

Asia Pacific Journal of Developmental Differences  
 Vol. 2, No. 1, January 2015, pp 39-53  
 DOI: 10.3850/S2345734115000198



# The UK's Dyslexia-friendly Initiative and the USA's Universal Design Movement: Exploring a Possible Kinship

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## Abstract

Within the competing discourses of dyslexia discussion, the pedagogical change represented by the Dyslexia-friendly “turn” is embedded within the sociological context of the social model of disability. Theoretical developments supporting this philosophical and ideological perspective have led to requirements for facilitatory practices in both the UK and USA. This paper compares two key protocols. As a result it is considered that the USA's principles of Universal Design for Instruction (UDI) demonstrate a kinship with the principles governing the UK's Dyslexia-friendly (DF) approach. The paper explores the implications for wider dyslexia research and practice, and concludes by discussing how small scale research arising from the DF approach could contribute to an evidence base in support of the principles of UDI.

## Introduction

The UK's Rose report (2009), reviewing the present position regarding dyslexia, states that:

*Dyslexia is best thought of as a continuum, not a distinct category, and there are no clear cut-off points*  
 (Rose, 2009; p. 34).

Dyslexia has for a long time been described as existing as a range, and this characteristic is not contested; Empirical practice also confirms this, recognising that for some children the gaining of literacy skills is a harder task than for others, and progress may be impeded to the point of disability. Consequently, debate has moved perceptions of dyslexia towards a status

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related to regular reading and other literacy acquisition, while continuing to reflect intransigent difficulty. For example Lind et al., investigating the genetic components of dyslexia, state that the condition “[L]ikely represents the low tail of a reading ability distribution in the population” (Lind et al., 2010; p. 1).

While the value of research focused on classical, cognitive, psychological concepts is recognised, social model approaches may support a perspective of difference, moving away from a discourse of deficit. The dynamics of competing views and changing perspectives ensures that this is an exciting time to explore practices intended to support learners who experience dyslexia.

### Theorising Dyslexia

Dyslexia theorisation towards the end of the 20th century focused on particular causal constructs, with competing deficit-based views, but with an emerging core concept located within phonological difficulty (see for example Snowling and Stackhouse, 2006). There were difficulties with definition, reflecting the lack of agreement about the actual nature and causes of dyslexia. While debate has continued, inquiry in three key areas has challenged conventional deficit-based accounts; these are: evidence concerning the nature of heritability in the genetic enquiry; evidence concerning brain anatomy derived from brain scanning technology, and evidence concerning differing languages and orthographies. All of these may be considered as on-going enquiries.

There is a sense in which dyslexia will always be concerned with phonological difficulty, because literacy is concerned intrinsically with interpreting visual language in terms of verbal language, and vice versa. While changing technologies have not resolved theoretical issues, they have revealed that there is no simplistic deficit in the sense of a particular culprit configuration in the brain. Research continues, with a focus on the mechanisms (Reid, Fawcett, Manis and Seigel, 2008; Caylak, 2010).

Rose (2009, p. 37) considers the manifestation of dyslexia as related to reduced activation in the language centres of the brain. This possibility is also noted by Friederici (2006), who identifies reduced activation in phonological and lexical-semantic processing in the language centres of very young infants, including newborns, correlating with identified language difficulties at the age of four years (Friederici, 2006, p. 947). Research by Silani, Frith, Demonet, Fazio, Perani, Price, Frith, and Paulesu (2005), identifies reduced activation as linked with a reduced volume of grey matter, and as evident in different cultural contexts.

Pedagogically, Reid asserts that what is needed in dyslexia teaching is not something that is functionally different, but rather is an intensification of stimulus, input and rehearsal, varying in “density” and focused according to individual learning needs (Reid, 2005, p. 146). This would have some congruency with a reduced activation account. Established pedagogical beliefs in the efficacy of structured phonological approaches can also be viewed in terms of compensating

for reduced activation rather than for a deficit.

This practitioner-based view of dyslexia could be accommodated by a characteristic of reduced activation overlaid with compensatory, strategic and facilitatory knowledge gained environmentally and over time. It could account also for an awareness that whatever the originating theoretical basis for discussions about dyslexia, the pedagogical input is likely to remain similar. This includes strategies and techniques familiar to dyslexia specialists, but also includes approaches and environmental modifications associated with the DF initiative, and with Universal Design (UD) in its pedagogical context.

The concept of deficit is also challenged by the rights-based view of dyslexia which can be manifested, as Burden and Burdett point out, as "dyslexic pride" (Burden & Burdett, 2005, p. 102). This reflects a perspective of enjoyment and confidence in the different characteristics, traits and abilities which may be part of an individual's personal make-up and which may or may not be part of their dyslexia experience. Such a view celebrates difference, in contrast to the dominant deficit concept embodied in norm-based dyslexia assessment and management.

However, the deficit view remains strong in discussions of dyslexia. It is certainly the case that much dyslexia research has been carried out by pursuing psychological and scientific constructs in which deficit is a fundamental epistemological aspect of the paradigm. There is also a point to be made about

people's need to understand, and have a name and consequently an explanation for, the difficulty that they or their children are experiencing.

### **A Paradigm Split in Discourses of Dyslexia?**

Paradice (2001) and Chanock (2007) discuss distinct understandings of the concept of dyslexia, resulting in competing discourses, the major contenders being the medical-psychological view, and the social constructivist view. These are responsible for a paradigm split in discourses of dyslexia, which can result in proponents of one view claiming that the supporters of the alternative are denying fundamental truths about dyslexia.

The social constructivist view proposes a social model of disability. This is a rights-based account most closely associated with the work of Oliver (1986), and takes the view that, in dyslexia as in other disabling characteristics,

*"While an individual may experience impairments, it is the social situation, both practical and attitudinal, that is disabling"*  
(Pavey, Meehan and Waugh, 2010, p. 7).

It is this social situation that both the UD and the DF initiative seek to address through modifications, accommodations, and adjustments. These are devised to make the social setting, and by extension the learning setting, more accessible for people who experience dyslexia. It would be possible to accommodate such facilitatory concepts and practices, and still have a prevailing discourse couched in terms of individual deficit; a tacit notion

of deficit may be deeply embedded and difficult to dislodge. In contrast, and in an attempt to change this view, the DF approach insists that dyslexia is a difference, rather than a deficit (MacKay, 2005).

### **Principles of Dyslexia-Friendly Practice**

The DF initiative developed at the same time as the pedagogical application of UD, in a different location (Wales, UK) and with a different function. Both arose at a time of challenges to conventional characterisations of disability, developed from rights-based expectations that had gained strength since the nineteen seventies.

UD might be described as top-down, with a set of principles being extended and applied to pedagogy, whereas in contrast DF pedagogy has had a bottom-up deployment, growing from a small, local application to a national and then international one. Whereas UD's educational application developed in higher education and then expanded into wider curricular contexts, DF began at school level, and then expanded to include all aspects of UK education.

The term "Dyslexia Friendly" originated with Neil MacKay (2001a). In supporting children with dyslexia in ways that enabled them to learn and achieve within the UK National Curriculum, MacKay called on available pedagogical methodologies and adjustments, but also addressed issues of confidence and the development of a whole school ethos. Further, DF practice mandated the development of supportive learning environments.

In Wales, the approach was taken up by Swansea Local Authority as a means both of meeting children's dyslexia needs and of satisfying parents that their children's learning needs were being met, as this had become a problematic issue. Instead of locking up resources within statements of special educational needs (educational contracts between parents, the Local Authority (LA) and a child's school), thereby limiting their availability for other children, the DF initiative put resources directly into schools (BDA, 1999).

The DF approach allowed for a more positive educational climate for the gaining of literacy skills. This involved the LA, the school staff, and governors, working together to provide dyslexia expertise within a school, rather than looking for support from an external specialist team. Subsequently the DF initiative was developed and taken forward by the British Dyslexia Association in Achieving Dyslexia Friendly Schools (BDA, 1999), distributed nationally. The BDA went on to develop the DF quality mark, which supported the LA and its schools in developing an holistic DF ethos (BDA, 2004).

### **Principles of Universal Design**

The UD movement originated in the U.S. in the work of Ron Mace. Mace combined architectural and access principles in championing and providing available accommodations for disabled people (Center for Universal Design, 1997, cited by Zeff, 2007). Subsequently this led to UD principles being applied to functions associated with non-disabled and neurotypical people and

communities, in similar ways to those expected by DF principles.

Zeff (2007, citing Mace, 1998), identifies the principles for UD which were developed by Ron Mace, and articulated further, with his involvement, by the Center for Universal Design (1997). As an architect experiencing a disability, Mace's first concern was for accessibility, but the principles extend their relevance and application into the wider context of education. The seven original principles of UD are those of:

1. Equitable use
2. Flexibility in use
3. Simple and intuitive
4. Perceptible information
5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use

(Center for Universal Design 1997; Scott, Maguire & Shaw, 2003; Zeff 2007).

Zeff goes on to cite the work of the Center for Applied Special Technology (CAST) in distilling the nine principles into three, termed Universal Design for Learning:

- i. Multiple means of representation
- ii. Multiple means of expression
- iii. Multiple means of engagement (CAST 2006, cited in Zeff, 2007)

In this encapsulated form can be seen the emergence of similar principles to those embodied in the DF initiative, arising at the same time, but independently (BDA, 1999).

A further development from Canada, through the work of the Teaching Support Services of the University of Guelph, Ontario (Zeff, 2007), established Universal Instructional Design following on from concepts developed by Bowe (Bowe, 2000, cited by Zeff, 2007). Importantly, this work established the principle, confirmed empirically, that:

*The strategies and techniques they were recommending for faculty to implement for students with disabilities actually benefited all students.*

(Zeff, 2007; p. 31).

This matches closely with the DF principle that good teaching for children who experience special educational needs is good teaching for all (BDA, 1999).

Zeff notes the importance of this work in moving the UD concept towards its pedagogical application, pointing out similar developments at the University of Connecticut in the work of McGuire, Scott, and Shaw. These authors sought to develop a theoretical construct of UD principles applied in the context of diversity in Higher Education (Zeff, 2007, citing McGuire, Scott, and Shaw, 2003).

Their work resulted in nine principles within the construct that they named Universal Design for Instruction (UDI) (Zeff 2007, citing Shaw, Scott and McGuire, 2001) these can be found listed in Table 1. To the original seven principles they added:

- ◆ A community of learners - the instructional environment promotes interaction and communication among the students and between

students and faculty

- ◆ Instructional climate - instruction is designed to be welcoming and inclusive. High expectations are espoused for all students (Shaw, Scott, and McGuire, 2001).

The authors continue their championing of a pedagogical focus for UD, endorsing its value in developing and promoting inclusion (Scott, McGuire & Shaw, 2003; McGuire, Scott and Shaw, 2006). Noting the level of interest in the UD concept among educators, they state:

*At a fundamental level, Universal Design has captured and illustrated an elusive element of inclusion: the anticipation and acknowledgement of human diversity as the norm*

(McGuire, Scott and Shaw, 2006; p. 168).

However, the authors also accept that there are some learners who will need further accommodations and adjustments. Neither the inclusive principle of UDI nor that of the DF approach, precludes the view that some people will need additional specialist input, a view confirmed in the Rose report (2009, p. 86).

McGuire, Scott and Shaw (2006) are concerned to establish the validity and reliability of the UD construct in its pedagogical form, and they put forward an eight-point research agenda. Briefly, they call for research that: considers the validity of the UDI model; investigates how the UDI model can be effectuated in educational settings; considers outcomes for students with and without disabilities; explores the possible impact of variables

within learners and within learning settings; investigates whether UDI can reduce the need for specialist intervention; identifies the principles and practices for training practitioners in UDI; investigates the perceptions of stakeholders regarding UDI and finally considers any necessary adjustments to the model that might arise from research. It is the contention of this paper that if congruency can be established between UDI and the DF initiative, then small-scale research carried out in exploring the latter can contribute to empirical understanding of the former.

McGuire and Scott (2002) went on to explore how the principles of UDI could be applied to pedagogy of particular relevance to dyslexic learners, setting this within the context of education in the USA. Focusing on the UK setting, and upon the wider school, FE and HE age ranges, Table 1 lists the UDI principles (Shaw, Scott, and McGuire, 2001) and compares them with published DF guidance.

### **The context of pedagogy**

Much dyslexia research has taken place in English language contexts, so it is understandable that pedagogy which addressed dyslexia and disability would develop in English language settings. However if such initiatives are to be globally applicable and universally useful, they must be considered in the context of other pedagogies.

Hogan (2013) considers Singapore's pedagogical model, comparing it with the English equivalent. He notes the successes of Singapore's pedagogy,

pointing out characteristics which create successful academic outcomes. He also describes a desire for pedagogical reform in Singapore which would encourage a 'knowledge building' economy. Pedagogy of this kind would combine knowledge and innovation in educational practice, with a view to developing and improving economic opportunities, leading to increased prosperity. This accords with Tan's (2010) descriptions of initiatives to broaden Singapore's educational curriculum to allow for the development of creativity and innovation. These characteristics are seen as important for retaining high levels of development and manufacturing achievement.

While acknowledging the range of educational initiatives taking place in Singapore, Hogan identifies four key principles in an established pedagogy: national curriculum coverage; an emphasis on teaching that will lead to good assessment outcomes; professional accountability linked to student outcomes; and the importance of credentials and systems based on merit and achievement. He also describes a pedagogy based on transmission of knowledge to students through talking, using worksheets, and working out examples together as a class. Hogan indicates that practitioners address students in ways that encourage the development of their performance in tasks, rather than opening opportunities for explanation and exploration. Both Hogan (2013) and Tan (2010) suggest that an emphasis on closed questions relates to expectations within the education culture.

To embed innovation in modern educational practice, Tan looks for the development in students of creativity and critical thinking; these are both areas where dyslexic learners can succeed without being constrained by literacy requirements. However, a creative approach is also valuable for educators who seek to meet the heterogenic range of learning manifested by learners who experience dyslexia. In discussing professionals' creative response to educational challenges, Thomas (2007) speaks of 'inspirational advance' (p. 69) 'serendipitous noticing' and 'creative intuition' (p. 91). Aspects of professional practice such as these can create responsiveness to individual dyslexic learners, but can also inform and make possible the application of UDI/DF principles to existing pedagogies.

### **Exploring a Possible Kinship**

Three mechanisms and checklists (MacKay, 2001b; Mortimore and Dupree, 2008; Pavey, Meehan and Waugh, 2010, developed from Pavey, 2007) were consulted to see how readily DF principles could be matched with Shaw, Scott and McGuire's (2001) nine-point construct of UDI. The comparison showed that MacKay's checklist (2001b; p. 172) is brief, but can be matched to the UDI criteria.

Mortimore and Dupree's audit checklist, developed from MacKay (2004), includes elements of assessment that are not highlighted in the principles, and the UDI focus upon a community of learners may be implied but is not directly identified in Mortimore and Dupree. Pavey, Meehan and Waugh's audit tool allows for a

Table 1: Comparison of Principles of Universal Design for Instruction and Dyslexia-Friendly Principles

Principles of Universal Design for Instruction	Principles of Dyslexia-Friendly Practice
(Scott, McGuire & Shaw, 2003; p. 375-6, citing Scott, McGuire & Shaw, 2001)	(Pavey, Meehan & Waugh, 2010; p. 99-105, developed from Pavey, 2007)
1. Equitable use – instruction is designed to be useful and accessible by people with diverse abilities. Provide the same means of use for all students, identical whenever possible, equivalent when not (Scott, McGuire & Shaw 2003; p. 375).	Input takes account of multi-sensory learning. Multi-sensory inputs are close together in stimuli and in tasks. Practitioners’ talk time reduced; board-copying reduced; hand-outs available ahead of teaching.
2. Flexibility in use – instruction is designed to accommodate a wide range of individual abilities. Provide choice in methods of use (Scott, McGuire & Shaw 2003; p. 375).	Learners can use alternative means of recording, e.g. Poster, tape, ICT. Practitioners know and use learners’ preferred individual learning styles, and challenge learners to use different learning styles in a manageable way. Practitioners know their own preferred individual learning styles, and challenge themselves to move outside of their own comfort zone.
3. Simple and intuitive –instruction is designed in a straightforward and predictable manner, regardless of the students experience, knowledge, language skills, or current concentration level. Eliminate unnecessary complexity (Scott, McGuire & Shaw 2003; p. 375).	Instructions clear, explanations repeated, timescales and length of work product clearly stated, subject-specific words linked to clear concepts. Input given in small chunks. New concepts are linked to previous concepts. Texts are given ahead of time for practice purposes.
4. Perceptible information – instruction is designed so that the necessary information is communicated effectively to the student, regardless of ambient conditions or the student's sensory abilities (Scott, McGuire & Shaw 2003; p. 375).	Teaching uses diagrams and illustrations, bullet points and lists, colours for identification purposes. Text resources include a font which is clearly distinguishable, in shape and size, with rounded shape and two-story ‘a’. Photocopies are clean and clear, text is in small groups, clearly separated. There are frequent headings, shown in bold, separate from the text; off- white or tinted paper is used. Diagrams and illustrations are used and give the same information as, or relate to text, and are situated near to relevant text.



Table 1: Comparison of Principles of Universal Design for Instruction and Dyslexia-Friendly Principles (Cont.)

<b>Principles of Universal Design for Instruction</b>  (Scott, McGuire & Shaw, 2003; 375-6, citing Scott, McGuire & Shaw, 2001) (Cont.)	<b>Principles of Dyslexia-Friendly Practice</b>  (Pavey, Meehan and Waugh, 2010; 99-105) (Cont.)
5. Tolerance for Error – Instruction anticipates variation in individual learning pace and prerequisite skills (Scott, McGuire & Shaw, 2003; p. 375).	Extra time is allowed for learners to finish written work if necessary. Learners' output is judged predominantly on quality and content. Extra time is allowed for learners to finish written work if necessary. Judgements of laziness are avoided.
6. Low physical effort – instruction is designed to minimize non essential physical effort in order to allow maximum attention to learning. Note: this principal does not apply when physical effort is integral to essential requirements of a course (Scott, McGuire & Shaw, 2003; p. 375).	Assessment criteria are clearly stated, including those for alternative formats. Learners' output uses diagrams and illustrations, bullet points and numbered lists. Learners are asked how best they learn, changes in teaching acknowledge what learners say about how best they learn
7. Size and space for approach and use – instruction is designed with a consideration for appropriate size and space for approach, reach, manipulations, and views regardless of a student's body size, posture, mobility, and communication needs (Scott, McGuire & Shaw, 2003; p. 375).	Care is taken so that learners with possible dyslexia see and hear the teacher or lecturer clearly. Learners experiencing possible dyslexia have opportunities to work in a quiet area. Visual displays and pedagogical resources conform to text resource guidelines; learners who request tinted paper may have it.
8. A community of learners – the instructional environment promotes interaction and communication among the students and between students and faculty (Scott, McGuire & Shaw, 2003; p. 376).	Learners are allowed to ask questions. Rewards can be achieved by all the learners in the group.
9. Instructional climate –instruction is designed to be welcoming and inclusive. High expectations are espoused for all students (Scott, McGuire & Shaw, 2003; p. 376).	Learners' reading aloud, or writing on a board, is voluntary. Learning tasks consider and deal with emotional issues; care is taken to protect learners feelings and ensure that they are not teased because of literacy difficulties

closer match through its greater detail (Table 1). Taken together these audit mechanisms demonstrate a high level of congruency with UDI principles. With the establishment of this relationship it is possible to turn to DF research for elucidation of whether or not these shared principles actually aid pedagogical efficacy.

There are a number of small scale projects that have investigated DF effectiveness, primarily within the context of LAs. Authorities that have implemented the DF process report success, using criteria such as falling numbers of statements of special educational needs and greater confidence amongst parents, practitioners and children, that dyslexia needs can be managed (Amos, 2004; MacKay, 2006; O'Brien, 2006).

A further source of data is found in the work of the first tier of the UK's national SEN and Disability Tribunal (SENDIST), which hears parental appeals against decisions made by LAs in resourcing and managing provision for school age children with special educational needs. The Tribunal publishes an annual report about its work, including the nature of learning difficulties and special educational needs with which it has been concerned.

Table 2 shows the special educational need which triggered the majority of the Tribunal's cases registered in each year, and the position of literacy as a cause for concern, including Specific Learning Difficulty (SpLD - a term now frequently overlapped with, although not synonymous with, dyslexia (BPS, 1999). Available reports, for a ten year period

running from 1999-2009, show a discernible reduction in the concerns aroused by literacy/SpLD/dyslexia, so that in 2007 the number of Tribunals registered dropped to less than half of the 2001 figure, and the position of literacy/SpLD/dyslexia fell from first to third place. Since then the percentage of appeals registered has remained steady at 16%, superceded usually by autistic spectrum disorders and behavioural, social and emotional difficulties.

It cannot be claimed that this pattern shows the reduction in a need for specialist intervention sought by McGuire, Scott and Shaw (2006). It may mean only that support is reaching learners without recourse to the statementing system. However the Tribunal figures show that parental satisfaction over provision for dyslexia must have increased in order for the number of registered appeals to have fallen, and this has taken place within the same time frame as the spread of the DF initiative. Further research may establish whether or not there is a direct correlation between these two trends in individual LAs.

Since it may be argued that congruency between the principles of UDI and DF principles has been established, it is possible to conclude by examining whether small scale research of DF practices can contribute empirical findings to the research agenda identified by McGuire, Scott and Shaw (2006). It seems reasonable to suggest that:

- ◆ The validity of the UDI model may be demonstrated by the efficacy of DF approaches in UK schooling,

Table 2: Appeals registered to the first tier SEN Tribunal (SENDIST)

<b>Tribunal Year</b>	<b>Number of appeals to Tribunal registered for literacy/SpLD</b>	<b>Percentage of total of registered appeals re. literacy/SpLD</b>	<b>Position amongst SEN Concerns, triggering registered appeals to Tribunal</b>
<b>1999-2000</b> (SEN Tribunal 2000)	932	37.8	1st
<b>2000-2001</b> (SEN Tribunal 2001)	919	33.7	1st
<b>2001-2002</b> (SENDIST 2002)	1053	34.5	1st
<b>2002-2003</b> (SENDIST 2003)	953	26.9	1st
<b>2003-2004</b> (SENDIST 2004)	678	20.2	1st
<b>2004-2005</b> (SENDIST 2005)	621	19.3	1st
<b>2005-2006</b> (SENDIST 2006)	512	15.0	3rd
<b>2006-2007</b> (SENDIST 2008)	481	16	3rd
<b>2007-08</b> (SENDIST 2008)	555	16	3rd
<b>2008-09</b> (Tribunals Service 2009)	474	16	Tied 2nd (with behaviour, emotional and social difficulty)

- ◆ Investigation of how the UDI model can be effectuated in educational settings may take a lead from research into the practices and principles of the DF initiative;
- ◆ UDI's concern for research regarding outcomes for students with and without disabilities may find corresponding evidence in DF research;
- ◆ UDI's interest in exploring the possible impact of variables within learners and within learning settings may relate to research of DF practices;
- ◆ Investigation as to whether UDI can reduce the need for specialist intervention could explore DF experience, since this is a key principle;
- ◆ The DF initiative could provide experience and impetus for identifying the principles and practices for training practitioners in UDI;
- ◆ Research into parental satisfaction regarding DF practices can support investigation of the perceptions of stakeholders regarding UDI;
- ◆ Consideration of any necessary adjustments to the UDI model might arise from application of the findings of DF research.

## Conclusion

Taking a social constructivist view of dyslexia, this paper compares two key initiatives in the move to develop a pedagogical environment that will benefit dyslexic and other learners. Calling on evidence from small-scale research, it is concluded that the two initiatives bear a kinship.

UDI as a top-down framework, and DF policy as a bottom-up framework, can be seen as sharing constructs, principles and practices. It may be the case that, as DF approaches become absorbed into regular pedagogic practice, the philosophy will continue, embodied in UDI. The ethos of the DF initiative has resulted in an important strengthening of dyslexia knowledge and expertise in UK pedagogy, and it has also resulted in a changing attitude to dyslexia. This focuses upon difference rather than deficit, and consequently presents a more positive view for people who experience dyslexia.

The challenge of exploring the Universal Design for Instruction theorisation by calling on Dyslexia-friendly experience and data, could provide new opportunities for dyslexia research.

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