GEC consortium.

 I've done various odds and ends of things. One you might quite find interesting is my life membership of the Association of Old Crows. The Old Crows are an American Society obsessed with the idea of non-lethal warfare, and they kindly elected me a life member for inventing non-exploding mine fields, which is a great contribution in non-lethal warfare, as I'm sure everybody will appreciate. They're actually radio mines that stop you communicating if you go over them, so armies that go over them stop dead but nobody gets hurt. So they made me a life member. It was very kind of them.

I have written 15 books and I do an occasional column on science topics for the Guardian. I'm a High Church Anglican and I'm married with two surviving children. Well that's me. I've kept on writing books and probably still will, and got another half dozen in draft.

What have I learned about the problems dyslexics have in the Higher Education system? Well, as a student I learnt first that rote learning was difficult and unreliable for me. I could not plug numbers into formulae and get the right answers. I had to learn to derive everything from first principles, using pictures and diagrams wherever I could as aids. My work style was intense and I couldn't keep up for hours as my modal classmates claimed they could. After 20 minutes I had to take a break for 10 minutes. However, the intensity of concentration was such that I was oblivious of all around me while working - for 20 years I had no study or personal work space at all, and worked at a table writing my books in the busiest room in the house.

I have always been a clumsy and unsuccessful experimentalist all my life - my research students used to try and keep me away from their equipment - but I could get hold of supposedly difficult abstract ideas and generalisations without trouble. I had little chance of remembering the names of my fellow students or colleagues, that's been a problem all my working life, but I've got vivid mental images of pages from journals and texts books from 50 years ago.

When I began to lecture my visual memory was a stumbling block. I didn't realise that I was different from other people in this respect. I would put up complicated diagrams on the screen or blackboard and take them away again quite quickly and I didn't realise that my students couldn't still see them. So I would keep on lecturing about them and they would seem to be rather puzzled by this. I soon learned to give them a little more time to make full copies. In tutorials I could only show students how to derive solutions to problems from first principles, I was never able formally to record, or even name, important theorems, and I suspect some of the modal students despised me for that - I saw it in their eyes - and they often wondered how I became appointed. (So did I, to be honest). I often disconcerted students by proposing off-beat and non-standard solutions to problems which were not in the textbooks, often shorter than the ones in the textbooks. Some students came to like this, while others did not. Well they were better off with another tutor, a modal thinker.

When I write my lecture notes, articles or books, the ordering is the stumbling block. The order of words in sentences, of sentences in paragraphs and paragraphs in chapters, and even of chapters in a complete book, is a problem. Everything I need to say is there, but often quite jumbled, as though I hold the whole thing in my mind but all of it simultaneously and each element coexistent. The only solution to this I have learned is to get the thing onto the computer screen in whatever order it comes and then sort the order out later.
I typically redraft at least a dozen times, mostly changing the order of things. Thank God for the word processor, which makes this easy.

What advice do I have for dyslexic academics? Simply this:
Break a probable life-long habit of hiding your dyslexia. Make a stand as a dyslexic. Take pride in, rather than being ashamed of, being dyslexic. Come out of the closet and show your pride in being a dyslexic. In all universities we need dyslexics.

I also believe that university departments have certain duties. I think first of all departments have to come to terms with the reality that there are two kinds of minds in this world. (There are

probably more than two, but certainly this is not as important an issue). There is the dyslexic and the modal mind - both merit full respect and nobody can transform one into the other. (Beatings don't work!). I think departments should encourage their dyslexic staff members, since any large department is likely to have some, to come out and identify themselves because it needs them to help the students. I also think you should warn dyslexic potential students at admission if you don't have any dyslexic teaching colleagues so the applicants can seriously consider where they would prefer to be educated amongst their own kind. (I know this is a very controversial view). You should encourage dyslexic colleagues to work with dyslexic students so that like can talk to like. I think these simple rules would make life a lot easier. I benefited by that sort of thing myself by pure chance and I think lots of others could benefit by it.

In conclusion I want to say is that there have always been dyslexics in human history and they have played a valuable, perhaps an indispensable, role. Let me illustrate this with just a few names of known or suspected dyslexics.
Augusta Aida, Countess of Lovelace, who wrote the first computer programme and is regarded as the inventor of software; Anthony Andrews, Hans Christian Anderson, Richard Branson, entrepreneur business man, Agatha Christie, Winston Churchill, Charles Darwin, Thomas Alver Edison, Albert Einstein (Einstein couldn't tie his shoelaces until he was nine), Whoopi Goldberg, Susan Hampshire, Michael Heseltine, Anthony Hopkins, John Lennon, James Clarke Maxwell, probably the greatest theoretical physicist who ever lived and who was dismissed from his post at the University of Aberdeen because he couldn't spell, eventually going on to Cambridge to lay the foundations of theoretical physics. Nicholas Negrapondy, Richard Rodgers, famous architect, Jackie Stewart and William Butler-Yeats

Just a few names, there are many more.

Theoretical biology suggests that the presence of dyslexics has survival value for human beings. Culturally, their creative presence has enriched human society. However, a world with nothing but dyslexics would teeter on the brink of disaster. The modals do far better at very many things that we dyslexics do not excel in. If you doubt my word try buying a computer direct from Apple, a company almost entirely staffed by dyslexics. I ordered one six months ago and its been delivered three times so far. They keep saying: "God, we've forgotten to send him his computer"! So we need the modals, we dyslexic people need the modals. But I think the modals also need us. So from both sides of this divide let us value each other, each trying to do our best; going forth in mutual respect and fruitful partnership.

How can we enhance the flow of values that carry hope for the future of humanity? (Part I)

Dr Jack Whitehead

This is largely an edited transcript of the conclusion to the conference presented by Jack Whitehead. To begin with Jack showed a video clip of himself with Je Kan Adler-Collins a PhD student who is dyslexic. He describes how he is working with the student and does not initially pick up on his emotional state. Referring to the point made by Guy Saunders about the artist's 'wonderful look of astonishment when a creative moment is reached', Jack showed how that microsecond emotion is actually experienced in his art as an educator. "I think that is what I try to do with my students – they are trying to give a form to their lives in a way their embodied values are lived as fully as they can be. In our often rigorous and valid forms of education this is often very difficult to put into words, and I believe this is what dyslexia in education is essentially about."

Jack showed how his interest in multi media and use of the digital camera enables him to go through each minute clip. "It is such a valuable tool and such a powerful experience to go through and see what it is I am doing, second by second, picking up body language, facial expression – there is a particular moment where I inappropriately laugh uproariously. I become aware of my own art, and the things that I do that I could not have planned that can switch it" that is a negative situation, to one that is positive.

The clip showed the student's frustration, "I'm irritated that the very people stopping me from sharing my experiences ... are couch potatoes. I'm not an ego maniac – I'm irritated, I'm tired, I'm in pain ... I've done everything, I've been all around the block and I've jumped through every hoop, but I'm so tired. You're saying I'm being disparaging – I'm angry". Jack says "All right, you're angry." The clip shows that there is a moment where the student is angry with Jack and all that he represents in education. Angry with the suggestions that Jack is making and frustrated, he says "why can't I be justifiably angry in the text?"

Jack suggests a way "that offers a more accepting attitude towards the unknown. This (suggestion) opens that for you - a better way in relation to a critical reflective story". The student asks "How would that stand up against the academics that think it's a load of nonsense?" Jack replies, "This is the academic (referring to his book on the Growth of Educational Knowledge) , it was written in about '92, and is quoting other research 10 years ago. All I'm saying is this opens up the opportunity to justify what you are doing – I know you may not wish to justify, but it is a very powerful way."

Then the clip shows the transition from anger and frustration to mutual understanding. The student says, "So you suggest bring that in earlier in my methodology will be" Jack replies,

"Exactly". The student responds, "Well, I'd better take that out. I've lost a quote, I've lost a reference. This is the end, I can do anything else, but not lose my references." But both Jack and the student are laughing together now and the transition to mutual understanding and acceptance has been made. These ideas have continued to develop since our Cascade Conference and can be viewed in the living-action-research e-Forum developed by Je Kan Adler Collins (1)

Jack showed how, in terms of the processes of learning that he hopes to promote those moments cannot be planned. Yet if you get video images you can start to represent some of those influences you have and relationships to people you are with. "The pleasure for me is that his dissertation, which as a dyslexic he really did have some problems representing his enquiry in terms of the written language, but his faculty with computers and working with others enabled him to put together what, for me is a brilliant dissertation" (2).

Jack referred to Boyer's work for the Carnegie Foundation (3) opening up new forms of scholarly enquiry in relation to scholarships of discovery, application, integration and teaching in his attempt to live his values more fully in his practice in his own scholarship of educational enquiry. The website http://www.actionresearch.net holds living theory theses from those engaged in self-studies of their own practice. He described how in America they found the kind of question with an "I" in it was very difficult to acknowledge that it could ever be an academic enquiry and how Jack's own practice in living educational theory gives him the feeling that "what I'm trying to do in relation to my own self studies in practice relate across art, science, dyslexia and education.

Jack then came back to the energy he had sensed at the conference and in the room, aiming to tap in to some of the pleasures that he gets out of education and describing how in the film "his face lit up in a most beautiful way a couple of times". Jack emphasized the life affirming energy that is present at such times, adding "It seems to me if we're going to have some influence in the world we've got to learn how to celebrate that energy collaboratively".

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